

IS THE AIA THE END OF GRACE? EXAMINING THE EFFECT OF THE AMERICA INVENTS ACT ON THE PATENT GRACE PERIOD

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This Note argues that the U.S. Patent and Trademark Office’s interpretation of the new grace period under the America Invents Act (AIA), 35 U.S.C. § 102(b)(1)(B), is overly narrow and that an alternative interpretation proposing a broader reading of the grace period is more appropriate. Evidence for a broader reading includes the effect of each interpretation on the administrative burden at the Patent and Trademark Office, speed of patent disclosure, innovative activity by specific inventor groups, and inventor behavior in patent races. This analysis shows that a narrow interpretation of the grace period creates greater administrative burdens, discourages disclosure, disfavors small inventors and universities, and may make blocking firms in a patent race virtually costless. In contrast, a broad grace period is simpler to administer, accelerates disclosure, supports innovation by small inventors and universities, and provides firms with a defensive maneuver in patent races.

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INTRODUCTION

The Leahy-Smith America Invents Act of 2011 (AIA) was signed into law on September 16, 2011.¹ The AIA brought a host of reforms to U.S. patent law, most importantly replacing the first-to-invent system with a first-to-file, or more precisely, first-inventor-to-file system.² Congress, however, also sought to maintain a period of time during which an inventor and others can disclose some invention characteristics without losing the right to patent it—a “grace period.”³ The grace period serves the two overarching goals of patent law: encouraging innovation and disclosure.⁴ Although some commentators have interpreted the AIA grace period broadly,⁵ providing ample protections for inventors, the U.S. Patent and Trademark Office (PTO) has interpreted it narrowly, limiting the grace period to disclosures by or obtained from the inventor. In fact, the narrowing of the grace period

¹ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011). *See also* Press Release, The White House, President Obama Signs America Invents Act, Overhauling the Patent System to Stimulate Economic Growth, and Announces New Steps to Help Entrepreneurs Create Jobs (Sept. 16, 2011), *available at* <http://www.whitehouse.gov/the-press-office/2011/09/16/president-obama-signs-america-invents-act-overhauling-patent-system-stim>.

² *Summary of the America Invents Act*, AM. INTEL. PROP. LAW ASS'N, <http://www.aipla.org/advocacy/congress/aia/Pages/summary.aspx> (last visited Aug. 21, 2015).

³ *See id.*; 35 U.S.C. § 102(b) (2012) (providing a patent grace period).

⁴ *See* Jeanne C. Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 547–49 (2009) (explaining that patent law promotes progress by incentivizing innovation and encouraging disclosure).

⁵ *See, e.g.*, Brad Pedersen & Christian Hansen, *Statutory Construction and Policy Arguments for a Symmetric Approach to Promulgating Guidelines for New Section 102(b) Subparagraphs (A) and (B) – the First-to-Publish Grace Period Exceptions to Prior Art*, 4 CYBARIS INTEL. PROP. L. REV. 102, 111–13 (2013) (arguing for a first-to-publish interpretation).

seems to be an unintended consequence of the AIA, and a bill has already been introduced to correct this interpretation.⁶

Despite the importance of the grace period and the uproar the PTO's interpretation has caused amongst practitioners, universities, and advocacy groups,⁷ this topic has yet to receive any substantial scholarly treatment. The first patents governed by the AIA have already trickled out of the PTO,⁸ yet courts, and most importantly the Federal Circuit, have not weighed in on the interpretation of the AIA grace period. Scholarly critiques offered thus far have ignored or merely skimmed the surface of the consequences of this interpretation.⁹ This Note attempts to fill this gap by giving courts, practitioners, inventors, and scholars a primer on this issue, while also addressing implications of the conflicting interpretations of the new grace period.

The argument below proceeds in three parts. Part I gives background about the AIA and the grace period by first describing the grace period under the pre-AIA, first-to-invent system. It then tracks the development of the AIA and contextualizes our focus on the grace period by explaining the broader goals and reforms achieved by the AIA. Next, it presents the AIA grace period and contrasts it with the pre-AIA grace period. Part II addresses the fundamental content of this Note—the proper interpretation of AIA § 102(b)(1)(B), which provides a grace period for third-party intervening disclosures. This Part first analyzes the PTO's proposed interpretation and explains what it entails by way of example. Second, Part II explores the policy implications of the PTO's interpretation through four considerations: (1) administrative and judicial burden; (2) likelihood of disclosure; (3)

⁶ See Grace Period Restoration Act of 2015, H.R. 1791, 114th Cong. (2015) (amending the AIA “to correct the drafting problem . . . relating to the grace period”).

⁷ See *infra* notes 71–77 and accompanying text.

⁸ See, e.g., Dennis Crouch, *First First-to-File Patent*, PATENTLY-O (July 29, 2013), <http://patentlyo.com/patent/2013/07/the-first-post-aia-patent-issued-recently-design-patent-no-d685381-directed-to-a-foldable-laptop-stand-and-owned-by-the.html> (reporting that the first post-AIA patent was issued on July 2, 2013).

⁹ See, e.g., Robert P. Merges, *Priority and Novelty Under the AIA*, 27 BERKELEY TECH. L.J. 1023, 1030–33 (2012) (describing some of the features of the AIA grace period); Pedersen & Hansen, *supra* note 5, at 124 (arguing for a first-to-publish interpretation of the AIA grace period as a matter of statutory interpretation but noting that it “can be seen as cutting against the recognized AIA policy of encouraging early disclosure of new inventions”); Jeffrey Lefstin, *Guest Post by Dr. Jeffrey Lefstin on USPTO's Proposed First-to-File Rules*, PATENTLY-O (July 26, 2012), <http://patentlyo.com/jobs/2012/07/guest-post-by-dr-jeffrey-lefstin-on-pto-proposed-rules-on-first-to-file.html> (noting the effect of the PTO's proposed interpretation of the AIA grace period on independent third-party disclosures); Gene Quinn, *Defending the USPTO Interpretation of the New Grace Period*, IPWATCHDOG (Sept. 9, 2012), <http://www.ipwatchdog.com/2012/09/09/defending-the-PTO-interpretation-of-the-new-grace-period/id=27903/> (defending the PTO's proposed interpretation as a matter of statutory interpretation).

effect on small inventors, universities, and large firms; and (4) strategic disclosures in a patent race. Part III proposes an alternative interpretation, which conceives of the AIA grace period as creating a first-to-publish system. The first-to-publish grace period allows inventors who publicly disclose their invention to protect against later third-party disclosures as long as they file within one year. This Part concludes that a first-to-publish grace period is preferable because it (1) involves greater conservation of PTO and judicial resources; (2) facilitates faster, broader disclosure; (3) is more favorable to small inventors, universities, and possibly even large firms; and (4) enables welfare-enhancing defensive strategic disclosures.

I

BACKGROUND

A. *Patent Law Prior to the AIA*

Under the 1952 Act, the predecessor to the AIA, U.S. patent law operated under a first-to-invent system such that the first person to discover a particular invention typically was granted the patent.¹⁰ The law awarded the first inventor rather than subsequent inventors to create a sense of urgency and encourage novel innovation rather than copying. In order to guarantee that an inventor was truly first at creating an invention and to be certain that the inventor's contribution justified patent protection, the law required that an invention be "new and useful."¹¹ The requirement that a patent be "new" is further broken down into the requirements that the patent satisfy "novelty"¹² and "nonobvious[ness]."¹³ These two requirements invalidate patents that are anticipated or made obvious by the "prior art," or the state of a technical field.¹⁴ Under the 1952 Act, prior art was defined in § 102(a)¹⁵ and consisted of disclosures, essentially any communication

¹⁰ See David S. Abrams & R. Polk Wagner, *Poisoning the Next Apple? The America Invents Act and Individual Inventors*, 65 *STAN. L. REV.* 517, 519 (2013) (stating that the old law shifted from the "traditional 'first-to-invent' system" of the 1952 Act).

¹¹ See 35 U.S.C. § 101 (2012) ("Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor.").

¹² 35 U.S.C. § 102 (2012).

¹³ 35 U.S.C. § 103 (2012).

¹⁴ *Art*, BLACK'S LAW DICTIONARY 133 (10th ed. 2014) (defining prior art).

¹⁵ Note that prior to the AIA, prior art was defined in other sections of the statute as well. *E.g.*, 35 U.S.C. § 102(e) (2006) (authorizing the use of U.S. patents and U.S. patent applications as prior art); 35 U.S.C. § 102(g)(2) (2006) (authorizing the use of prior reduction to practice in the U.S. by a third party as prior art).

of the invention that is sufficiently public, including publications, public sales and uses, and patents available prior to a certain date.¹⁶

Under the old § 102, prior art included disclosures in existence before two dates: the date of invention and the date of application.¹⁷ These categories of prior art are best explained without reference to the grace period, which will be analyzed in Part I.B.¹⁸ First, any prior art in existence before the date of invention could invalidate the patent under novelty or nonobviousness.¹⁹ Importantly, this category of prior art only applied to actions by others and not disclosures by the inventor.²⁰ Second, under the § 102(b) statutory bar, prior art available before the filing of a patent application could invalidate the patent under novelty or nonobviousness. Unlike other parts of § 102, § 102(b) prior art included activities by the inventor.²¹ This dual regime is necessary under a first-to-invent system in order to discourage the first inventor from sitting on her rights too long. Without § 102(b), an inventor could exploit her invention for as long as she wants and still obtain a patent on it later. In short, the first-to-invent system encouraged a rush to invent, but only § 102(b) encouraged a rush to file for a patent.

In practice, novelty and obviousness work as follows. Assume *A* invents a drug in year 1. *A* then files a patent for that drug in year 4. In order to award *A* patent protection for that drug, there must be (1) no prior art before year 1 (the date of invention) that would anticipate or make obvious the drug and (2) no prior art before year 4 (the date of filing) that could anticipate or make obvious the drug.²² For example, if *B* published an article disclosing the details of the drug at year 0, that would invalidate *A*'s patent under § 102(a) because the prior art existed before *A*'s date of invention. Similarly, if *A* began to

¹⁶ See 35 U.S.C. § 102(a) (2006) (“[T]he invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent . . .”).

¹⁷ See 35 U.S.C. § 102(a) (designating prior art “before the invention thereof by the applicant for patent” (emphasis added)); 35 U.S.C. § 102(b) (designating prior art “prior to the date of the application for patent” (emphasis added)).

¹⁸ For a discussion of the effect of the grace period, see *infra* notes 24–26 and accompanying text.

¹⁹ See 35 U.S.C. § 102(a) (2006) (describing prior art before the date of invention for the purposes of novelty); 35 U.S.C. § 103(a) (incorporating prior art references from § 102 into the nonobviousness analysis).

²⁰ See 35 U.S.C. § 102(a) (“[T]he invention was known or used by others in this country . . .” (emphasis added)).

²¹ See 35 U.S.C. § 102(b) (embracing all inventions patented or described more than one year prior to the date of application).

²² Once again, this ignores the effect of the grace period. See *infra* notes 24–26 and accompanying text.

sell her drug in year 2, she would not be able to receive a patent because the invention was on sale prior to the date of filing (year 4).

B. *The Grace Period*

Novelty and nonobviousness are analyzed with reference to the prior art. However, including all prior art disclosures, accidental disclosures being among them, can be overly harsh to inventors and may hold inventors to an unrealistic and unfair standard. In order to dull the severity of the novelty and nonobviousness bars, U.S. patent law authorizes a statutory “grace period,” a length of time during which the inventor and others can publicly disclose information about the invention without the fear of creating patent invalidating prior art.²³ Without a grace period, an inventor loses the right to patent an invention if there are any disclosures prior to the date of invention or prior to the date of filing.

Under the 1952 Act grace period, set out in § 102(b), disclosures entered the prior art if they existed “more than one year prior to the date of the application for patent.”²⁴ In combination with § 102(a) and (e), which only apply to the actions of third parties,²⁵ the inventor had a one-year grace period during which she could disclose, use, publish, sell, or do anything else with her invention. Similarly, because § 102(a) and (e) only applied to actions before the date of invention, the first inventor was guaranteed a one-year grace period after invention during which actions by third parties were also not part of the prior art.

