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COPING WITH THE AMERICA INVENTS ACT: PATENT CHALLENGES FOR STARTUP COMPANIES

PATRICIA E. CAMPBELL*

On September 16, 2011, President Barack Obama signed into law the provisions of the Leahy-Smith America Invents Act (AIA or the Act),¹ setting into motion a series of reforms that would, over the next eighteen months, substantially reshape the U.S. patent law system. A White House press release characterized the AIA as “the most significant reform of the Patent Act since 1952” and predicted that it “will help American entrepreneurs and businesses bring their inventions to market sooner, creating new businesses and new jobs.”² The Act itself states that it is intended to provide inventors with increased certainty regarding the scope of their rights and promote international uniformity in the procedures used to secure patent rights.³

Obtaining patent protection is vital for startup companies.⁴ Yet, despite its goals of assisting entrepreneurs, creating businesses and

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¹ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C. 2012).

² Office of the Press Sec’y, *President Obama Signs America Invents Act, Overhauling the Patent System to Stimulate Economic Growth, and Announces New Steps to Help Entrepreneurs Create Jobs*, WHITEHOUSE.GOV (Sept. 16, 2011), <http://www.whitehouse.gov/the-press-office/2011/09/16/president-obama-signs-america-invents-act-overhauling-patent-system-stim>.

³ Section 3 of the AIA (entitled “First Inventor to File”) contains two “sense of Congress” provisions. The first states: “It is the sense of Congress that converting the United States patent system from ‘first to invent’ to a system of ‘first inventor to file’ will . . . provide inventors with greater certainty regarding the scope of protection provided by the grant of exclusive rights to their discoveries.” The second provision provides:

It is the sense of Congress that converting the United States patent system from “first to invent” to a system of “first inventor to file” will improve the United States patent system and promote harmonization of the United States patent system with the patent systems commonly used in nearly all other countries throughout the world with whom the United States conducts trade and thereby promote greater international uniformity and certainty in the procedures used for securing the exclusive rights of inventors to their discoveries.

Leahy-Smith America Invents Act § 3.

⁴ See THERESA KAVANAUGH, *IMPORTANT TRENDS FOR DEVELOPING A PATENT STRATEGY* (Aspatore Books ed., 2013), available at 2013 WL 571778 (“Most early stage clients—for example, early stage life science companies and companies with

providing greater certainty regarding patent rights, the AIA contains numerous provisions that give rise to new challenges for startup companies⁵ and other small businesses seeking patent protection for their inventions, potentially making it more difficult for them to obtain patents and casting critical doubt on the validity of any patents they may receive.⁶ These challenges are the result of two sets of provisions in the AIA, the shift to a “first-inventor-to-file” system, including the expanded definition of prior art and the uncertainty surrounding “disclosures” and the multitude of new opportunities for third parties to challenge the issuance and validity of patents. This paper briefly examines the relevant provisions of the AIA and explores the ways in which emerging companies may be disadvantaged by the Act.

I. FIRST-INVENTOR-TO-FILE SYSTEM

Effective March 16, 2013, the United States changed from a first-to-invent to a first-inventor-to-file system.⁷ As a result, U.S. patents will no longer be awarded to the first person to invent something. Instead, like

products under regulatory review for approval—need patent protection on their development programs. Such patent protection not only protects eventually approved products, but also is an important part of their assets necessary for seeking funding or partnerships.”).

⁵ There is no single definition of the term “startup company.” The Merriam-Webster Dictionary defines a startup as a “fledgling business enterprise.” Startups are typically small companies with only a few employees. Usually the company has been in existence for only a short time. Startups are often engaged in research and development efforts and have not yet started selling products or earning revenues. As a result, startups typically have limited financial resources. Startups may be funded by their founders, or they may have received investments from angel investors or venture capitalists. Very few startup companies can afford to hire in-house attorneys, and most are reliant on outside counsel. The Intellectual Property Law Clinic at the University of Maryland Carey School of Law has worked with entrepreneurs who have not yet formed business entities, newly formed companies who are resident in or affiliated with business incubators sponsored by universities or local governments, and more developed companies who have received at least a first round of financing by outside investors. Each one of these businesses considered itself to be a “startup.”

⁶ Numerous commentators and analysts have criticized the AIA for hurting small businesses. *See, e.g.,* Virginia Bridges, *Patent Laws Change Saturday, Affecting Small Business Inventors*, NEWS OBSERVER (Mar. 11, 2013), <http://www.newsobserver.com/2013/03/11/2742358/inventors-should-move-quickly.html>; Gary Lauder, *New Patent Law Means Trouble for Tech Entrepreneurs*, FORBES (Sept. 20, 2011, 4:04 PM), <http://www.forbes.com/sites/ciocentral/2011/09/20/new-patent-law-means-trouble-for-tech-entrepreneurs/>; Todd McCracken, *Patent Reform Bill Hurts Small Business*, THOMSON-REUTERS NEWS & INSIGHT (Jan. 13, 2012), http://newsandinsight.thomsonreuters.com/Legal/Insight/2012/01&uscore;_January/Patent_reform_bill_hurts&uscore;small_business.

⁷ Leahy-Smith America Invents Act § 3.

much of the rest of the world, the United States will award a patent to the first inventor to file a patent application claiming a given invention. Congress accomplished this change to a first-inventor-to-file system by rewriting the priority provisions of §102 and placing emphasis on the effective filing date⁸ of a claimed invention⁹ rather than the date of invention. The new language provides:

(a) NOVELTY; PRIOR ART.—A person shall be entitled to a patent unless—

- (1) The claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective date of the claimed invention; or
- (2) The claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.¹⁰

The amendments to §102 create several potential problems for startup companies and individual inventors. First, it has become more important than ever for inventors to file patent applications early, shortly after the time of invention.¹¹ Under the pre-AIA version of the Patent Act, while there was an incentive to file early, an inventor could take some comfort in the fact that he would still receive a patent if he was first to invent, even if he was not the first inventor to file an application claiming the invention.¹² Now, under the first-inventor-to-file system, a subsequent

⁸ The “effective filing date” of a claimed invention means the actual filing date of the patent or the application for the patent containing a claim to an invention, or the filing date of the earliest application for which the patent or application is entitled, as to such invention, to a right of priority. 35 U.S.C. § 100(h)(i)(1) (2012).