The 1952 Act grace period was rather simple to apply to disclosures by the inventor and to disclosures by third parties. No inventor disclosures qualified as prior art if made one year or less prior to filing. If made more than one year prior to filing, they were prior art. In contrast, a third-party disclosure was part of the prior art if it occurred before the date-of-invention or occurred more than one year prior to filing. Conversely, a third-party disclosure was not part of the prior art if it occurred after the date-of-invention and occurred one year or less prior to filing. These rules provided certainty and were not

²³ Margo A. Bagley, *The Need for Speed (and Grace): Issues in a First-Inventor-to-File World*, 23 BERKELEY TECH. L.J. 1035, 1050 (2008) (defining a grace period as “a length of time in which a patent application can be filed after public exposure of an invention without impairing its novelty for patentability purposes”).

²⁴ 35 U.S.C. § 102(b).

²⁵ See *supra* note 20 and accompanying text.

administratively burdensome; the only real inquiry involved the timing of disclosures.²⁶

There are several policy justifications for the grace period. First, the grace period favors “prompt and widespread disclosure of inventions” because it allows inventors to disclose their inventions prior to filing a patent.²⁷ Prompt disclosure benefits society generally by allowing researchers to access up-to-date technical information, thus spurring innovation.²⁸ Similarly, the grace period promotes better-quality disclosure by giving the inventor time to perfect her patent application rather than forcing her to hastily file a sloppy application.²⁹ The grace period also protects inventors’ rights to obtain patents by granting them a safe harbor of one year after invention, preventing potentially draconian penalties for honest mistakes.³⁰ In addition, a grace period allows an inventor time to determine the economic value of a patent prior to patenting by marketing or selling the invention.³¹ At the same time, the grace period limits the extent to which an inventor can commercially exploit an invention for a period greater than the length of the patent.³² This limit discourages the removal of inventions many individuals reasonably believe are in the

²⁶ In contrast, the PTO’s interpretation discussed in Part II.A involves both a timing component *and* a qualitative comparison between disclosures. See Part III.A–C (arguing that the PTO’s interpretation adds a new comparison analysis that is administratively burdensome).

²⁷ *Tone Bros., Inc. v. Sysco Corp.*, 28 F.3d 1192, 1198 (Fed. Cir. 1994) (enumerating the policy justifications for the patent grace period).

²⁸ See *infra* notes 108–11 and accompanying text (arguing that faster disclosure accelerates cumulative innovation and allows researchers to eliminate inefficient duplications of research).

²⁹ See *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946) (noting that the grace period gives an applicant time to prepare her application); see also *infra* notes 174–76 and accompanying text (noting that a broad grace period incentivizes inventors to disclose outside the confines of the patent application, thus increasing the quality of disclosure).

³⁰ See Michael A. Shinall, *Priority and Disclosure: Challenges and Protections to Small Inventors in a First-to-File World*, 94 J. PAT. & TRADEMARK OFF. SOC’Y 362, 370 (2012) (“[T]he act granted the inventor an important safe harbor of one year post disclosure to file for a patent.”).

³¹ See *Tone Bros.*, 28 F.3d at 1198 (“We have enumerated the policies underlying section 102(b) . . . as follows . . . allowing the inventor a reasonable amount of time following sales activity to determine the potential economic value of a patent.”); see also note 119 and accompanying text (noting the importance of assessing the value of an invention prior to patenting for small inventors).

³² See *Tone Bros.*, 28 F.3d at 1198 (“We have enumerated the policies underlying section 102(b) . . . as follows . . . prohibiting the inventor from commercially exploiting the invention for a period greater than the statutorily prescribed time.”).

public domain,³³ and therefore may rely upon. In this way, the grace period achieved a balance between the individual rights of the inventor and benefits to society as a whole.³⁴

C. *The AIA*

The most significant change triggered by the AIA is to move the United States from a first-to-invent system to a first-to-file system.³⁵ Instead of awarding the patent to the first inventor, the AIA instead favors the first applicant to file. Importantly, the person awarded the patent must still be an inventor³⁶—she cannot just copy another’s invention. However, between an earlier inventor who files later, and a later inventor who files earlier, the AIA rewards the latter. Hence, the AIA is often described as implementing a “first-inventor-to-file” system.³⁷ Nonetheless, even this general first-inventor-to-file rule has exceptions, most notably the grace period, discussed in Part I.D.

The passage of the AIA and its first-to-file system was motivated by a number of concerns. First, it attempted to harmonize U.S. patent law with that of the rest of the world.³⁸ Prior to the AIA, the United States was the only country in the world with a first-to-invent system.³⁹ Harmonization benefits inventors by reducing the complexity of obtaining simultaneous patents in multiple countries.⁴⁰ However, the benefits of harmonization are only partially realized—the AIA does bring the United States into greater alignment with the rest of the world, but there remain important differences between the

³³ See *id.* (“We have enumerated the policies underlying section 102(b) . . . as follows . . . discouraging the removal, from the public domain, of inventions that the public reasonably has come to believe are freely available.”).

³⁴ See Shinall, *supra* note 30, at 170 (“[The] Patent Act created a balance between the individual rights of the inventor and the benefit of the public welfare.”).

³⁵ See David S. Abrams & R. Polk Wagner, *Poisoning the Next Apple? The America Invents Act and Individual Inventors*, 65 STAN. L. REV. 517, 519 (2013) (“The most important provision of the [AIA] . . . is the change in the rules used to establish priority between competing inventors.”).

³⁶ 35 U.S.C. § 101 (2012) (“Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” (emphasis added)).

³⁷ See Abrams & Wagner, *supra* note 35, at 520 (“[I]n broad strokes, the Act implements a shift in American patent law from FTI to FTF.”).

³⁸ See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 146(p), 125 Stat. 284 (2011), at § 3(p) (“It is the sense of the Congress that converting . . . from ‘first to invent’ to a system of ‘first inventor to file’ will improve the United States patent system and promote harmonization . . . with the patent systems commonly used in nearly all other countries throughout the world.”).

³⁹ See Bagley, *supra* note 23, at 1035–36 (noting that, since 1998, the United States has been the only country to retain a first-to-invent system).

⁴⁰ See *id.* at 1040.

new U.S. system and other nations' systems. In particular, because the AIA establishes a first-inventor-to-file system, it authorizes derivation proceedings to determine whether an applicant is an actual inventor, which do not exist anywhere else.⁴¹ Moreover, the AIA maintains some form of a grace period, while many other countries have absolute novelty requirements with no grace periods.⁴² As a result, applicants seeking to file their patent in foreign countries (especially those in Europe) effectively cannot take advantage of the grace period.⁴³ Therefore, the AIA is probably best viewed as an "incremental improvement[] in harmonization."⁴⁴

Second, the first-to-file system frees U.S. patent law from interferences. Interferences were procedures in the PTO used to determine who, between two applicants, is the first inventor of the claimed invention.⁴⁵ Interferences were necessary under the first-to-invent system because the first inventor can often be difficult to discern. Interferences were problematic for at least two reasons: (1) they led to uncertainty as to who would be awarded the patent⁴⁶ and (2) they were long, complex, and costly.⁴⁷ In contrast, a first-to-file system promotes certainty and efficiency by awarding the patent to the first applicant—which can usually be determined without difficulty. That said, the AIA forgoes some of the expected gains of shifting to a first-

⁴¹ See *id.* ("The handling of derivation proceedings and other interference issues that arise in a FITF system will not be harmonized.").

⁴² DONALD S. CHISUM, CHISUM ON PATENTS § 3.2 (Matthew Bender 2013) ("[T]he Act retains a form of pre-filing 'grace period' for an inventor's disclosure, which . . . is distinctly out of harmony with the absolute novelty (i.e. no grace period) that prevails in the European patent system.").

⁴³ These inventors are therefore unlikely to be affected by any interpretation of the grace period. See Part III.E.3.

⁴⁴ Bagley, *supra* note 23, at 1041.

⁴⁵ *Interference*, BLACK'S LAW DICTIONARY 937 (10th ed. 2014) ("An administrative proceeding in the U.S. Patent and Trademark Office to determine who is entitled to the patent when two or more applicants claim the same invention, or when an application interferes with an existing patent.").

⁴⁶ See Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 146(o), 125 Stat. 284 (2011) (expressing the view that a move to a first-inventor-to-file system will provide inventors "with greater certainty regarding the scope of protection provided by the grant of exclusive rights to their discoveries").

⁴⁷ See *Merges*, *supra* note 9, at 1029–30 (discussing the cost of interferences). The argument that interferences are unreasonably expensive is exacerbated by the argument that they tend to be ineffective. See, e.g., George E. Frost, *The 1967 Patent Law Debate—First-to-Invent vs. First-to-File*, 1967 DUKE L.J. 923, 930 (arguing that the U.S. patent system was already a de facto first-to-file system because it provided a strong, but rebuttable, presumption that an invention is made on the date the patent application is filed).

to-file system by replacing interferences with derivation proceedings.⁴⁸

Lastly, a first-to-file system is generally thought to induce a “race” to the patent office.⁴⁹ Conceptually, a first-to-file system will incentivize—indeed, even force—inventors to rush to the PTO to receive a patent. Meanwhile, in a first-to-invent system, inventors can file their patent at a more leisurely pace.

Despite the major paradigm shift the AIA represents, it largely maintains the status quo for novelty and nonobviousness. The AIA gathers all the categories of prior art into § 102(a): inventions that were (1) patented, (2) described in a printed publication, (3) in public use, (4) on sale, and (5) otherwise available to the public.⁵⁰ Despite this reorganization, the interpretation of what constitutes prior art is not expected to change.⁵¹ Nor are the standards of novelty and nonobviousness expected to change.⁵²

D. *The AIA Grace Period*

If § 102(a) had been enacted in isolation, the AIA would implement an absolute novelty system with no grace period: All disclosures before filing would be part of the prior art. Fortunately, § 102(b) pro-

⁴⁸ See 35 U.S.C. § 135 (2012) (“In a derivation proceeding . . . the Patent Trial and Appeal Board shall determine whether an inventor named in the earlier application derived the claimed invention from an inventor named in the petitioner’s application and, without authorization, the earlier application claiming such invention was filed.”). See also Bagley, *supra* note 23, at 1040 (“While there may be fewer DPs than interference proceedings, they still will engender the uncertainty associated with interference proceedings, which diminishes the benefit of switching to FITF.”).

⁴⁹ Bagley, *supra* note 23, at 1038 (“A move to FITF is expected to create a ‘race’ to the patent office.”).

⁵⁰ 35 U.S.C. § 102(a) (2012).

⁵¹ See Merges, *supra* note 9, at 1033–34 (noting that “[t]he wording of many of these specific prior art categories was carried over from the 1952 Act,” and that generally “interpretations are carried forward into the new legislative enactment”). The possible exception to this interpretation is that noninforming public use and secret sales may no longer be prior art under the AIA. For a discussion of whether the AIA overrules prior case law regarding noninforming use and secret sales, see Stephen Elkind, *Secrets, Secrets Are No Fun! Balancing Patent Law & Trade Secret Law Under the America Invents Act*, 22 FED. CIR. B.J. 431, 433 (2013) (arguing that the AIA overrules prior case law, which held “that secret prior commercial use by an inventor before the critical date renders an invention unpatentable”).

⁵² Compare 35 U.S.C. § 102 (2006), and 35 U.S.C. § 103 (2006), with 35 U.S.C. § 102 (2012), and 35 U.S.C. § 103 (2012). Subsequent legislative enactments using the same terms are presumed to preserve preexisting case law unless the statute dictates otherwise. See *Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2246 (2011) (“Where Congress uses terms that have accumulated settled meaning under . . . the common law, [we] must infer, unless the statute otherwise dictates, that Congress means to incorporate the established meaning of those terms.” (alterations in original) (quoting *Nationwide Mut. Ins. Co. v. Darden*, 503 U.S. 318, 322 (1992))).

vides exceptions to § 102(a) that “remove”—or exclude from consideration—certain disclosures from the prior art. Hence, § 102(b), and in particular § 102(b)(1), constitutes the AIA’s grace period. Section 102(b)(1) is laid out below⁵³:

(b) Exceptions.-

(1) Disclosures made 1 year or less before the effective filing date of the claimed invention.—A disclosure made 1 year or less before the effective filing date of a claimed invention shall not be prior art to the claimed invention under subsection (a)(1) if—

(A) the disclosure was made by the inventor or joint inventor or by another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor; or

(B) the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor.⁵⁴

Section 102(b)(1) provides two exceptions for disclosures made one year or less before the effective filing date.⁵⁵ First, § 102(b)(1)(A) provides an exception for—or removes from the prior art—disclosures made by an inventor, joint inventor, or third party who obtained the subject matter from an inventor or joint inventor.⁵⁶ Second, § 102(b)(1)(B) removes from the prior art a disclosure if the subject matter was previously publicly disclosed by an inventor, joint inventor, or third party who obtained it from an inventor or joint inventor.⁵⁷

Subsection (A) of the grace period applies to disclosures made by (1) the inventor, (2) a joint inventor, or (3) one who obtained the subject matter from an inventor or joint inventor. The first two categories are straightforward: If the inventor discloses the invention one year or less prior to filing, that disclosure is removed from the prior art.⁵⁸ Similarly, if a joint inventor discloses one year or less prior to

⁵³ Note that § 102(b)(2), which applies specifically to disclosures in patents and patent applications, largely mirrors § 102(b)(1). In particular, § 102(b)(2)(A) tracks the language of § 102(b)(1)(A) and § 102(b)(2)(B) tracks the language of § 102(b)(1)(B). Because these provisions use the same language, they will have largely the same meaning. *See Powerex Corp. v. Reliant Energy Servs., Inc.*, 551 U.S. 224, 232 (2007) (“[I]dential words and phrases within the same statute should normally be given the same meaning.”). Therefore, although my analysis will focus on § 102(b)(1)(A) and (B), my reasoning can readily be extrapolated to § 102(b)(2)(A) and (B) in most cases.