⁹ A “claimed invention” means the subject matter defined by a claim in a patent or an application for a patent. *Id.* § 100(j).

¹⁰ Leahy-Smith America Invents Act § 3.

¹¹ See *Patent Reform Implementation and New Challenges for Small Businesses: Hearing before H.R. Comm. on Small Bus.*, 113th Cong. 3 (2013) [hereinafter *Crouch Testimony*] (statement of Dennis Crouch) (“The recently effective First-to-File system provides a strong incentive for applicants to quickly file for patent protection in order to avoid losing rights.”).

¹² *But see Patent Reform Implementation and New Challenges for Small Businesses: Hearing before H.R. Comm. on Small Bus.*, 113th Cong. 4 (2013) (statement of Jeff Grainger). Grainger testified that the change from a first-to-invent to a first-inventor-to-file system has resulted in little change in the way business is conducted. *Id.* Grainger explained, “Under the first-to-invent system, if a party was second to file a patent application, the statistical chances of proving earlier invention were extremely low, and counting on it was risky. *Id.* Our

inventor who files first will receive the patent (assuming all other requirements are met).

Thus, the first-inventor-to-file system creates a race to the Patent Office that undoubtedly favors big companies over startups and individual inventors who have limited financial resources and who lack in-house lawyers.¹³ Large corporations often have teams of in-house patent attorneys who are familiar with the company's technologies, have ready access to the inventors and can quickly prepare and file patent applications. Startups, on the other hand, tend to be understaffed and under-resourced and each member of the company may attempt to fill several roles. Very few emerging companies have staff attorneys, and many do not even have existing relationships with outside patent attorneys. Instead, a small core group develops the company's technologies, and then they often attempt to draft their own patent applications. This practice not only adds to the overall time required to file an application, but it makes it far less likely that any application filed will fully comply with the requirements for issuance of a patent.¹⁴ Further, many small firms must file patent applications without having the benefit of a prior art search, meaning that they do not

standard practice has therefore always been to file as early as possible. *Id.* Taking one's time in filing on the assumption one could prove earlier invention was not a rational approach." *Id.*

¹³ See David S. Abrams & R. Polk Wagner, *Poisoning the Next Apple: The America Invents Act and Individual Inventors*, 65 STAN. L. REV. 517, 520 (Mar. 2013) ("Although the FTF system has advantages--it is simpler and less costly to administer, and it encourages earlier patent applications--it may have a darker side for small inventors. Since they are likely to be slower in turning an invention into a patent application than larger corporations, they will be less likely to win a patent race."). Based on a study of Canada's move to a first-to-file system in 1989, Abrams and Wagner predict that the AIA will be generally harmful to individual inventors and small entities. See generally *id.*

¹⁴ Section 112(a) of the Patent Act requires that every patent application must include "a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to take and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention." 35 U.S.C. § 112(a) (2012). Subsection (b) requires that the specification must conclude with "one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention." *Id.* § 112(b). These requirements are referred to as written description, best mode, enablement, and claim definiteness. Many startups and small inventors fail to appreciate that provisional applications must also comply with these requirements if the inventor is to take advantage of the filing date of the provisional for any later-filed utility application. See *id.* § 119(e)(1). Instead, they erroneously believe that they can simply prepare a one or two-paragraph, general description of their invention and file it as a provisional application, thereby securing a priority date for their invention. Indeed, some misguided inventors have been told that they can use a provisional application to reserve an idea, so that someone else cannot invent before they do.

even have a good understanding of the scope of rights they may be entitled to claim.¹⁵

In an effort to make the patent system more accessible to small companies, reduced filing fees continue to be made available to qualifying “small entities,”¹⁶ and a new “micro entity”¹⁷ fee was introduced by the AIA.¹⁸ Small entities receive a fifty percent reduction in patent filing fees, while micro entities receive a seventy-five percent reduction.¹⁹ However, the filing fees represent only a small fraction of the costs associated with filing a patent application and even the attorney fees associated with filing a provisional application on a relatively simple invention can exceed several thousand dollars. As a result, it is unclear how much impact the reduced filing fees actually have and whether these lower fees will ultimately assist startups and individual inventors in obtaining patents. Certainly, reduced filing fees make it less expensive for incubator companies to file their own provisional patent applications, without the assistance of counsel. However, a provisional application must support any claims made in a subsequently filed utility application that claims the filing date of the provisional,²⁰ and it may prove very difficult for inventors to draft such an application without the assistance of an experienced attorney. Inventor-drafted provisional applications often fail to provide enabling disclosures, and they may also

¹⁵ Some attorneys are counseling their clients to file serial provisional applications as they continue to refine their invention and develop additional subject matter. See, e.g., Health W. Hoglund, et al., *A Different State of Grace: The New Grace Period Under the AIA*, 5 LANDSLIDE, no. 1, July/Aug. 2013, at 52.

¹⁶ See 37 C.F.R. § 1.27 (2013).

¹⁷ A “micro entity” is a small entity who has not been named as an inventor on more than four previously filed patent applications, has a gross income of less than three times the nation median household income, and has not licensed or assigned an interest in the claimed invention to a third party. 35 U.S.C. § 123.

¹⁸ The House Committee Report indicates that Congress recognizes that independent inventors, small businesses and non-profit organizations should not bear the same financial burden for filing patent applications as large corporations. The report further states: “[t]he Committee was made aware, however, that there is likely a benefit to describing—and accommodating—a group of inventors who are even smaller, in order to ensure that the USPTO can tailor its requirements, and its assistance, to the people with very little capital, and just a few inventions, as they are starting out.” This smaller group of “micro entities” is expected to be composed of “truly independent inventors.” H.R. REP. NO. 112-98, at 50 (2011) (citing 35 U.S.C. § 41(h)).

¹⁹ See *Fee Schedule*, U.S. PAT. & TRADEMARK OFF. (Oct. 4, 2013 11:39 AM), <http://www.uspto.gov/web/offices/ac/qs/ope/fee031913.htm>. At the time of this writing, the basic filing fee for a provisional patent application was \$260. The filing fee for small entities was \$130, while micro entities paid only \$65 to file a provisional application.