⁵⁴ 35 U.S.C. § 102(b)(1) (2012).

⁵⁵ *Id.*

⁵⁶ 35 U.S.C. § 102(b)(1)(A) (2012).

⁵⁷ 35 U.S.C. § 102(b)(1)(B) (2012).

⁵⁸ This part of the new grace period operates in the same way that the old § 102(b) grace period did.

filing, that disclosure is removed. Third-party disclosures are removed from the prior art under category (3) if the third party obtained “the subject matter” from the inventor or joint inventor. In other words, this subsection only removes third-party disclosures from the prior art if the inventor can prove that the third party derived or appropriated her disclosure from the inventor’s own disclosure.⁵⁹

Section 102(b)(1)(B), in contrast, can remove third-party disclosures even without derivation. Third-party disclosures are removed if “the subject matter disclosed had . . . been publicly disclosed by the inventor” prior to the third-party disclosure.⁶⁰ Thus, certain inventor disclosures can act like “shielding disclosures” that prevent certain later third-party disclosures, or “intervening disclosures,” from being used against the patent.⁶¹ Unlike § 102(b)(1)(A), the third party need not obtain the disclosure from the inventor. For example, if inventor *A* publicly discloses her invention of a new jet turbine, she can potentially remove a later disclosure by *B* covering the same invention, even if *B* discovered the same invention independently.⁶²

It is also clear that § 102(b)(1)(B) removes third-party disclosures, but not the inventor’s prior public disclosures, from the prior art.⁶³ As such, a situation involving § 102(b)(1)(B) is two discrete events: (1) the public disclosure by the inventor which must be removed under § 102(b)(1)(A) and (2) the intervening third-party disclosure, which must be removed under § 102(b)(1)(B).⁶⁴ Returning to the example above, *B*’s later disclosure may be removed under § 102(b)(1)(B) but *A*’s public disclosure must be independently removed under § 102(b)(1)(A). In effect, this requires that both dis-

⁵⁹ See U.S. PATENT & TRADEMARK OFFICE, U.S. DEP’T OF COMMERCE, MANUAL OF PATENT EXAMINING PROCEDURE § 2153.01(b) (9th ed. 2014) [hereinafter MPEP] (“[T]he applicant may establish by way of an affidavit or declaration that the prior disclosure is not prior art under AIA 35 U.S.C. 102(a)(1) because the prior disclosure was by another who obtained the subject matter directly or indirectly from the inventor or a joint inventor.”).

⁶⁰ 35 U.S.C. § 102(b)(1)(B) (2012).

⁶¹ Courtenay Brickerhoff, *First to File Practice: An Alternative Interpretation of the Grace Period Shielding Disclosure Exception*, FOLEY & LARDNER LLP (Sept. 7, 2012), <http://www.foley.com/first-to-file-practice-an-alternative-interpretation-of-the-grace-period-shielding-disclosure-exception-09-07-2012>.

⁶² See 35 U.S.C. § 102(b)(1)(B) (2012) (requiring only that before the third party’s disclosure, the subject matter had been publicly disclosed); see also Merges, *supra* note 9, at 1039 (explaining how § 102(b)(1)(B) applies to disclosures by third parties).

⁶³ See ROBERT PATRICK MERGES & JOHN FITZGERALD DUFFY, PATENT LAW AND POLICY: CASES AND MATERIALS 599 (6th ed. 2013) (“The inventor’s public disclosure under (B) is not the disclosure, made a year or less before filing, whose prior art status is affected by (B); it is the third-party’s disclosure that which shall not be prior art under (B) if the conditions of (B) are met.”).

⁶⁴ See *id.* (noting that an inventor’s public disclosure is an *inventor disclosure* under § 102(b)(1)(A) because a *public disclosure* is merely a form of *disclosure*).

closures occur within one year of filing. The upshot is that the inventor can gain some control and certainty over their applications by making public disclosures. By publicly disclosing, the inventor starts the clock running: An inventor has one year from her public disclosure to file a patent.⁶⁵

Despite some clarity, the grace period raises two questions. First, what does “the subject matter,” in § 102(b)(1)(A) and (B), refer to?⁶⁶ Second, what must an inventor’s public disclosure contain in order to function as a shield against a later third-party disclosure? Part II summarizes the PTO’s answers to these questions. Part III introduces an alternative interpretation.

II

ANALYZING THE PTO’S INTERPRETATION OF THE AIA GRACE PERIOD

A. *The PTO’s Interpretation*

On July 26, 2012, the PTO released its proposed examination guidelines for implementing the AIA.⁶⁷ The guidelines are meant to be used by the PTO in patent prosecution and to inform the public about how the PTO will interpret the AIA.⁶⁸ Unlike most other administrative agencies, however, the PTO is traditionally not offered *Chevron* deference for its interpretations of substantive patent law.⁶⁹ The PTO announced its interpretation of § 102(b)(1)(B) as follows:

[T]he exception in 35 U.S.C. 102(b)(1)(B) requires that the subject matter in the prior disclosure being relied upon under 35 U.S.C. 102(a) be the same “subject matter” as the subject matter publicly disclosed by the inventor before such prior art disclosure for the exception in 35 U.S.C. 102(b)(1)(B) to apply. Even if the only differences between the subject matter in the prior art disclosure that is relied upon under 35 U.S.C. 102(a) and the subject matter publicly disclosed by the inventor before such prior art disclosure are

⁶⁵ See 35 U.S.C. § 102(b)(1) (applying only to “[d]isclosures made 1 year or less before the effective filing date of the claimed invention” (emphasis added)).

⁶⁶ *Id.*

⁶⁷ Examination Guidelines for Implementing the First-Inventor-to-File Provisions of the Leahy-Smith America Invents Act, 77 Fed. Reg. 43,759 (proposed July 26, 2012) [hereinafter Examination Guidelines, 77 Fed. Reg.].

⁶⁸ *Id.* at 43,760.

⁶⁹ See Melissa F. Wasserman, *The Changing Guard of Patent Law: Chevron Deference for the PTO*, 54 WM. & MARY L. REV. 1959, 1962 (2013) (noting that the PTO “lacks robust substantive rule-making authority and receives *no* judicial deference for its legal interpretations of the Patent Act” (alteration in original) (citations omitted)).

*mere insubstantial changes, or only trivial or obvious variations, the exception under 35 U.S.C. 102(b)(1)(B) does not apply.*⁷⁰

The PTO offered no immediate explanation for this interpretation.

This controversial interpretation was criticized as being very narrow with respect to third-party disclosures, causing an uproar in the patent community.⁷¹ Universities and small inventors led the charge.⁷² A consortium of higher education associations, composed of hundreds of research universities, explained that they “were surprised and disappointed to see . . . what appears . . . to be an exceedingly narrow interpretation of the grace period.”⁷³ The consortium noted their expectation of a broader grace period in the AIA, and that the consequences of the PTO position would “run counter to longstanding US science policy.”⁷⁴ The Association of American Medical Colleges proclaimed the PTO’s interpretation of the grace period a “setback for academic institutions,” which substantially “narrow[s] . . . the grace period protection.”⁷⁵ Likewise, the Small Business Administration highlighted concerns by independent inventors and startups that the PTO interpretation will “provide a significant disincentive for investors to back inventors in their research and development efforts prior to the filing of a successful patent application.”⁷⁶ Practitioners responded by advising inventors to avoid any disclosure prior to filing for a patent.⁷⁷

⁷⁰ Examination Guidelines, 77 Fed. Reg. at 43,767 (emphasis added).

⁷¹ See Quinn, *supra* note 9 (“A substantial majority of those who offered comments disagreed with the USPTO’s interpretation of 102(b)(1)(B), which pertains to disclosures made by third parties.”).

⁷² See Examination Guidelines for Implementing the First-Inventor-to-File Provisions of the Leahy-Smith America Invents Act, 78 Fed. Reg. 11,059, 11,066 (Feb. 14, 2013) [hereinafter Examination Guidelines, 78 Fed. Reg.] (“The Office of Advocacy of the Small Business Administration (SBA-Advocacy) also indicated that it has heard from many patent stakeholders (within the university-based and non-profit research community, as well as the startup community) that they have concerns with the Office’s interpretation of the subparagraph (B) provision.”).

⁷³ Letter from Leah Norton, Assistant to Exec. Vice President, Assoc. of Am. Univs., to Mary C. Till, Senior Legal Advisor, Office of Patent Legal Admin. (Oct. 5, 2012), available at http://www.uspto.gov/patents/law/comments/hea_20121005.pdf.

⁷⁴ *Id.*

⁷⁵ Stephen Heinig, *Washington Highlights: New Patent Rules Substantially Weaken “Grace Period”*, ASS’N OF AM. MED. COLLS. (Feb. 22, 2013), <https://www.aamc.org/advocacy/washhigh/highlights2013/328944/newpatentrulesubstantiallyweakengraceperiod.html>.

⁷⁶ Email from Winslow L. Sargeant, Chief Counsel for Advocacy & Jamie Belcore Saloom, Assistant Chief Counsel for Advocacy, SBA Office of Advocacy, to David Kappos, Under Sec’y for Intellectual Prop., U.S. Patent & Trademark Office (Nov. 5, 2012), available at http://www.sba.gov/sites/default/files/files/FITF_AIA_Public_Comments_Nov_5_2012.pdf.

⁷⁷ See, e.g., Arpita Bhattacharyya & Eric P. Raciti, *The Not-So-Amazing Grace Period Under the AIA*, FINNEGAN (Sept. 2012), <http://www.finnegan.com/resources/articles/>

An illustration provides the best explanation of how the PTO definition operates.⁷⁸ Let's assume Alexa, an inventor, publishes an article in *Popular Mechanics* on her invention for a new deep-water drill containing three elements: (1) a 20-inch wellhead, (2) an 8-inch drill bit, and (3) a GPS locator. If David, a third party, then writes a blog post with elements (1), (2), (3), but adds element (4), an underwater camera, element (4) is not protected by the grace period since it was not in the inventor disclosure, even if it was an obvious or trivial variation.⁷⁹

This "identical" standard can lead to perverse results. For example, assume that Alexa again publishes an article with elements (1), (2), and (3). This time, David blogs elements (2) and (3) but includes a trivial variation of (1), element (1A): a 24-inch wellhead instead of a 20-inch wellhead. Because of this obvious variation, the § 102(b)(1)(B) grace period does not apply to element (1A) and it is prior art. Paradoxically, even if Alexa tries to patent exactly what she published, element (1), it could be held invalid as an obvious variation of (1A). This narrow interpretation also does not protect against a third party's intervening disclosure of a species, when the inventor publicly disclosed only a genus.⁸⁰ This result is especially perverse

articlesdetail.aspx?news=4acad2aa-4430-4d87-a197-3a202ac17c5b ("[P]ublication before patent application filing should be considered with trepidation."); *Not Your Parents One-Year Grace Period: Pre-Application Invention Disclosures Under the AIA*, FROMMER, LAWRENCE & HAUG LLP, <http://www.flhlaw.com/not-your-parents-one-year-grace-period-pre-application-invention-disclosures-under-the-aia/> (last visited Aug. 11, 2015) ("Perhaps the most prudent measure is to first file a U.S. provisional application covering at least the subject matter of the public disclosure.").