²⁰ 35 U.S.C. § 119(e)(1); see also *New Railhead Mfg. v. Vermeer Mfg. Co.*, 298 F.3d 1290 (Fed. Cir. 2002).

fail to describe alternative embodiments or to seek broad protection for the invention.²¹

Fortunately, pro bono legal assistance is becoming increasingly available to individual inventors and emerging companies who are seeking to file patent applications. Section 32 of the AIA instructed the U.S. Patent and Trademark Office (USPTO) Director to “work with and support intellectual property law associations across the country in the establishment of pro bono programs designed to assist financially under-resourced independent inventors and small businesses.”²² Accordingly, in October 2011, the AIA Pro Bono Task Force was convened and a pilot program took place in Minnesota starting later that year. An additional sixteen programs were scheduled to start in 2012–13, and it has been predicted that national coverage will be achieved in 2014.²³ Beginning October 12, 2012, the Federal Circuit Bar Association (FCBA) began serving as the National Clearinghouse for the patent pro bono outreach program. As part of this effort, the FCBA collects information from potentially eligible inventors, provides initial screening of the applications and forwards information to regional patent pro bono organizations. The regional organization then makes its own determination regarding an applicant’s eligibility to receive assistance and whether a practitioner is available to provide such assistance.²⁴

Additional legal assistance may be available to small companies through the USPTO’s Law School Clinical Certification Pilot Program.²⁵ The program allows law students enrolled in clinics at participating schools to file and prosecute patent and trademark applications with the USPTO. Students work under the supervision of a faculty clinic supervisor, and each law school establishes its own criteria for selecting clients to receive

²¹ See CHRISTOPHER J. ROURKE, KEY STRATEGIC CONSIDERATIONS IN OBTAINING DOMESTIC AND INTERNATIONAL PATENTS (Aspatore Books ed., 2013) (“For example, it is not uncommon for inventors to describe their invention in absolute terms (e.g. “the voltage must be 5.0 volts”) when, in fact, those details only pertain to one embodiment, and other configurations can be used where suitable (e.g. voltages greater or lesser than 5.0 volts can be used, depending on the voltage level of the power supply).”).

²² Leahy-Smith America Invents Act, Pub. L. No. 112-29, § 32, 125 Stat. 284, 340 (2011) (codified in scattered section of 35 U.S.C. (2012)).

²³ Amy M. Salmela & Mark R. Privratsky, *Patent Law Pro Bono: A Best Practices Handbook*, 4 CYBARIS AN INTEL. PROP. L. REV. 1, 9 (2012).

²⁴ See *PTO Pro Bono Program*, FED. CIRCUIT B. ASS’N (Mar. 20, 2012), <http://www.fedcirbar.org/olc/pub/LVFC/cpages/misc/pto.jsp>.

²⁵ See *Frequently Asked Questions - Law School Clinic Certification Pilot Program*, U.S. PAT. & TRADEMARK OFF., http://www.uspto.gov/ip/boards/oed/practitioner/agents/law_school_pilot_faq.jsp (last updated Oct. 19, 2012, 1:33 PM).

services.²⁶ Schools participating in the program have agreed to make their students' services available at low or no cost. Yet despite these new pro bono and low bono resources, demand will undoubtedly outstrip supply and many young companies will continue to be unable to afford legal assistance.

A. *Expanded Definition of Prior Art*

In addition to creating the first-inventor-to-file system, the new language in § 102 vastly expanded the definition of novelty-destroying prior art, making it much harder for a patent applicant to know whether prior art exists which may limit the scope of its rights or may even invalidate the patent altogether.²⁷ Under the revised provisions, an invention will not be novel and will not be entitled to receive a patent if it was "patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention,"²⁸ or if it was described in a patent or published patent

²⁶ See *Law School Clinic Certification Pilot Program*, U.S. PAT. & TRADEMARK OFF., http://www.uspto.gov/ip/boards/oed/practitioner/agents/v9_Law_School_map.pdf (providing list of participating law schools). The Intellectual Property Law Clinic at the University of Maryland Francis King Carey School of Law participates in the Law School Clinical Certification Pilot Program for both patents and trademarks. Legal services are provided to incubator companies, other early stage businesses, and individual inventors at no charge. In our experience, the number of prospective clients seeking patent assistance increases every semester and, regrettably, some inventors must be turned away.

²⁷ Note, however, that the AIA eliminates certain categories of prior art that existed previously. The USPTO explains in its Examination Guidelines:

The AIA eliminates the provisions in pre-AIA 35 U.S.C. 102(c) (abandonment of the invention), 102(d) (premature foreign patenting), 102(f) (derivation), and 102(g) (prior invention by another). Under the AIA, abandonment of the invention or premature foreign patenting is not relevant to patentability. Prior invention by another is likewise not relevant to patentability under the AIA unless there is a prior disclosure or filing of an application by another. The situation in which an application names a person who is not the actual inventor as the inventor (pre-AIA 35 U.S.C. 102 (f)) will be handled in a derivation proceeding under 35 U.S.C. 135, by a correction of inventorship under 37 CFR 1.48 to name the actual inventor, or through a rejection under 35 U.S.C. 101 and 35 U.S.C. 115.

Examination Guidelines for Implementing the First Inventor to File Provisions of the Leahy-Smith America Invents Act, 78 Fed. Reg. 11,059, 11,072 (Feb. 14, 2013) (to be codified at 37 C.F.R. pt. 1) [hereinafter Examination Guidelines].

²⁸ 35 U.S.C. § 102(a)(1) (2012).

application which names another inventor and was effectively filed in the United States before the effective filing date of the claimed invention.²⁹

The geographic restrictions contained in the pre-AIA version of § 102 have been removed.³⁰ Prior art now includes public uses and sales occurring anywhere in the world; it is no longer limited to events taking place in the United States.³¹ Prior to the AIA, it was already difficult for an inventor to know about prior sales and uses in the United States, and many sales and uses came to light only when a patent was being challenged in litigation years after it had issued. Now, it will be extremely challenging for small businesses to investigate prior uses and sales occurring in other countries and in other languages. Conducting such an investigation would be time consuming and potentially cost prohibitive. In addition, the temporal window has been widened since prior art now includes everything before the effective filing date of a patent application, not the date of invention.³² As a result, a patent applicant can no longer antedate or “swear behind” a reference that predates its filing date.³³

It is not clear whether non-public uses and commercial activity will constitute prior art under the AIA. Previously, the public use and on-sale bars included commercial activity by an inventor, even if the activity itself was not public.³⁴ The legislative history contains some indication that the AIA was intended to eliminate the prior art effect of private offers for sale, private uses and secret processes that result in an end product or service that

²⁹ *Id.* at §102(a)(2).

³⁰ See H.R. REP. NO. 112-98, at 42 (2011) (“Prior art . . . will no longer have any geographic limitations.”).

³¹ 35 U.S.C. § 102(a)(1)–(2). The pre-AIA version of § 102(a) provided that person was entitled to receive a patent unless “the 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” (emphasis added). *Id.* Section 102(b) provided that a person was entitled to a patent unless the invention was “patented or described in a printed publication in this or a foreign country or in public use or on sale *in this country*” more than one year before the patent application was filed. *Id.* § 102(b). In both instances, public knowledge, public use and sales of the invention constituted prior art to a claimed invention only if they occurred in the United States; foreign knowledge, uses and sales were excluded.

³² MaCharri Vorndran-Jones, et al., *Top Five Dangers for the AIA Unwary*, 5 LANDSLIDE, no. 5, May/June 2013, at 11.

³³ Prior to the AIA, the USPTO regarded an applicant’s filing date as its presumptive invention date. The applicant could antedate or “swear behind” a prior art reference by providing evidence that the applicant invented prior to the date of the prior art reference. See JANICE M. MUELLER, PATENT LAW 243–44 (4th ed. 2013).

³⁴ DONALD S. CHISUM, CHISUM ON PATENTS, § 3[3.3][3.3.1] at AIA-51 (1997) [hereinafter CHISUM ON PATENTS]; see also *Pfaff v. Wells Elecs.*, 525 U.S. 55 (1998); *Metallizing Eng’g Co. v. Kenyon Bearing & Auto Parts Co.*, 153 F.2d 516 (2d Cir. 1946).

is then made public.³⁵ In the final Examination Guidelines the USPTO takes the position that secret sales and uses do not qualify as prior art.³⁶

In addition, there has already been considerable debate about what it means for an invention to be “otherwise available to the public.” Does that language create a new category of prior art: those instances where the invention was “otherwise available to the public” before the effective filing date of the claimed invention? Or were the words “otherwise available to the public” intended to modify the preceding language in the new version of § 102 (“in public use, on sale, or otherwise available to the public”)?³⁷ The House Report on the AIA states that the “available to the public” language was added to clarify the broad scope of relevant prior art, as well as to emphasize the fact that prior art must be publicly accessible.³⁸ One commentator has suggested that:

[w]hether an invention has been made available to the public is the same inquiry that is undertaken under existing [i.e., pre-AIA] law to determine whether a document has become publicly accessible, but it is conducted in a more generalized manner to account for disclosures of information that are not in the form of documents.³⁹

The USPTO, however, appears to take a more expansive view of what it means for a reference to be “otherwise available to the public.” In the recently issued Examination Guidelines for §§ 102 and 103, the USPTO characterizes the “otherwise available to the public” language as a “catch-

³⁵ See CHISUM ON PATENTS, *supra* note 34, at AIA-52 (citing 157 CONG. REC. S1496 (statement of Sen. Patrick Leahy)).

³⁶ Examination Guidelines, *supra* note 27, at 11060 (“[A]n activity (such as a sale, offer for sale, or other commercial activity) is secret (non-public) if, for example, it is among individuals having an obligation of confidentiality to the inventor.”).

³⁷ See CHISUM ON PATENTS, *supra* note 34, at AIA-52.

³⁸ H.R. REP. NO. 112-98, pt. 1, at 43 (2011).

³⁹ 157 CONG. REC. S1370 (daily ed. Mar. 8, 2011) (statement of Sen. Kyl); *see also* 157 CONG. REC. S1042 (daily ed. Mar. 1, 2011) (statement of Sen. Kyl) (“[A]vailable to the public” means the same thing that “publicly accessible” does in the context of a publication. Subject matter makes an invention publicly accessible or available if an interested person who is skilled in the field could, through reasonable diligence, find the subject matter and understand the invention from it.”); Robert A. Armitage, *Understanding the America Invents Act and Its Implications for Patenting*, 40 AIPLA Q.J., 1, 59 (2012) (“Whether an invention has been made available to the public is the same inquiry that is undertaken under existing law to determine whether a document has become publicly accessible, but is conducted in a more generalized manner to account for disclosures of information that are not in the form of documents.”).

all” provision that defines a “new category of prior art.”⁴⁰ The USPTO takes the position that this catch-all provision allows its patent examiners and other decision makers to focus on whether the disclosure was “available to the public,” rather than being bound by the means through which the claimed invention became available to the public.⁴¹ The Examination Guidelines explicitly state that that an invention may be available to the public where it is the subject of “a student thesis in a university library, a poster display or other information disseminated at a scientific meeting, subject matter in a laid-open patent application, a document electronically posted on the Internet, or a commercial transaction that does not constitute a sale under the Uniform Commercial Code.”⁴² Under pre-AIA law, these types of events were close calls and their status as prior art depended upon factors such as whether the documents or information in question were readily accessible (e.g., indexed⁴³) or likely to have been copied (e.g., photographs likely to have been taken at a poster session⁴⁴). However, under the AIA, the USPTO may be trying to create a hard-and-fast rule that these types of events will always constitute prior art if the subject matter is, in some way, available to the public. The USPTO takes the position that even if a document or other disclosure does not constitute a printed publication, or a transaction does not satisfy the requirements for a sale, it may still be prior art if the claimed invention is available to the public.⁴⁵

Startup companies may also be surprised at the relatively low level of detail required in order for a reference to have some prior art effect. If a prior art document (i.e., a patent, published patent application or a printed publication) is going to be used to show that an invention is anticipated under § 102, then “‘each and every element of the claimed invention’ must be disclosed either explicitly or inherently, and the elements must be ‘arranged or combined in the same way as in the claim.’”⁴⁶ Additionally, the prior art document must enable a person of ordinary skill in the art to *make* the invention without undue experimentation. However, there is no

⁴⁰ Examination Guidelines, *supra* note 27, at 11075. The examination guidelines do not constitute substantive rulemaking and do not have the force and effect of law. Instead, they set out the USPTO’s interpretation of the amendments enacted by the AIA. *Id.* at 11059.