⁷⁸ This example is adopted from Brad Pedersen & Christian Hansen, *supra* note 5, at 109–11, in combination with a *Popular Mechanics* article, Laura Dattaro, *How Scientists Drill at the Bottom of the Sea*, POPULAR MECHANICS (Dec. 9, 2013), <http://www.popularmechanics.com/technology/engineering/extreme-machines/how-scientists-drill-at-the-bottom-of-the-sea-16248335>.

⁷⁹ MPEP, *supra* note 59, at § 2153.02 (interpreting the grace period for inventor-initiated disclosures).

⁸⁰ See *id.* A genus or generic claim is a patent claim encompassing a class of elements. For example, a claim for a genus might be for all antibiotics. *Generic Claim*, BLACK'S LAW DICTIONARY 304 (10th ed. 2014). A species claim, in contrast, is a single apparatus, process, or composition of matter. *Species Claim*, BLACK'S LAW DICTIONARY 1305 (10th ed. 2014). It does not encompass a range of similar items. *Id.* Within the genus of antibiotics, a species would be a specific antibiotic, say penicillin. Although the PTO's grace period does protect against a genus when the inventor disclosed a species, the grace period is not available in the opposite case. See Examination Guidelines, 78 Fed. Reg. at 11,077. For example, assume that inventor A publicly discloses penicillin. Later, B discloses the genus of antibiotics. In this case, § 102(b)(1)(B) removes the genus from the prior art. It would not invalidate the patent for penicillin. However, if A publicly discloses antibiotics, and subsequently, B penicillin, then the species disclosure is part of the prior art and can serve as grounds for denying A's patent of the genus.

because a species can anticipate a genus, and thus invalidate a patent of a genus on novelty grounds.⁸¹

On February 14, 2013, the PTO released their final rules⁸² and examination guidelines⁸³ for implementing the AIA. Although the PTO clarified their position somewhat, they ultimately stood by the “identical subject matter” interpretation of § 102(b)(1)(B).⁸⁴ In particular, the PTO stated that disclosures need not be of the same mode (or kind of disclosure) to qualify for § 102(b)(1)(B) protection.⁸⁵ For example, if the inventor’s public disclosure is in the mode of a public sale, it could still shield against a third party’s intervening publication provided that it was the identical subject matter (i.e., did not contain trivial or obvious variations).⁸⁶ Similarly, the public disclosure and intervening disclosure need not be the same exact information or “*ipsissimis verbis*.”⁸⁷ Although these clarifications remove some rigidity from the PTO’s interpretation, the bite of their definition still remains sharp.⁸⁸ Moreover, the PTO’s characterization of the grace period as only protecting against word-for-word disclosures and the same disclosures in different modes suggests that any substantive variation will be sufficient to render an intervening disclosure unprotected by the grace period.

⁸¹ See *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 781 (Fed. Cir. 1985) (finding that a specific alloy invalidated a patent claiming a class of alloys). Even though the PTO seems to protect inventors against a subsequent disclosure of a genus, that protection is of little consequence—a genus won’t necessarily anticipate a species. See *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1083 (Fed. Cir. 2008) (“[W]hether a generic disclosure necessarily anticipates everything within the genus . . . depends on the factual aspects of the specific disclosure and the particular products at issue.”).

⁸² Changes to Implement the First Inventor to File Provisions of the Leahy-Smith America Invents Act, 78 Fed. Reg. 11,024 (Feb. 14, 2013), available at <https://www.federalregister.gov/articles/2013/02/14/2013-03453/changes-to-implement-the-first-inventor-to-file-provisions-of-the-leahy-smith-america-invents-act>.

⁸³ Examination Guidelines, 78 Fed. Reg.

⁸⁴ *Id.* at 11,061 (“These examination guidelines maintain the identical subject matter interpretation of AIA 35 U.S.C. 102(b)(1)(B) and 102(b)(2)(B).”).

⁸⁵ See *id.* at 11,059 (“[T]here is no requirement that the mode of disclosure by an inventor or joint inventor be the same as the mode of disclosure of an intervening disclosure.”).

⁸⁶ See *id.* at 11,067 (stating that the guidelines clarify that “there is no requirement that the mode of disclosure by an inventor or joint inventor be the same as the mode of disclosure of an intervening disclosure”).

⁸⁷ See *id.* (stating that “there is no requirement that the disclosure by the inventor or a joint inventor be a verbatim or *ipsissimis verbis* disclosure of an intervening disclosure in order for the exception based on a previous public disclosure of a subject matter by a previous inventor or joint inventor to apply”).

⁸⁸ Notably, nothing in the PTO’s interpretation would change the outcome of the *Popular Mechanics* hypothetical, offered in *supra* notes 78–80 and accompanying text.

B. *The Basis for the PTO's Interpretation*

The PTO also used the final guidelines to defend its interpretation as the best reading of the statute since “more expansive alternative interpretations . . . are not supported by the language of the subparagraph (B) provision.”⁸⁹ The PTO’s reading emphasizes the phrase “the subject matter” and interprets it as requiring the same subject matter in the public disclosure as in the intervening disclosure. Because § 102(b)(1)(B) only includes one instance of the phrase “the subject matter” to describe both the public disclosure and the intervening disclosure, the PTO concludes that the provision “cannot reasonably be interpreted as including variations within its ambit.”⁹⁰

This reading is supported by other instances of the phrase “the subject matter” in the AIA. The PTO argues that other instances of “the subject matter” have not permitted variations.⁹¹ Moreover, the PTO noted that other instances of “the subject matter” have included the modifier “substantially” to designate the inclusion of variation.⁹² The absence of “substantially,” then, mandates a stricter reading.⁹³ Interpreting “the subject matter” loosely would effectively rewrite the statute to read, “substantially the same subject matter disclosed.”⁹⁴

The PTO asserted that the legislative history was “inconclusive” with regard to the grace period.⁹⁵ Nonetheless, an inspection of the legislative record seems to favor a broad interpretation of the grace period. The 2011 House Judiciary Committee Report pointed to the necessity of the grace period for universities and small inventors who use it to prepare applications and obtain funding.⁹⁶ Moreover, it claimed that “section 102(b) preserves the grace period, ensuring that during the year prior to filing, an invention will not be rendered unpatentable based on any of the inventor’s own disclosures, *or any disclosure made by any party after the inventor has disclosed his invention to the public.*”⁹⁷ Statements by sponsors of the AIA seem to con-

⁸⁹ Examination Guidelines, 78 Fed. Reg. at 11,067.

⁹⁰ *Id.* at 11,066.

⁹¹ *See id.* (“The phrase ‘the subject matter’ has never been read to permit the inclusion of variations within its ambit in these provisions, or in any other provision in title 35.”).

⁹² *See id.* (“[P]re-AIA title 35 and the AIA contain a modifier such as ‘substantially’ where variation between subject matter is contemplated.”); *see also* 35 U.S.C. §§ 135(a)(2), 154(d)(2), 252 (2012) (for examples of this).

⁹³ *See, e.g.,* *Leatherman v. Tarrant Cty. Narcotics Intelligence & Coordination Unit*, 507 U.S. 163, 168 (1993) (“*Expressio unius est exclusio alterius.*”).

⁹⁴ Examination Guidelines, 78 Fed. Reg. at 11,066.

⁹⁵ *Id.*

⁹⁶ *See* H.R. REP. NO. 112-98, at 41 (2011). In fact, the record specifically states that the AIA was intended to retain “a 1-year grace period that protects universities and small inventors before they file.” 157 CONG. REC. 9718 (2011) (statement of Rep. Smith).

⁹⁷ H.R. REP. NO. 112-98, at 73 (emphasis added).

firm this broad reading.⁹⁸ Perhaps even more significantly, the legislative history is wholly devoid of any suggestion of a narrow grace period. Finally, subsequent legislation suggests that the PTO's narrow interpretation is an unintended flaw in the AIA.⁹⁹

C. *Administrative Burden and Patent Prosecution*

One of the primary goals of the AIA was to reduce the administrative burden on the PTO by eliminating interferences.¹⁰⁰ The PTO's interpretation threatens to undermine this objective by introducing uncertainty, increasing reliance on derivation procedures, and creating more opportunities for complicated litigation. More fundamentally, the PTO approach distorts patent law by departing from past practice and clashing with other patent doctrines.

To the extent § 102(b)(1)(B) retains some use under the PTO's interpretation,¹⁰¹ it is doubtful that the PTO can meaningfully apply its own interpretation. Specifically, it is unclear how the PTO can compare different modes of disclosure even when they are substantively identical. For example, how is the PTO supposed to compare an inventor's shielding publication to a third party's intervening sale? It seems impossible to determine whether a publication is identical to a physical embodiment even though the PTO's interpretation purportedly tolerates different modes of disclosure.¹⁰² Even if the PTO is able to meaningfully separate "the subject matter" from the mode of disclosure, this situation is likely to drive costly litigation. Although the PTO traditionally compares different modes of disclosure for the purposes of novelty, the "identical" standard appears to be significantly stricter.

⁹⁸ See, e.g., 157 CONG. REC. 3416 (2011) (statement of Sen. Leahy) (asserting that § 102(b)(1)(B) was designed "to make a very strong grace period for inventors that have made a public disclosure before seeking a patent"); 157 Cong. Rec. 3422 (2011) (statement of Sen. Kyl) (opining that the AIA effectively created a "first to publish rule" and that a public disclosure removes an intervening disclosure from prior art "regardless of whether the subsequent discloser obtained the subject matter from the inventor").

⁹⁹ See Grace Period Restoration Act of 2015, H.R. 1791, 114th Cong. (2015) ("The regulatory reading of the Leahy-Smith America Invents Act does not comport with the intent of the sponsors of that Act.").

¹⁰⁰ See MPEP, *supra* note 59, at § 2153.01(b) (establishing proof of derivation by "affidavit or declaration that the prior disclosure is not prior art"); see also *supra* notes 45–48 and accompanying text (discussing the need to move away from interference proceedings).

¹⁰¹ And there is significant doubt whether it will retain any use at all, either because applicants will use § 102(b)(1)(A) or will just resist disclosing prior to filing.

¹⁰² Examination Guidelines, 78 Fed. Reg. at 11,067; see also *supra* notes 82–86 and accompanying text (summarizing the PTO's statements on different modes of disclosure).

In addition, the strict identity requirement is likely to put more pressure on § 102(b)(1)(A), which has its own problems. The exception in § 102(b)(1)(A) requires an inventor to prove derivation,¹⁰³ an often-daunting task that leads to uncertainty, because inventors cannot just rely on their prior disclosures to protect them.¹⁰⁴ Like determining whether two disclosures are identical, this will drive needless litigation costs. The PTO interpretation therefore leads the patent system headlong into the same problem that plagued interferences and motivated the AIA in the first place: long, costly, uncertain proceedings with little gain.

Finally, it is uncertain how the PTO interpretation will mesh with other doctrines of U.S. patent law. In addition to a possible inconsistency with the language of the prior user right in § 273,¹⁰⁵ it is unclear how the PTO interpretation will comport with the patent inherency doctrine. The inherency doctrine allows a patent to be anticipated based on an implied element in a disclosure.¹⁰⁶ It is an open question how the PTO strict identity standard will tolerate variations of inherent elements.¹⁰⁷ For example, if an inventor's public disclosure has an inherent element, and a third party's intervening disclosure makes that element explicit, are the two disclosures identical? Funda-

¹⁰³ See *supra* note 59 and accompanying text (describing the process by which an inventor proves derivation).

¹⁰⁴ See William G. Giltinan, *The Disclosure Function, Academic/Private Partnerships, and the Case for Affirmatively Used, Multinational Grace Periods*, 22 TEX. INTELL. PROP. L.J. 109, 151 (2014) ("A system that requires proof of derivation is likely to lead to difficult, fact-intensive inquiries. More importantly, it creates risk every time an applicant makes a pre-filing disclosure."); Lefstin, *supra* note 9 ("[E]ven where the later third-party disclosure was actually derived from the inventor, the inventor will face the difficult and complex task of proving derivation, rather than simply relying on the preclusive effect of his own earlier disclosure.").

¹⁰⁵ The prior user right grants inventors a defense to infringement if they use a process that is later patented. See 35 U.S.C. § 273(a) (2012) (providing this defense). Because the defense is only available if the prior use commenced more than one year before a disclosure under § 102(b), a narrow interpretation of § 102(b)(1)(B) seems to substantially weaken the defense. As a result, at least one commentator has argued that the prior user right creates a potential inconsistency with the narrow grace period. See Jeffrey Lefstin, *Guest Post: Preclusive Inventor Disclosure Under Leahy-Smith*, PATENTLY-O (Sept. 22, 2011), <http://patentlyo.com/patent/2011/09/guest-post-preclusive-inventor-disclosure-under-leahy-smith-1.html> (arguing that the PTO's interpretation may be inconsistent with § 273(a)(2)(B) under the principle of *in pari materia*).

¹⁰⁶ *Inherency Doctrine*, BLACK'S LAW DICTIONARY 902 (10th ed. 2014) ("The rule that anticipation can be inferred despite a missing element in a prior-art reference if the missing element is either necessarily present in or a natural result of the product or process and a person of ordinary skill in the art would know it.").

¹⁰⁷ Pedersen & Hansen, *supra* note 5, at 122 ("[I]t is a realistic possibility that under the narrow interpretation presented by the Proposed Examination Guidelines, a later publication by a third party could defeat patentability by publically disclosing something that was inherently—but not expressly—present in a [sic] earlier disclosure.").

mentally, the PTO's interpretation requires the inventors, courts, and the PTO itself to wrestle with the as-of-yet undeveloped standard.

D. Disclosure

A narrow grace period has the potential to discourage any disclosure prior to patenting because it can open the patent up to invalidating prior art. Disclosure is an important policy goal at the heart of patent law.¹⁰⁸ In addition to incentivizing innovation in the first instance, patent law is supposed to facilitate the disclosure of inventions so that the public can use that information to stimulate further inventing.¹⁰⁹ The benefits of earlier, broader disclosure can be enormous. Much invention is cumulative,¹¹⁰ building on prior discoveries. Early disclosure allows information to be used sooner, accelerating the pace of innovation. Moreover, disclosures can reveal information about current research so that inventors can focus their research on unexplored areas, thus eliminating inefficient duplications of efforts.¹¹¹ To the extent possible, patent law should encourage disclosure and discourage secrecy.

Under the PTO reading, a public disclosure only protects against identical third-party disclosures containing the same subject matter. This means the protection of § 102(b)(1)(B) is essentially eviscerated and third parties can easily game the grace period by introducing insubstantial variations. For example, say inventor *A* publicly discloses her invention by publishing an article. In order to block *A* from obtaining a patent, *B* may merely circulate an article with trivial or insubstantial difference by making a trivial variation of an element in *A*'s disclosure. Because of that minor difference, *B*'s disclosure becomes prior art as to *A*.¹¹² The opportunity for gamesmanship provides *B* with a low-cost method to prevent *A* from obtaining a patent. And even if *A* can prove derivation in litigation, this victory is costly and uncertain. Furthermore, it creates the potential for more expen-

¹⁰⁸ See Fromer, *supra* note 4, at 541 (stressing the importance of patent disclosure).

¹⁰⁹ See *id.* at 548–50 (describing the benefits of patent disclosure).

¹¹⁰ See, e.g., Dan L. Burk & Mark A. Lemley, *Policy Levers in Patent Law*, 89 VA. L. REV. 1575, 1620 (2003) (noting the modern software industry as one example of cumulative innovation).

¹¹¹ Fromer, *supra* note 4, at 548–50 (finding the fact that the American patent system discourages duplicative research to be one of the reasons the system can achieve its goal of stimulating innovation); see also Gideon Parchomovsky, *Publish or Perish*, 98 MICH. L. REV. 926, 946 (2000) (noting that “duplicative research expenditures” are socially “wasteful in the aggregate”).

¹¹² *A* can still try to get *B*'s disclosure removed under § 102(b)(1)(A), however, that requires proving derivation, an often difficult task. See *supra* note 59 and accompanying text.

sive and wasteful litigation in an area already troubled by vexatious litigation. In sum, this risk of gamesmanship has the effect of chilling public disclosures prior to patenting, potentially stifling innovation and creating costly litigation and strategic behavior.

E. Specific Inventor Groups

The interpretation of § 102(b)(1)(B) impacts different types of inventors in different ways. In this subpart, I analyze how the PTO interpretation systematically disfavors small businesses and universities, but is unlikely to affect large firms.

1. Small Businesses

Fundamentally, a first-to-file system, as opposed to a first-to-invent system, places emphasis on the speed of filing rather than the speed of invention. This shift is likely to disadvantage small inventors—or individual inventors and startups—because they are generally slower at filing patent applications than large corporations.¹¹³ Large corporations are more likely to have skilled patent attorneys on staff.¹¹⁴ Small inventors are more likely to have limited resources and less likely to employ attorneys regularly.¹¹⁵ As a result, empirical evidence suggests that a first-to-file system disadvantages small inventors compared to a first-to-invent system.¹¹⁶ These findings are worrisome because individual inventors and startups are especially important for innovation.¹¹⁷

The narrow interpretation of the grace period proposed by the PTO has the effect of exacerbating this disadvantage. First, slower filing by small inventors gives more time for prior art to enter the field. A narrower grace period has the effect of limiting protection against these disclosures. Second, small inventors are less likely to have well-developed trade secrecy regimes as compared to large firms, making small inventors less able to keep their patentable ideas secret

¹¹³ Abrams & Wagner, *supra* note 35, at 520 (noting that small inventors “are likely to be slower in turning an invention into a patent application than larger corporations”).

¹¹⁴ *See id.*

¹¹⁵ *See id.*

¹¹⁶ *See id.* (finding that a shift to a first-to-file system from a first-to-invent system results in a substantial reduction in patenting by individual inventors compared to firms).

¹¹⁷ *Id.* at 518–19 (stressing the importance of small inventors); *see also* CLAYTON M. CHRISTENSEN, *THE INNOVATOR’S DILEMMA: WHEN NEW TECHNOLOGIES CAUSE GREAT FIRMS TO FAIL* 134 (1997) (noting that smaller organizations are better situated for commercializing “disruptive technology” products, or services designed for a new set of customers, than large firms).

prior to filing.¹¹⁸ Because the PTO interpretation allows third parties to make insubstantial changes to an inventor's original disclosure, small inventors are more susceptible to invalidating prior art from third parties who disclose an inventor's idea.

Even assuming a small inventor can keep her idea a secret, she may not want to—small inventors routinely publicly use or sell their inventions prior to filing in order to weigh the merits of paying for a patent or to obtain funding prior to patenting.¹¹⁹ These activities constitute disclosures under § 102(a),¹²⁰ and place an inventor at risk of invalidation under a narrow grace period.¹²¹ In sum, the risk of patent invalidating art posed by the narrow grace period will have the effect of disfavoring small inventors since they often need to disclose their invention publicly in order to obtain funding. However, even if a small inventor can maintain secrecy prior to filing, it is often more costly than disclosing, thus reducing their investment in innovation.¹²²

2. Universities

A grace period is important for universities because of the unique problems they encounter under a first-to-file system. First, university patents often focus on basic research with only speculative commercial value.¹²³ Meanwhile, university technology transfer offices only have limited funds to allocate towards patent applications.¹²⁴ Universities, therefore, need time to consider the potential commercial applications of patentable research, so they can efficiently determine which inventions merit patenting.¹²⁵ Without adequate time to consider the costs and benefits of obtaining a patent, technology transfer offices

¹¹⁸ Stuart Graham & Deepak Hegde, *Do Inventors Value Secrecy in Patenting? Evidence from the American Inventor's Protection Act of 1999*, at 10 (Working Paper, 2014), available at <http://ssrn.com/abstract=2170555> ("The estimates reveal that small inventors' preference for pre-patent disclosure over secrecy for their most important inventions remains substantial and significant.").

¹¹⁹ See Bagley, *supra* note 23, at 1042 (explaining why the lack of a patent race is "particularly important for small entities").

¹²⁰ See *supra* note 50 and accompanying text (describing the categories of prior art under § 102).

¹²¹ Activities by the inventor, within a year of filing, do benefit from the grace period under § 102(a)(1)(A). However, third-party disclosures of the invention after these activities may become prior art depending on the interpretation of § 102(a)(1)(B).

¹²² This is because precautions to protect secrecy, such as monitoring employees and hiring security guards, are expensive. And the worse the consequences are for disclosure, the higher the inventor's expected investment in secrecy will be.

¹²³ See Bagley, *supra* note 23, at 1045–46 (characterizing university research).

¹²⁴ *Id.*

¹²⁵ See *id.* ("University TTOs, having limited funds and an increasing number of invention disclosures, must decide which inventions to prosecute with little information on potential commercialization success.").

are likely to either (1) overpatent inventions, including those that are not commercially viable, stifling fundamental research and development, or (2) underpatent inventions, leading to a lack of investment in commercially viable innovations.

In addition, university researchers are under special pressure to publish their findings. The lack of a meaningful grace period is irreconcilable with traditional scholarly norms commanding disclosure and dissemination of ideas.¹²⁶ The so-called “publish or perish” norm survives for a reason: Universities “exist[] for the purpose of . . . advancing the sum of human knowledge.”¹²⁷ As a result, “advancement in academia is largely driven by publication.”¹²⁸ Without an effective grace period, researchers have to either delay publication until after filing a patent application or choose to forgo a patent altogether. The first alternative leads to delayed disclosure, reputational stagnation, and missed funding and job opportunities.¹²⁹ Moreover, it will force researchers to sit on important discoveries rather than disclosing them. The second alternative leads to lost revenue and may prevent the commercialization of socially useful inventions.

For universities, the PTO’s interpretation undermines their bargain for a broad grace period in order to accept shifting to a first-to-file system.¹³⁰ Failure to adhere to that bargain should be perceived as a breach of it. On the surface, the narrow grace period protects universities in the same way as the 1952 Act grace period—inventor disclosures within a year of filing are still protected. However, in reality, the PTO’s narrow grace period is a step backwards¹³¹—unlike the old grace period, it does not protect against all third-party disclosures within a year of filing. The old grace period basically gave carte blanche protection against third-party disclosures within a year (the only exception being if it occurred before invention). In comparison, the PTO’s grace period only protects against third-party disclosures

¹²⁶ See *id.* 1051–52 (discussing the role of disclosure in academia).

¹²⁷ Margo A. Bagley, *Academic Discourse and Proprietary Rights: Putting Patents in Their Proper Place*, 47 B.C. L. REV. 217, 218 (2006).

¹²⁸ Giltinan, *supra* note 104, at 145.

¹²⁹ See Bagley, *supra* note 127, at 226 (“Academic freedom manifests itself in scholarly articles, books, and presentations that are useful for the researcher (for example, in getting a job or achieving tenure) and for the interested academic or industry audience seeking to build on that researcher’s work.”).

¹³⁰ See, e.g., Email from Marty Simpson, Managing Counsel Business Transactions & Land Use, Office of the Gen. Counsel, Univ. of Cal., to Susy Tsang-Foster, Legal Advisor & Mary C. Till, Senior Legal Advisor, Office of Patent Legal Admin. (Oct. 4, 2012), available at http://www.uspto.gov/patents/law/comments/uc_20121004.pdf (explaining how universities believed that the AIA enacted a compromise wherein the universities retained a broad grace period).

¹³¹ *Id.*

when they are derived from the inventor's disclosures or are identical to those disclosures. Although an inventor's own disclosure within a year is not prior art under § 102(b)(1)(A), the risk of third-party intervening disclosures is substantial enough that universities will likely resort to secrecy in order to protect patentable ideas from invalidating disclosure.

3. *Large Firms*

Even though small inventors and universities are probably disadvantaged by a narrow grace period, the case is more attenuated for large firms. The distinguishing feature of large firms is that they have—by definition—a significant amount of resources at their disposal that give them the flexibility to file patent applications first and ask questions later. For these firms, the cost of filing a patent application is relatively minimal.¹³² In addition, they often have experienced patent attorneys in-house with well-defined procedures for prosecution. The relatively small cost associated with filing a patent application means these firms do not need a broader grace period for commercial testing and marketing. Most importantly, large firms are far more likely than small inventors and universities to file for patents internationally.¹³³ Because most foreign countries do not have a grace period, large firms will typically need to maintain secrecy in any case in order to secure international patent rights. Since large firms are maintaining secrecy anyway, due to broad international filing, the narrow grace period, which effectively mandates pre-filing secrecy, only raises costs for small entities, while large firms are isolated from this impact.