⁴¹ *Id.* at 11075.

⁴² *Id.* (citations omitted).

⁴³ *See, e.g., In re Hall*, 781 F.2d 897 (Fed. Cir. 1986) (regarding student thesis).

⁴⁴ *See Application of Bayer*, 568 F.2d 1357 (C.C.P.A. 1978) (regarding poster session at a conference); *see also* U.S. PATENT & TRADEMARK OFFICE, MANUAL OF PATENT EXAMINING PROCEDURE § 2128 (8th ed. 2012).

⁴⁵ Examination Guidelines, *supra* note 27, at 11075.

⁴⁶ *Id.* at 11074.

requirement that a prior art document teach a person skilled in the art to *use* the invention.⁴⁷

Much less is required where a prior art document is being used to support an obviousness rejection under 35 U.S.C. § 103,⁴⁸ and a reference that is not fully enabling may be prior art for purposes of obviousness.⁴⁹ “In accordance with pre-AIA case law concerning obviousness, a disclosure may be cited for all that it would reasonably have made known to a person of ordinary skill in the art.”⁵⁰ As a result, even if a prior art document does not qualify as anticipatory prior art under § 102, it may still be used by the examiner as the basis for an obviousness rejection.

The practical effect of the AIA’s expanded definition of prior art is that it has become much harder for any applicant to know whether there is prior art in existence that may limit the scope of its patent rights or may even invalidate those rights altogether, and undoubtedly the level of uncertainty faced by small businesses will be far higher. There is a lack of certainty about whether certain references or events will even have prior art effect. Further, given the broadened scope of prior art, patentability searches will become much more expensive and will take longer to complete. Freedom to operate opinions may be more difficult to obtain, and companies attempting to enforce their patents against alleged infringers will be at greater risk of having those patents invalidated.

⁴⁷ *Id.* The USPTO distinguishes between the disclosure requirements imposed on a patent applicant under 35 U.S.C. § 112(a) and the level of detail required in a prior art reference. 35 U.S.C. § 112(a) (2012). In order to satisfy the requirements for patentability, a patent applicant must provide a written description of the claimed invention that enables a person of ordinary skill in the art to make and use the entire scope of the invention. *Id.* An anticipatory prior art reference, on the other hand, is only required to disclose all elements of the claimed invention arranged in the same way as they are in the claim, and also provide sufficient guidance to enable a person skilled in the art to make (but not to use) the claimed invention. *Id.* Further, the prior art documents are only required to describe and enable one skilled in the art to make one embodiment (or a single species) of the claimed invention; it need not describe and enable the entire scope of the claimed invention. *Id.*

⁴⁸ The standard for obviousness is set forth in §103, which provides:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Id. § 103. *See, e.g.*, *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398 (2007).

⁴⁹ *See* CHISUM ON PATENTS, *supra* note 34.

⁵⁰ Examination Guidelines, *supra* note 27, at 11074.

B. “Disclosures” and Exceptions from Prior Art

Under the AIA, the revised version of §102 contains two “exceptions” to the definition of prior art. The Act provides:

(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 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.⁵¹

The AIA thus retains a one-year grace period for inventors to file a patent application following an otherwise novelty-defeating event.⁵² An inventor’s own work and disclosures made less than one year before he or she files a patent application will not qualify as anticipatory prior art, nor will disclosures based on information obtained from the inventor. In addition, subsequent disclosures by third parties will not have prior art effect, so long as the patent applicant had previously disclosed the same subject matter.

Because of the new exceptions contained in § 102(b)(1), the AIA has sometimes been characterized as a “first to disclose” system of patent priority.⁵³ While small companies may therefore conclude that they can best protect their ability to obtain a patent by rushing to disclose their invention to the public,⁵⁴ they are more likely to place their rights in jeopardy by

⁵¹ 35 U.S.C. § 102(b)(1).

⁵² CHISUM ON PATENTS, *supra* note 34, at AIA-45.

⁵³ See Arpita Bhattacharyya & Eric P. Raciti, *The Not-So-Amazing Grace Period Under the AIA*, CIPA J. (Sept. 2012) (characterizing the AIA as a “first-inventor-to-publish” system).

⁵⁴ At least one “defensive publication” site was created when the AIA §102 took effect in March 2013. FirsttoDisclose.org is an “online repository for inventors to disclose their inventions to the public.” See FIRSTTODISCLOSE.ORG, <http://www.firsttodisclose.org> (last visited Oct. 16, 2013). The website states that “[t]he use of FirsttoDisclose.org may help prevent another person or entity from claiming patent protection on your idea.” *Id.*

doing so. There was no such thing as a “poor man’s patent”⁵⁵ before the AIA, and the AIA did not create one by adding the § 102(b)(1) exclusions.

Any disclosure makes the invention public and eliminates the advantage of secrecy that would be afforded by filing a provisional patent application.⁵⁶ Further, even if a disclosure will not have prior art effect in the United States, it may still result in a loss of rights abroad. As a result, any company interested in obtaining international patent rights should never disclose its invention prior to filing a patent application. If an invention is accidentally disclosed, it is prudent to file a patent application as quickly as possible after the disclosure. Many practitioners believe that the new rules “increase the need for maintaining secrecy and preventing public disclosure until a patent application is filed.”⁵⁷

Moreover, it is still unclear precisely what constitutes a “disclosure” for purposes of § 102(b)(1). The AIA does not provide a definition, and as of this writing, no court has entered an opinion construing the term “disclosure” as it is used in § 102(b)(1). In its Examination Guidelines, the USPTO has indicated that it plans to treat the term “disclosure” as “a generic expression intended to encompass the documents and activities enumerated in the AIA” § 102(a) (i.e., being patented, described in a printed publication, in public use, on sale or otherwise available to the public, or being described in a U.S. patent, a published U.S. patent application or a WIPO publication of a PCT application designating the U.S.).⁵⁸

⁵⁵ A “poor man’s patent” is an urban legend, whereby inventors believe they can obtain patent rights by writing a description of their invention and mailing it to themselves. They believe that the date of the postmark establishes and invention date or creates some sort of patent rights without the need to file a patent application. The process is not recognized by the Patent Act, confers no rights, and could potentially result in a loss of patent rights.