F. *Patent Races*

Another important concern related to the grace period is the possibility of strategic disclosure.¹³⁴ Strategic disclosure is the use of disclosure by a lagging firm in order to block a leading firm from obtaining a patent. Allowing a competitor to obtain a patent can mean

¹³² The costs associated with obtaining a patent are typically not salient for large firms. Stuart J.H. Graham et al., *High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey*, 24 BERKELEY TECH. L.J. 1255, 1310 (2009). In contrast, "smaller firms tend to report a significantly higher sensitivity to the costs of filing and enforcing patents." *Id.*

¹³³ See U.S. PATENT & TRADEMARK OFFICE, REPORT TO CONGRESS, JANUARY 2012: INTERNATIONAL PATENT PROTECTIONS FOR SMALL BUSINESSES 12 (2012), available at http://www.uspto.gov/aia_implementation/20120113-ippr_report.pdf ("Small businesses may be obtaining patent protection abroad less frequently than large companies.").

¹³⁴ See Parchomovsky, *supra* note 111, at 950 (analyzing the possibility of strategic disclosure).

a drop in revenue for the loser—since it is excluded from using the patented technology—and substantial profit for the winner—since it gains a monopoly on licensing and using the patented technology.¹³⁵

Strategic disclosure works as follows. Assume that firm *A* and firm *B* are researching a new pharmaceutical. Firm *A* is the leading firm—it is further along in its progress towards meeting the requirements of a patentable idea and therefore is more likely to win the “race.” Meanwhile, firm *B* is the lagging firm—it too has been researching the new pharmaceutical but is behind *A* in its progress towards developing a patentable idea. Suppose that *B* is too far behind in research and development to catch *A*. *B* can, in the alternative, disclose its research prior to *A*’s patent application. This approach allows *B* to block *A* from getting a patent, assuming that the disclosure renders *A*’s invention obvious.¹³⁶ In some cases, this is the economically rational approach: it prevents *A* from obtaining a monopoly and allows *B* to use the discovery.¹³⁷ Although we might be satisfied with allowing *B* to block *A*’s patent in this case, the ease with which *B* can frustrate *A*’s patent is unheard of in U.S. patent law and may have the cumulative effect of reducing research and development *ex ante*.

Effectively using strategic disclosures was difficult before the AIA.¹³⁸ However, the shift to a first-to-file system and the consequential loss of the ability to “swear behind”¹³⁹ prior art references by proving an earlier invention date means that there is little to stop a lagging firm from using a disclosure to block a leading firm’s patent.¹⁴⁰

¹³⁵ See *id.* at 927 (explaining the motive for strategic disclosures).

¹³⁶ The disclosure would not render *A*’s invention nonnovel because that would imply that *B*’s disclosure has all elements of *A*’s invention, meaning that *B* would have a patentable invention. See Douglas Lichtman et al., *Strategic Disclosure in the Patent System*, 53 VAND. L. REV. 2175, 2184 (2000) (arguing that using preemptive disclosure to render a leading firm’s patent nonnovel under the statutory bar is “difficult to accomplish”).

¹³⁷ Parchomovsky, *supra* note 111, at 930 (arguing that preemptive publication has two benefits: preventing a rival firm from gaining a monopoly and allowing the publishing firm to use published information without a license).

¹³⁸ See Rebecca S. Eisenberg, *The Promise and Perils of Strategic Publication to Create Prior Art: A Response to Professor Parchomovsky*, 98 MICH. L. REV. 2358 (2000) (arguing that blocking firms in a patent race under the then-existing first-to-invent system is difficult or impossible).

¹³⁹ *Antedating of a Prior-Art Reference*, BLACK’S LAW DICTIONARY 111–12 (10th ed. 2014) (“[R]emoval of a publication, a U.S. patent, or a foreign patent cited as prior art against the application by filing an affidavit or declaration establishing the applicant’s completion of the invention in this country, or in another NAFTA or WTO member country, before the effective date of the cited reference.”).

¹⁴⁰ For a discussion on why strategic disclosure was difficult under the first-to-invent system, see Eisenberg, *supra* note 138, at 2360 (concluding that, under the prior patent act,

Moreover, the old § 102(b) grace period is a thing of the past, meaning that a lagging firm's disclosures immediately enter the prior art and can be used against the leading firm unless the leading firm can use the § 102(b)(1)(B) exception.¹⁴¹ However, under the PTO's interpretation, the narrow § 102(b)(1)(B) grace period is of little solace. Because the interpretation is so restrictive, it will be exceedingly easy for a lagging firm to vary their disclosure slightly from a shielding disclosure, especially once they have knowledge of that disclosure.¹⁴² In effect, this means that the possibly insurmountable hurdles preventing strategic disclosures under the 1952 Act are largely nonexistent under the AIA and firms are defenseless against strategic disclosures.¹⁴³ This unchecked use of preemptive publication has the potential to significantly erode firm research and development.¹⁴⁴

III

A FIRST-TO-PUBLISH GRACE PERIOD

A. *An Alternative: The First-to-Publish Interpretation*

Section 102(b)(1)(B) provides that a disclosure within a year of filing is not prior art if "the subject matter disclosed had, before such disclosure, been publicly disclosed by the inventor or a joint inventor or another who obtained the subject matter disclosed directly or indirectly from the inventor or a joint inventor."¹⁴⁵ A second possible interpretation creates a first-to-publish grace period.¹⁴⁶ That is, in order to gain protection under § 102(b)(1)(B), an inventor need only disclose as much of her invention as she wishes to claim. Unlike the PTO's interpretation, her initial disclosure does not need to be identical to the third-party intervening disclosure. Consequently, the con-

"the applicant may still avoid use of the reference as prior art by proving that, as of that date, the applicant had completed as much of the invention as the reference discloses").

¹⁴¹ See *id.* at 2360 (concluding that, under the old § 102(b), "preemptive publication can only work if deployed at least a year prior to the application filing date of the leading firm").

¹⁴² See *supra* note 112 and accompanying text.

¹⁴³ Even under the AIA, strategic disclosures can block the inventor who makes the disclosure. See Jack Ellis, *America Invents Act Grace Period Is All About Safety; It's Not a Strategic Tool*, IAM (Sept. 11, 2012), <http://www.iam-media.com/blog/Detail.aspx?g=-d439-40a0-8c2b-72452f2390b0>. However, that's the whole point of defensive disclosure. Indeed, a defensive disclosure will block the discloser but it also blocks the competitor. And for a lagging firm, having an invention in the public domain is far better than having it in the hands of a competitor.

¹⁴⁴ See Parchomovsky, *supra* note 111, at 941 (arguing that preemptive publication has the possibility to reduce research and development).

¹⁴⁵ 35 U.S.C. § 102(b)(1)(B) (2012).

¹⁴⁶ See, e.g., Pedersen & Hansen, *supra* note 5, at 103 (referring to § 102(b) as "the First-to-Publish (FTP) Grace Period Exceptions.")

tent of the initial public disclosure by the inventor is not compared to the third-party intervening disclosure. Returning to the example discussed in Part II.A, Alexa's prior publication would not be compared to David's later blog post. As long as Alexa disclosed all elements she claimed in the patent, she is immune from all intervening disclosures.

This approach is "claim-focused" because it only compares the inventor's public disclosure and the third-party's intervening disclosure to the patent claims and not to one another.¹⁴⁷ In order to gain the full benefit of the grace period, the inventor's public disclosure must encompass the entire claimed invention, but the public disclosure protects as much of the patent as it discloses.¹⁴⁸ This approach can draw on pre-AIA practices to remove third-party disclosures to the extent the inventor's public disclosure discloses the claimed invention.¹⁴⁹ In contrast, the PTO's interpretation adds a comparison of the inventor's public disclosure and the third-party's intervening disclosure to the usual inquiry of whether something falls under the grace period.

B. Basis for a First-to-Publish Interpretation

The first-to-publish alternative interprets the term "the subject matter" as part of the phrase "the subject matter disclosed."¹⁵⁰ Under this reading, the term "the subject matter" does not imply a comparison of the inventor disclosure and third-party disclosure. Instead, "the subject matter disclosed," relates only to the act of disclosure, understood as a conveyance of information about an invention.¹⁵¹ In other words, "subject matter" does not refer to the content of the disclosure, but the disclosure itself.

This interpretation is more consistent with the view, supported by legislative history,¹⁵² as well as commentators and scholars,¹⁵³ that the AIA effectively implements a first-to-publish or first-to-disclose

¹⁴⁷ See Jeffrey Lefstin, *Guest Post: Preclusive Inventor Disclosure Under Leahy-Smith*, Patently-O (Sept. 22, 2011), <http://patentlyo.com/patent/2011/09/guest-post-preclusive-inventor-disclosure-under-leahy-smith-1.html> (calling this approach "claim-focused").

¹⁴⁸ See Courtenay C. Brinckerhoff, *First to File Practice: An Alternative Interpretation of the Grace Period Shielding Disclosure Exception*, PHARMAPATENTS BLOG (Sept. 7, 2012), <http://www.pharmapatentsblog.com/2012/09/07/first-to-file-practice-an-alternative-interpretation-of-the-grace-period-shielding-disclosure-exception> (describing this approach).

¹⁴⁹ See *id.* ("I thought the USPTO might draw on current Rule 131 Declaration practice (as explained in MPEP § 715.02), and permit an earlier (shielding) disclosure to disqualify a disclosure if the earlier disclosure disclosed . . . as much of the claimed invention as the disclosure shows.").

¹⁵⁰ 35 U.S.C. § 102(b)(1)(B).

¹⁵¹ See Pedersen & Hansen, *supra* note 5, at 116 (arguing for this construction).

¹⁵² See *supra* notes 96–98 and accompanying text.

system as opposed to a first-to-file or first-inventor-to-file system. Under this view, the initial public disclosure operates like a reservation, good for one year, which protects the inventor against subsequent prior art.¹⁵⁴

Adopting a first-to-publish interpretation also fits better with the structure and purpose of the grace period. The PTO's stingy interpretation may eliminate any use of § 102(b)(1)(B) by narrowing the applicable disclosures to those that deal with identical subject matter. Indeed, it is difficult to imagine how two independent disclosures would not contain at least *some* trivial or obvious variation. Moreover, even if no such variation exists initially, it seems easy for an interloper to "game" the grace period by varying her intervening disclosure so as to block the original inventor from getting a patent.¹⁵⁵ The PTO's interpretation thus stymies the purpose of § 102(b)(1)(B)—to protect those who publicly disclose against intervening disclosures, while a broad, first-to-publish interpretation would retain a prominent place for § 102(b)(1)(B) by allowing inventors to protect against all intervening disclosures within one year of filing.

Regardless, the claim-focused approach is probably less faithful to the statutory text.¹⁵⁶ Textually, § 102(b)(1)(B) seems more susceptible to the PTO's interpretation simply because "the subject matter" implies that both disclosures must have the same content. Nonetheless, because the text seems susceptible to both readings and the first-to-publish interpretation seems more consistent with the intention of Congress and the purpose of the statute, a first-to-publish interpretation is defensible.¹⁵⁷ And because policy generally favors a broad

¹⁵³ See, e.g., Pedersen & Hansen, *supra* note 5, at 103 ("New Section 102(a)—often referred to as the First-To-Publish (FTP) Grace Period Exceptions."); Derek F. Dahlgren, *The Myth of First-to-File: AIA's First-to-Disclose System*, LAW360 (Nov. 2, 2011, 12:45 PM), <http://www.law360.com/articles/281540/the-myth-of-first-to-file-aia-s-first-to-disclose-system> ("[T]he first to disclose—whether by filing an application or making the invention public—is entitled to a patent on that invention assuming the other requirements for patentability are met.").

¹⁵⁴ See Jim Longacre, *35 U.S.C. § 102 and the First to File System*, LexisNexis Legal News Room Intellectual Property: Patent Law Blog (Oct. 31, 2011, 2:29 PM), <http://www.lexisnexis.com/legalnewsroom/intellectual-property/b/patent-law-blog/archive/2011/10/31/35-usc-167-102-and-the-first-to-file-system.aspx> (describing § 102(b)(1)(B) as a "reservation in the Office for a US patent").

¹⁵⁵ See *supra* notes 111–12 and accompanying text.

¹⁵⁶ See Jeffrey Lefstin, *Guest Post: Preclusive Inventor Disclosure Under Leahy-Smith*, PATENTLY-O (Sept. 22, 2011), <http://patentlyo.com/patent/2011/09/guest-post-preclusive-inventor-disclosure-under-leahy-smith-1.html> (calling this approach "not the most faithful to the statutory text").