⁵⁶ Heath W. Hoglund, et al., *A Different State of Grace: The New Grace Period Under the AIA*, 5 LANDSLIDE, no. 6, July/Aug. 2013, at 49. Patent applications are kept in confidence by the USPTO, and applications are not published until 18 months after filing. Provisional applications and applications for design patents are not published. See 35 U.S.C. § 122.

⁵⁷ KAVANAUGH, *supra* note 4, at 6.

⁵⁸ Examination Guidelines, *supra* note 27, at 11075; see also Armitage, *supra* note 39 (“The terms ‘disclosed’ and ‘disclosure’ provide the broadest possible terminology to convey that subject matter has been divulged and, thus, can qualify as prior art to a claimed invention under new § 102(a)(1).”); Robert P. Merges, *Priority and Novelty Under the AIA*, 27 BERKELEY TECH. L.J. 1023, 1033 (2012) (“[T]here are good reasons to read the term ‘disclosure’ in AIA § 102(b) to mean any prior art reference defined under AIA § 102(a).”). A disclosure would then include subject matter that is patented, described in a printed publication, or in public use, on sale, or otherwise available to the public prior to the applicant’s filing date, as well as subject matter described in a patent or published patent application prior to the applicant’s filing date.

There is a lack of clarity regarding whether the experimental use exception to the public use bar will continue to be recognized under the AIA.⁵⁹ Under pre-AIA law, the experimental use exception prevented certain public or private uses from being recognized as prior art and also prevented the clock from running when calculating the date by which an inventor must file a patent application or else lose his right to obtain patent protection.⁶⁰

There is also a lack of clarity about when a disclosure will be disqualified from having prior art effect and the type of evidence that will be required to do so.⁶¹ The USPTO states that the evidence that is necessary to show that a disclosure was made by the inventor or a joint inventor will vary from case to case, depending upon whether it is apparent from the disclosure itself that it was made by the inventor or a joint inventor.⁶² If the disclosure in question is a printed publication (e.g., a journal article) and the list of authors includes individuals who are not named as inventors in the patent application, the USPTO will treat that publication as prior art unless the applicant files an affidavit or declaration establishing that the publication is not prior art because the additional authors obtained the information from the inventors.⁶³

A more problematic situation is presented by intervening disclosures by third parties during the one-year grace period. Section 102(b)(1)(B) creates an exception for disclosures made one year or less before the effective filing date of a claimed invention “where the subject matter disclosed” had already been publicly disclosed by the inventor or joint inventor (or someone who obtained the subject matter disclosed from the inventor or a joint inventor).⁶⁴ The USPTO takes the position that the “subject matter” of the intervening disclosure must be the same as the subject matter of the inventor’s initial disclosure, if the exception is to apply.⁶⁵ If the subject matter of the intervening disclosure varies from the subject matter initially disclosed by the inventor, then “there are two

⁵⁹ CHISUM ON PATENTS, *supra* note 34.

⁶⁰ *City of Elizabeth v. Am. Nicholson Pavement Co.*, 97 U.S. 126 (1877); *Lough v. Brunswick Corp.*, 86 F.3d 1113 (Fed. Cir. 1996).

⁶¹ See CHISUM ON PATENTS, *supra* note 34, at AIA-71 (“The language of Section 102(b) reeks with ambiguities creating interpretive problems.”). Professor Chisum concludes, “[p]re-filing disclosures by inventors with any interest in obtaining patent rights were not a good idea under the pre-AIA law and are less so under the AIA law despite the ‘grace period.’” *Id.* at AIA-72.

⁶² Examination Guidelines, *supra* note 27, at 11076.

⁶³ *Id.*

⁶⁴ 35 U.S.C. § 102(b)(1)(B) (2012).

⁶⁵ Examination Guidelines, *supra* note 27, at 11077 (“The exception in AIA 35 U.S.C. 102(b)(1)(B) focuses on the ‘subject matter’ that had been publicly disclosed by the inventor or a joint inventor.”).

discrete subject matters” and the exclusion would not apply.⁶⁶ The USPTO also argues that the statute does not include any modifier before the term “subject matter”; that is, § 102(b)(1)(B) does not create an exception for an intervening disclosure of “substantially the same subject matter.”⁶⁷

The USPTO does attempt to qualify the “subject matter” requirement somewhat. It states that there is no requirement that the initial method of disclosure by the inventor be the same as the mode of the intervening disclosure (“e.g., inventor discloses his invention at a trade show and the intervening disclosure is in a peer-reviewed journal”).⁶⁸ Further, there is no requirement that the disclosure by the inventor be a “verbatim or *ipsis verbis*” restatement of the intervening disclosure, and the exception applies to subject matter of the intervening disclosure that is simply a more general description of the subject matter originally disclosed by the inventor.⁶⁹

Nevertheless, it is clear that if the intervening disclosure adds in any way to the inventor’s initial disclosure, the USPTO will give that additional material prior art effect.⁷⁰ For example, if an inventor publicly disclosed its invention comprising elements A, B and C and, before the inventor files a patent application, a third party subsequently discloses elements A, B, C and D, then element D of the intervening disclosure will be treated as prior art under the AIA 35 U.S.C. § 102(a)(1).⁷¹ Similarly, if an inventor publicly discloses a genus, and subsequently a third party discloses a species within that genus, the intervening disclosure of the species will be treated as prior art.⁷²

The Small Business Administration (SBA) and others have argued that the USPTO’s interpretation of § 102(b)(1)(B) will seriously hamper an inventor’s ability to obtain patent protection for the full scope of its invention. Specifically, the SBA expressed concern that following an initial disclosure by an inventor, a competitor could “simply publish an obvious variant of a disclosed (but not yet patented) invention and strategically block the first inventor’s ability to obtain broad patent rights.”⁷³ In a letter

⁶⁶ *Id.*

⁶⁷ *Id.* Note: the USPTO says that the Legislative history on this point is inconclusive. *See id.* at 11066.