¹⁵⁷ In the event courts find the PTO's textual arguments insurmountable, I would argue that Congress should amend § 102(b)(1)(B) to support a broad grace period consistent with this interpretation. Nonetheless, it is not my primary purpose to argue that the PTO's

grace period over a narrow one,¹⁵⁸ I argue that courts should reject the PTO's interpretation and read § 102(b)(1)(B) as creating a first-to-publish grace period.

Still, because the narrow interpretation is probably a better textual reading and the PTO has agreed with that interpretation, it might be necessary to amend the AIA in order to establish a broad grace period. One bill that would accomplish that is the Grace Period Restoration Act of 2015, which was introduced to the House of Representatives on April 14, 2015.¹⁵⁹ The Act would effectively codify a broad, first-to-publish grace period by clarifying that disclosures (including third-party disclosures) are removed from the prior art if they follow an inventor's public disclosure and are made within one year of the filing date.¹⁶⁰ However, the Act's amended grace period would be slightly narrower than the broad interpretation of the original grace period described above. First, the public disclosure must be in the form of "a printed publication,"¹⁶¹ thus excluding other modes of public disclosures, such as embodiments for sale. Second, the public disclosure must meet the requirements of § 112(a), the written description, enablement, and best mode requirements.¹⁶² Nonetheless, these limitations do not seem to impose a particularly heavy burden on those who disclose and ensure that the public disclosure is sufficient to justify excluding third-party, potentially independently created, prior art. As a result, my proposal endorses the adoption of the Grace Period Restoration Act or a similar bill, at least in principle.

C. *Administrative Burden and Patent Prosecution*

As explained in Part II.C, the PTO's interpretation of the grace period creates new uncertainty and inefficiency by introducing a stringent, undeveloped standard. With a broad grace period, this problem falls away: the PTO does not need to compare an inventor's shielding disclosure to a third party's intervening disclosure to determine if they

interpretation is wrong as a matter of statutory interpretation, but rather as a matter of sound policy.

¹⁵⁸ See *infra* Part III.C–G (explaining why a broad grace period requires a narrow interpretation of the AIA).

¹⁵⁹ Grace Period Restoration Act of 2015, H.R. 1791, 114th Cong. (2015). See also Dennis Crouch, *Grace Period Restoration Act of 2015*, PATENTLY-O (April 14, 2015), <http://patentlyo.com/patent/2015/04/grace-period-restoration.html> (reporting the introduction of the bill).

¹⁶⁰ H.R. 1791 § 3(B) ("A disclosure by any person shall not be prior art [if the disclosure is] 1 year or less before the effective filing date [and before the disclosure] the claimed invention is publicly disclosed.").

¹⁶¹ *Id.* § 3(B)(ii).

¹⁶² *Id.* (citing § 112(a)).

are identical. Although the PTO still needs to compare both disclosures to the patent claims, this analysis is relatively routine and necessary under either interpretation. Thus, the first-to-publish grace period entails fewer procedural requirements and eliminates the problematic “identity” standard. The first-to-publish grace period should also reduce reliance on § 102(b)(1)(A), which allows exclusion through proof that the intervening disclosure derived from the shielding disclosure. With a broad grace period, inventors can rely on § 102(b)(1)(B), which is easier to prove, thus alleviating evidentiary burdens and litigation costs. Finally, the first-to-publish interpretation largely draws on current patent practice, so there should be fewer problems integrating it with other doctrines of patent law. For example, it is consistent with the inherency doctrine because an inventor’s shielding disclosure need not be identical to the intervening disclosure.¹⁶³

D. Disclosure

A broad grace period has another clear advantage over a narrow grace period: it encourages earlier disclosure. By allowing inventors to protect their right to obtain a patent by making a shielding disclosure within one year of filing, the first-to-disclose grace period allows and incentivizes public disclosure prior to filing. Specifically, a broad grace period with a first-to-publish mechanism allows inventors to minimize the risk of patent-invalidating art by shielding the patent from prior art, so long as they patent the invention within a year. It promotes certainty for the inventor; she can “seize control over the one-year clock”¹⁶⁴ and in exchange, society gets earlier disclosure. The first-to-publish grace period under § 102(b)(1)(B) may even encourage disclosure from inventors who traditionally rely on secrecy prior to issuance, such as large firms, at least when they do not file for patents in foreign countries.¹⁶⁵

A public disclosure under § 102(b)(1)(B) is also an appealing replacement to a provisional patent application. A provisional patent application allows an inventor to preserve their place in line up to one

¹⁶³ See *supra* notes 106–07 and accompanying text (noting an inconsistency between the PTO’s interpretation and the inherency doctrine). This approach would also be more consistent with the text of the prior user right as well as the dominant novelty-anticipation standard.

¹⁶⁴ MERGES & DUFFY, *supra* note 63, at 601.

¹⁶⁵ See Jason Rantanen, *The Effects of the America Invents Act on Technological Disclosure*, PATENTLY-O (Sept. 8, 2011), <http://patentlyo.com/patent/2011/09/the-effects-of-the-america-invents-act-on-technological-disclosure.html> (noting that “the new 102(b)(1)(B) has the potential to fuel” strategic disclosures to win a patent race); see also Part III.D (discussing the effect of the grace period on patent races).

year prior to filing a full patent application.¹⁶⁶ Like a provisional application, a public disclosure preserves the inventor's priority as long as they file within one year.¹⁶⁷ However, a public disclosure is much simpler to make than a provisional application since it only needs to be sufficiently public: there are no other statutory requirements.¹⁶⁸ Furthermore, a public disclosure is cheaper—publishing something on the Internet is virtually costless while a provisional application generally costs \$260.¹⁶⁹ Lastly, a provisional application remains secret while a public disclosure is necessarily public, thus producing disclosure and limiting a source of potential injustice in the patent system: secret prior art.¹⁷⁰ As a result, a § 102(b)(1)(B) public disclosure can be thought of as a traditional provisional application but with the advantages of simplicity, lower cost, and advanced disclosure.

Public disclosure of a patent application usually occurs eighteen months after the application is filed.¹⁷¹ Given this baseline, a properly constructed grace period can advance disclosure by up to thirty months.¹⁷² This type of disclosure also frees the inventor from disclosing in the sometimes-constraining patent application form.¹⁷³

¹⁶⁶ A provisional application is “[a]n application that can be filed up to a year before the patent application itself, in order to establish a date for prior art and constructive reduction to practice.” *Provisional Application*, BLACK’S LAW DICTIONARY 1303 (10th ed. 2014).

¹⁶⁷ Absent another prior, public disclosure, an inventor’s public disclosure will be prior art to the whole world but herself. As a result, the inventor will be the only person eligible for a patent on the claims a public disclosure covers.

¹⁶⁸ In contrast, a provisional application must meet the written description requirement (35 U.S.C. § 112 (2012)), contain necessary drawings (35 U.S.C. § 113 (2012)), and include a filing fee and other background information. *See* 35 U.S.C. § 111(b) (listing the requirements of a provisional patent application); *see also* U.S. PATENT & TRADEMARK OFFICE, PROVISIONAL APPLICATION FOR PATENT (2011), available at http://www.uspto.gov/patents/resources/types/provisional_appRevised.pdf (same).

¹⁶⁹ National Application Filing, Search, and Examination Fees, 37 C.F.R. § 1.16(d) (2014). The filing fee for a small entity is only \$130 and the filing fee for a microentity is only \$65. *Id.*

¹⁷⁰ *See* Kyle Gottuso, Note, “Secret” Prior Art: Does Prior Art in a Provisional Patent Application Bar Future Patents?: In re *Giacomini*, 612 F.3d 1380 (Fed. Cir. 2010), 76 MO. L. REV. 917, 933 (2011) (arguing that the Federal Circuit doctrine that allows unpublished provisional applications to be used as prior art has a “detrimental effect on future inventors”).

¹⁷¹ 35 U.S.C. § 122(b) (2012). An exception to this rule is if a patentee only seeks patent protection in the United States, in which case she can prevent any disclosure prior to grant of the patent. *Id.* § 122 (b)(2)(B). The availability of this option only magnifies the potential disclosure benefits of a broad grace period.

¹⁷² Twelve months prior to application (grace period) + eighteen months after application (publication) = thirty months.

¹⁷³ *See* Fromer, *supra* note 4, at 563 (“[D]ue to the legal rules of the patent system, the [patent application] is poorly structured and does not contain some of the most pertinent technical information.”).

Although the written description, enablement, and best-mode requirements are intended to increase the quality of disclosure in patent applications, their efficacy is debatable,¹⁷⁴ and in some cases, the requirements of a patent application may actually detract from the level of disclosure.¹⁷⁵ When an applicant decides to publicly disclose prior to filing, the broad grace period gives the applicant the time and peace-of-mind to perfect their patent application, raising the quality of that disclosure.¹⁷⁶ A broad grace period thus can advance timing, breadth, and quality of disclosure.

Nevertheless, the inventor is still under time pressure to patent their invention. As a consequence, a broad grace period will not undermine the greater goal of the AIA in encouraging a “race” to the patent office.¹⁷⁷ Section 102(b)(1)(B) only shields against third-party disclosures made *after* the public disclosure. So the chance that a third-party disclosure will occur before the public disclosure will have the effect of pushing inventors to publicly disclose quickly and then file within a year.¹⁷⁸

Other changes in the AIA have the secondary effect of discouraging public disclosure compared to the prior patent act.¹⁷⁹ Specifically, the creation of a prior user defense incentivizes inventors to maintain secrecy rather than get a patent by reducing the risk of being blocked by a later inventor.¹⁸⁰ Additionally, the effective elimination of the best-mode requirement weakens the disclosure obligations on patent applicants, potentially decreasing the quality of patent disclosures.¹⁸¹ On the other hand, the AIA grace period was supposed to

¹⁷⁴ See *id.* (arguing that despite the written descriptions, enablement, and best-mode requirements, the patent document provides inadequate disclosure).

¹⁷⁵ See *id.* (arguing that poor structure of the patent document, “allow[s], if not encourage[s], the writer to under-divulge” (emphasis added)).

¹⁷⁶ Cf. *supra* note 29 and accompanying text (discussing this effect in the context of the 1952 Act grace period).

¹⁷⁷ See *supra* note 49 and accompanying text (explaining the goal of inducing a race to the patent office).

¹⁷⁸ Although a sense of urgency still remains, a drawback of the first-to-publish grace period is that it may delay the patent filing date, thus effectively extending the patent monopoly—and keeping the invention out of the public domain—for up to one year. Nonetheless, the tradeoff is accelerated disclosure.

¹⁷⁹ See Rantanen, *supra* note 165 (“I conclude that while the new patent laws have the potential to encourage at least one category of disclosures, they may also negatively impact other types of information disclosures.”).

¹⁸⁰ *Id.* (“[T]he creation of a prior user defense pushes towards less disclosure, albeit through different mechanisms.”). For a short introduction to the prior user right, see *supra* note 105.

¹⁸¹ See *id.* (predicting “a decrease in the quality of individual disclosures” as a result of the effective elimination of the best-mode requirement). The best-mode requirement forces the inventor to disclose the best method for working the invention. See *Best-Mode*

make up for this disclosure gap by incentivizing early, public disclosure. Indeed, the advantage of early disclosure from the perspective of the public seems to be the “animating idea behind the new grace period.”¹⁸² That is, an inventor discloses her invention to the public earlier than she normally would have and in return, the inventor earns a grace period against third parties. Moreover, the price the inventor pays is not just any disclosure, but a *public* disclosure, which entails a higher burden.¹⁸³ This distinguishes it from ordinary disclosures, which can be quite secret.¹⁸⁴ Although this is the balance that Congress sought to implement,¹⁸⁵ the PTO’s interpretation of this provision threatens to upset this balance.

E. Specific Inventor Groups

1. Small Businesses

In contrast to the PTO’s narrow grace period, a broad grace period has the effect of protecting small inventors, and potentially defraying some of the disadvantages caused by the shift to a first-to-file system. A broad grace period allows small inventors to disclose their inventions without fear of invalidating their patents. Therefore, these inventors have the flexibility to publicly sell their invention and assess whether it is worth commercializing, or publicly use it in order to obtain the funding necessary to file a patent application. Further, these disclosures give the inventor priority over later patent applications, as long as the inventor files within a year. Because of the costs and formalities associated with provisional applications, using the grace period as an alternative seems especially appealing for small businesses. Hence, the small inventor also benefits from a cost-effective and socially beneficial method of winning a patent race against large firms.¹⁸⁶

Requirement, BLACK’S LAW DICTIONARY 101 (10th ed. 2014); *see also* 35 U.S.C. § 112(a) (2012) (codifying this requirement).