⁶⁸ *Id.* at 11067.

⁶⁹ *Id.* at 11067, 11077.

⁷⁰ *Id.* (“The subject matter of an intervening grace period disclosure that was not previously publicly disclosed by the inventor or a joint inventor is available as prior art under AIA 35 U.S.C. 102(a)(1).”).

⁷¹ *Id.* at 11077.

⁷² *Id.*

⁷³ Letter from Winslow L. Sargeant, Chief Counsel for Advocacy, Small Bus. Admin., to David Kappos, Dir., United States Patent and Trademark Office 3 (Nov. 5, 2012).

to the USPTO, the SBA suggested that these types of scenarios could have a chilling effect on research and development at universities and non-profit institutions. In addition, startup companies and independent inventors may be discouraged from making early-stage disclosures to investors prior to filing a patent application,⁷⁴ thereby inhibiting their ability to seek outside financing.⁷⁵

II. THIRD PARTY CHALLENGES TO PATENTS

The AIA created several new opportunities for third parties to challenge the issuance and validity of patents, leading to increased uncertainty about the value of a startup's patent portfolio.⁷⁶ These mechanisms include expanded preissuance submissions by third parties, a new post-grant review proceeding and a revised *inter partes* review proceeding (formerly known as *inter partes* reexamination).⁷⁷

A. Third Party Submissions of Prior Art

Section 8 of the AIA allows for preissuance submissions by third parties, whereby any third party may submit for consideration any patent, published patent application, or other printed publication of potential relevance to the examination of a patent application.⁷⁸ Although this provision of the AIA took effect on September 16, 2012, it applies to all patent applications (including utility, design, and plant applications, as well

⁷⁴ *Id.* at 3–4.

⁷⁵ A reluctance to talk with investors potentially creates a “Catch-22” situation for startups. Without outside investments, startups may not be able to afford to file patent applications to protect their innovations. However, venture capitalists and other investors typically do not sign nondisclosure agreements, particularly in the early stages of discussions with startup companies.

⁷⁶ Armitage, *supra* note 39, at 10 (These changes in the law have been characterized as a “profound reversal in the patenting process—with the public’s role being transformed from blinded spectator to full participant.”).

⁷⁷ *Inter partes* means that the patent owner gets to participate in the proceeding, distinguishing it from the *ex parte* reexamination proceeding of 35 U.S.C. § 302.

⁷⁸ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 315–16 (2011) (codified at 35 U.S.C. § 122(e) (2012)). Under pre-AIA law, third parties had limited opportunities to submit patents or publications that were believed to be relevant to published patent applications. The submission could only be made within two months after the patent application was published, or prior to the mailing of a notice of allowance, whichever was earlier. The third party was not permitted to include any explanation of the submitted patents or publications or why they were considered to be relevant. *See generally* Changes to Implement the Preissuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act, 77 Fed. Reg. 42,150 (July 17, 2012).

as continuing applications and abandoned applications),⁷⁹ whether filed before, on or after that date.⁸⁰ Submissions will not be accepted where a patent has already issued.

Submissions must be made in writing at least six months after the patent application has published or after a first rejection has issued, but they must be made before a notice of allowance has been given.⁸¹ There is no requirement that a patent application be published before submissions are made.⁸² As a result, a third party that learns about an unpublished application, such as through confidential discussions with the patent applicant, could make a submission if a first rejection has already issued.

Every submission must set forth a concise description of the asserted relevance of each document submitted,⁸³ and English language translations must be provided for any non-English language items submitted.⁸⁴ There is no requirement that the patent applicant be served with a copy of the submission, although the USPTO will give notice to the applicant if the submission is accepted.⁸⁵ The applicant is not required to file a response to the submission unless the examiner makes a specific request that the applicant do so.⁸⁶

The USPTO has indicated that preissuance submissions are intended to “provide a mechanism for third parties to contribute to the quality of issued patents.”⁸⁷ Any member of the public can file a preissuance submission, including private individuals, corporate entities and government agencies. Submissions may also be filed by an attorney or other representative on behalf of an undisclosed third party.⁸⁸ The USPTO

⁷⁹ One might wonder why a third party would want to make a submission if an application has been abandoned. An abandoned application could potentially be revived by the applicant. The submission could also be considered during the examination of a subsequent application that claims priority to the abandoned application. See CHISUM ON PATENTS, *supra* note 35, at AIA-413 (2013).

⁸⁰ See Changes to Implement the Preissuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act, 77 Fed. Reg. at 42,150.

⁸¹ 35 U.S.C. § 122(e) (2012).

⁸² See Changes to Implement the Preissuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act, 77 Fed. Reg. at 42,154.

⁸³ 35 U.S.C. § 122(e)(2)(A). Curiously, there is no requirement that the document submitted be prior art to the pending application, and the third party is not required to indicate whether the document is considered to be prior art. Instead, a submission is only required to be of “potential relevance” to the pending application. See *id.*

⁸⁴ 37 C.F.R. § 1.290(d)(4) (2012).

⁸⁵ See Changes to Implement the Preissuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act, 77 Fed. Reg. at 42,154.

⁸⁶ 37 C.F.R. § 1.290(g).

⁸⁷ Changes to Implement the Preissuance Submissions by Third Parties Provision of the Leahy-Smith America Invents Act, 77 Fed. Reg. at 42,150.