¹⁸² MERGES & DUFFY, *supra* note 63, at 600.

¹⁸³ *See id.* (“The price of the grace period when a third party is willing to disclose, in other words, is something beyond a technical or limited disclosure. What is required in this instance is a full-on *public* disclosure.”).

¹⁸⁴ For example, using a patented process privately to produce a public output could be considered a public use under prior case law. *See Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516, 520 (2d Cir. 1946).

¹⁸⁵ *See supra* notes 96–98 and accompanying text.

¹⁸⁶ *See* Shinall, *supra* note 30, at 365 (“[T]he new system of priority allows small inventors and universities to use more cost-efficient methods, such as journal publication or an offer for sale, to protect their work even if they cannot win a race to the patent office against a large firm.”).

2. *Universities*

Like small businesses, the broad grace period yields clear benefits for universities. The first-to-publish grace period gives universities exactly what they bargained for: full protection for publications prior to patenting. Even more so than small inventors, universities have an interest in disclosing their research prior to patenting. Publication is typically a prerequisite to obtain funding and generate peer review and recognition. The PTO interpretation threatens pre-application disclosure compared to the traditional grace period because there is no effective way to protect against third-party prior art.¹⁸⁷ In contrast, the first-to-publish grace period encourages pre-application disclosure by giving the inventor complete protection for one year.¹⁸⁸

Furthermore, the first-to-publish grace period is more consistent with the goals of the Bayh-Dole Act, which attempted to bridge the gap between fundamental research at universities and commercialization at large firms.¹⁸⁹ The PTO's interpretation will either lead to more secrecy, stifling fundamental research, or less patents, stifling downstream commercialization.¹⁹⁰ In contrast, the first-to-publish grace period permits early disclosure and strikes the right balance for patent protection.

3. *Large Firms*

Because large firms tend to file patents more rapidly, internationally, and indiscriminately than small inventors or universities, it seems likely that the interpretation of the grace period will have no effect or only a slight effect on large firm innovation and disclosure. Yet precisely because the grace period does not appear to affect large inventors in a meaningful way, the arguments supporting a broad grace

¹⁸⁷ See *supra* notes 130–32 and accompanying text (comparing the AIA grace period's protection against third-party art to that of the prior grace period).

¹⁸⁸ In fact, there is empirical evidence that a grace period accelerates disclosure for academia. See Chiara Franzoni & Giuseppe Scellato, *The Grace Period in International Patent Law and Its Effect on the Timing of Disclosure*, 39 RES. POL'Y 200, 200 (2010) ("Comparisons of average publication delays of European academic inventors show that the grace period accelerates knowledge communication."). But since the PTO's interpretation of the grace period renders it practically ineffective, only a broad grace period can meaningfully achieve accelerated disclosure.

¹⁸⁹ See 35 U.S.C. § 200 (2012) ("It is the policy and objective of the Congress . . . to promote collaboration between commercial concerns and nonprofit organizations, including universities; . . . to promote the commercialization and public availability of inventions made in the United States by United States industry and labor.").

¹⁹⁰ See *supra* note 125 and accompanying text. Once again, it is debatable which of these effects will predominate and to what extent they will have negative consequences. But either way, the PTO interpretation forces universities to choose between disclosing and patenting.

period for small inventors and universities should be considered that much stronger.

Nevertheless, large firms do receive some benefits from a broad grace period. First, publication allows a firm to publicize its early-stage findings in order to secure financing, thus circumventing Arrow's Information Paradox.¹⁹¹ Second, commercial firms might see other competitive advantages in prompt publication such as attracting top talent, gaining scientific recognition and credibility for research, and marketing their brand.¹⁹² Although large firms have the potential to benefit from the flexibility of a grace period,¹⁹³ these benefits are admittedly less obvious than for small inventors and universities.

F. Patent Races

In contrast to the PTO interpretation, a broader reading of the § 102(b)(1)(B) exception can temper the threat of strategic disclosures by allowing a firm to defensively disclose. Under a broad reading, a leading firm can seize control over the state of the prior art by publicly disclosing their invention.¹⁹⁴ Once they publicly disclose, a lagging firm cannot block them by simply varying their own disclosure. At that point, the game is up; any disclosures they make will be removed under § 102(b)(1)(B). Of course, the leading firm still needs to file for a patent within one year in order to remove their own public disclosure under § 102(b)(1)(A),¹⁹⁵ but at least they have certainty. In sum, the leading firm has a way of defending themselves that simply does not exist under a narrow reading.

There are two countervailing policy concerns related to strategic publication. The upside of strategic publication is that it creates an incentive to publish information immediately that would normally be published later.¹⁹⁶ Strategic disclosure thus has the same benefits as

¹⁹¹ See Eisenberg, *supra* note 138, at 2359 (“[P]ublication of promising results might make it easier for a firm to raise money for further research from investors or collaborators.”). Kenneth Arrow's Information Paradox postulates that a buyer of information will not be able to value that information without the seller disclosing it. But once the seller discloses it, the buyer will no longer have a reason to pay for it. Michael J. Burstein, *Exchanging Information Without Intellectual Property*, 91 TEX. L. REV. 227, 228–29 (2012) (citing Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609, 615 (Nat'l Bureau of Econ. Research ed., 1962)).

¹⁹² See Eisenberg, *supra* note 138, at 2358–59 (discussing some of the possible motivations of publication by commercial firms prior to patenting).

¹⁹³ Bagley, *supra* note 23, at 1058.

¹⁹⁴ See *supra* note 164 and accompanying text.

¹⁹⁵ See *supra* notes 63–64 and accompanying text.

¹⁹⁶ See Parchomovsky, *supra* note 111, at 951 (“An early publication by a patent applicant benefits society by moving forward the date of disclosure.”).

any other disclosure, such as facilitating cumulative invention and reducing duplicative research expenditures.¹⁹⁷ Yet, strategic disclosure has the downside of reducing the expected payoff of a patent race, consequently diminishing incentives to engage in innovation.¹⁹⁸ Due to the risk of being blocked by a competitor's disclosure, a firm has a lower chance of obtaining a patent *ex ante* and hence will invest fewer resources into obtaining one. Importantly, a broad reading of the grace period offers the benefits of early disclosure, by incentivizing firms to publicly disclose their inventions, while lowering the risks of being blocked by a competitor's disclosure. In other words, a broad grace period gives us the best of both worlds: early disclosure and protection. In contrast, the PTO's approach would still incentivize early disclosure because of the benefits of preemptive publications for lagging firms, but it might actually amplify the risk associated with blocking strategic disclosures because a shielding disclosure is so easy to circumvent by disclosing a minor variation.

G. Counterarguments

In addition to the argument that the first-to-publish grace period probably is not the most faithful reading of the statutory text,¹⁹⁹ there are four potential drawbacks to the first-to-publish interpretation. First, and most obviously, this interpretation pushes the United States further away from most foreign patent systems, thus risking some benefits of international harmonization.²⁰⁰ Although I do not think we should view harmonization as a goal in itself, it does reduce the cost and complexity of filing for a patent in multiple countries. Nevertheless, any such potential cost increase seems minimal—the first-to-publish grace period is a more lenient rule than the international norm.²⁰¹ Hence, it only affects inventors who want or need to use it. In addition, it might actually be more beneficial for the United States to resist the international norm in this area so as to encourage foreign countries to adopt a broader grace period.²⁰²

¹⁹⁷ See *supra* notes 108–11 and accompanying text.

¹⁹⁸ See *supra* note 111, at 944.

¹⁹⁹ See *supra* notes 156–57 and accompanying text.

²⁰⁰ See *supra* notes 38–44 and accompanying text.

²⁰¹ See John F. Duffy, *Harmony and Diversity in Global Patent Law*, 17 BERKELEY TECH. L.J. 685, 696 (2002) (“A nation that decides to depart from an international norm and provide greater IP protection would only provide a benefit to other nations.”).

²⁰² See Bagley, *supra* note 23, at 1057 (suggesting that the United States could pressure foreign countries into adopting a grace period); Giltinan, *supra* note 104, at 161 (“[A] multinational grace period based on the U.S. model would strengthen the patent system overall.”).

Second, public disclosure permitted by the broad grace period may deceive the public into thinking the discovery is in the public domain, when in reality, it is about to be patented. Other inventors may rely on the publicly disclosed technology only to be sued for infringement once the patent issues, thereby creating legal uncertainty. This problem potentially increases the risk of “submarine patents,” or delaying issuance of a patent to force an infringing user into paying licensing fees.²⁰³ However, a broad grace period may actually have the opposite effect. By publicly disclosing, inventors can put other researchers on notice of their progress in that field, allowing researchers to focus on unsolved problems.²⁰⁴ And even assuming there is a risk of deception, that risk is no greater under the AIA grace period than under the 1952 Act.

Third, the disclosure facilitated by the first-to-publish rule allows inventors to defer their patent application for up to one year during which they can exploit the invention.²⁰⁵ Consequently, the invention can be held from the public domain up to one year longer, effectively extending the patent privilege. However, by maintaining a personal grace period under § 102(b)(1), it seems clear that Congress was willing to accept this risk but wanted to balance it against other provisions in the AIA. The narrow grace period frustrates this balance and therefore it is necessary to give inventors more flexibility to disclose their inventions prior to patenting.

Finally, the first-to-publish rule potentially creates unfairness because an independent inventor who discloses later may nonetheless be blocked by the earlier discloser’s patent. However, there are at least three reasons we should be wary of this argument. First, the later discloser was beat by the earlier discloser. The patent system is in many ways a zero-sum game, and it makes little sense to adopt a different approach when it comes to the grace period. Second, the later discloser was put on notice by the earlier discloser’s public disclosure. If the later discloser independently invents after the earlier disclosure, her efforts are likely socially wasteful—she is inefficiently duplicating

²⁰³ See *Submarine Patent*, BLACK’S LAW DICTIONARY 1301 (10th ed. 2014) (“A patent that is delayed in prosecution by the applicant in order to let an infringing user continue to develop its business, with the intention of taking in later-invented technology once the patent finally ‘surfaces’ from the U.S. Patent and Trademark Office.”).

²⁰⁴ Unfortunately, this notice function may actually go too far—it could keep researchers away from an overly broad swath of research. So it is difficult to know which of these effects is most likely to predominate.

²⁰⁵ It should be noted, however, that although the flexibility provided by a broad grace period allows inventors to extend exploitation of their patent *publicly* for up to a year prior to filing, even under a narrow reading of the grace period, an inventor can extend exploitation of their patent by practicing in secret without risking novelty.

research costs. And if the later discloser actually invents before the earlier discloser, it would make little sense to reward her when she failed to either disclose or file for a patent before the earlier discloser. Third, the later discloser may be entitled to a prior user right as long as they used the invention at least one year prior to first disclosure.²⁰⁶

CONCLUSION

Exactly how § 102(b)(2)(B) will be interpreted can only be resolved once courts get involved. However, the effects of the PTO's interpretation may begin to take hold immediately: The narrow construction given to the grace period encourages secrecy prior to patenting and chills pre-application disclosure. In addition, it is only a matter of time before the PTO will have to apply their interpretation, which imposes a significant drain on the agency's resources—resources that were supposed to be recouped by the AIA. More generally, the narrow grace period makes the already-jarring shift to a first-to-file system all the more acute, placing inventors in a constant state of paranoia until they file for a patent whether they have disclosed their invention or not.

In the aggregate, a first-to-publish grace period should place a smaller burden on the PTO and courts, incentivize faster disclosure, increase the investment in innovation, even if it may produce effectively longer patents. Meanwhile, a narrow grace period places a bigger burden on the PTO, incentivizes slower disclosure, will reduce investment in innovation, but may produce effectively shorter patents. Although the first-to-publish grace period does have certain disadvantages, all-in-all, the interpretation strikes a more appealing balance between the interests of individual inventors and society in general and goes further towards advancing the two primary goals of patent law: to incentivize innovation and disclosure. As a result, the PTO, courts, and Congress, should do whatever is required to interpret or amend AIA § 102(b)(1)(B) as a first-to-publish grace period.

²⁰⁶ 35 U.S.C. § 273(a) (2012).