⁸⁸ *Id.* at 42,154.

takes the position that providing anonymity is intended to “encourage small entity third parties to submit prior art.”⁸⁹ The USPTO’s rulemaking states:

Without such anonymity, there are situations where potential third-party small start-ups would be hesitant to make a third-party submission, such as where the third party would be concerned with damaging a valuable relationship with the larger applicant. Anonymity helps small start-ups in supplying prior art against applications submitted by large entities (not necessarily competitors) with whom they may have a relationship.⁹⁰

The USPTO rejected concerns that anonymity could negatively impact small entities. Specifically, one commenter suggested that a large competitor might use a third-party representative to file an excessive number of submissions against a small startup company, which the company might not have the funds to address. The USPTO believes this is not an issue, since there is generally no need for patent applicants to respond to third-party submissions.⁹¹

Although the third-party submission procedure was ostensibly created to allow public participation in the patenting process, with the intended result of creating high quality patents, the opportunity to submit prior art will likely be particularly attractive to an applicant’s competitors who hope to prevent the company from receiving a patent. Large corporations that have monitoring programs in place may be readily able to take advantage of the program. However, for startup companies, the time and costs associated with monitoring their competitors’ patent publications and preparing submissions to the USPTO may make the practice prohibitive. The USPTO has reportedly received “a steady stream of preissuance submissions” since September 16, 2012.⁹²

B. *Post-Grant Review*

Even if a startup company receives a U.S. patent, the validity of that patent can still be challenged. Prior to the AIA, the validity of issued patents could be challenged in *inter partes* reexamination and *ex parte* reexamination proceedings at the USPTO and in connection with patent litigation in the district courts. The AIA replaced *inter partes* reexamination with *inter partes* review⁹³ and it created a new post-grant review

⁸⁹ *Id.*

⁹⁰ *Id.* at 42,164.

⁹¹ *Id.*

⁹² Joseph M. Potenza, *The America Invents Act: One Year Later*, 5 LANDSLIDE, no. 3, Jan./Feb. 2013, at 1.

⁹³ See discussion *infra* at part. II.C.

proceeding, allowing a third party (i.e., any person other than the patent owner) to file a petition to institute a post-grant review of an issued patent.⁹⁴

In a post-grant review proceeding, the third-party petitioner may request that one or more claims of the patent be cancelled as unpatentable based on any grounds of invalidity, including patent-ineligible subject matter, lack of novelty, lack of utility, obviousness, lack of enablement, failure to satisfy the written description requirement and claim indefiniteness.⁹⁵ A petition to institute a post-grant review must be filed within nine months after the date the patent issues.⁹⁶ The petition must identify all real parties in interest⁹⁷ and the patent owner has the right to file a preliminary response setting forth why it believes the post-grant review should not be instituted.⁹⁸

The post-grant review proceeding will be instituted if the USPTO Director determines that the information in the petition, “if not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.”⁹⁹ The USPTO Director can also institute a review if the petition raises a novel or unsettled legal question that is important to other patents or patent applications.¹⁰⁰ However, a post-grant review will not be instituted if the petitioner (or the real party in interest) filed a civil action challenging the validity of any claim in the patent prior to filing the petition for post-grant review.¹⁰¹

Post-grant review proceedings are heard by the newly named Patent Trial and Appeal Board (PTAB).¹⁰² The implementing regulations state that a post-grant review is a trial that will proceed under new rules governing, *inter alia*, post-grant review, *inter partes* review and derivation proceedings.¹⁰³ During the proceeding, the patent owner may respond to the

⁹⁴ 35 U.S.C. § 321 (2012).

⁹⁵ However, failure to satisfy the best mode requirement cannot be asserted as a basis for cancellation in a post-grant review proceeding. *See id.* § 282(b)(3) (“[F]ailure to disclose the best mode shall not be a basis on which any claim of a patent may be cancelled.”).

⁹⁶ *Id.* § 321(c).

⁹⁷ *Id.* § 322(a)(2).

⁹⁸ *Id.* § 323.

⁹⁹ *Id.* § 324(a).

¹⁰⁰ *Id.* § 324(b).

¹⁰¹ *Id.* § 325(a)(1). Further, if the petitioner files a civil action after filing the petition for post-grant review, that civil action will be automatically stayed. *See id.* § 324(a)(2).

¹⁰² *Id.* § 6. Previously, the Board was known as the “Board of Patent Appeals and Interferences.” Its name change is intended to better reflect its new areas of jurisdiction.

¹⁰³ 37 C.F.R. § 42.200(a) (2012). *See Rules of Practice for Trials Before the Patent Trial and Appeal Board and Judicial Review of Patent Trial and Appeal Board Decisions*, 77 Fed. Reg. 6,879 (Feb. 9, 2012).

petitioner's arguments for unpatentability.¹⁰⁴ Supplemental information may be submitted by the parties,¹⁰⁵ and limited additional discovery may be authorized if good cause is shown.¹⁰⁶ The claims challenged in the post-grant review will be given their broadest reasonable construction in light of the patent's specification.¹⁰⁷ In addition, the patent owner is permitted to file one motion to amend the patent by cancelling a challenged claim or proposing a reasonable number of substitute claims; however, the amendment cannot enlarge the scope of the claims or introduce new subject matter.¹⁰⁸ The PTAB is generally expected to conclude the proceeding within one year by providing a final written decision, although that time can be extended by up to six months for good cause.¹⁰⁹ Any party that is dissatisfied with the PTAB's decision can appeal to the Federal Circuit Court of Appeals.¹¹⁰

Chief Judge Rader has predicted that the broad scope of post-grant review may be particularly attractive to close competitors, who often track the progress of each other's patent applications.¹¹¹ Post-grant review may provide an early challenge to validity of the newly-issued patent, while avoiding the cost and complexity of district court litigation. However, post-grant review has also been characterized as potentially the most expensive, and therefore the most damaging, of all the reforms enacted by the AIA.¹¹² As a result, while startup companies may find themselves on the receiving

¹⁰⁴ 37 C.F.R. § 42.220(a).

¹⁰⁵ *Id.* § 42.223.

¹⁰⁶ *Id.* § 42.224(a).

¹⁰⁷ *Id.* § 42.200(b). This differs from claim construction in patent infringement litigation, where patent claims are given their ordinary and customary meaning as understood by a person of ordinary skill in the art. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1305 (Cal. 2005) (en banc).

¹⁰⁸ 37 C.F.R. § 42.221(a).

¹⁰⁹ *Id.* § 42.200(c).

¹¹⁰ 35 U.S.C. § 329 (2012).

¹¹¹ Hon. Randall R. Rader, *Addressing the Elephant: The Potential Effects of the Patent Cases Pilot Program and Leahy-Smith America Invent Act*, 62 AM. U. L. REV. 1105, 1109 (2012).

¹¹² Of all the provisions in the AIA, the post-grant review proceedings could prove to be the most expensive and hence damaging to the interests of patent owners who find themselves involved in such proceedings. We will not know the extent of the problem for several years because the proceedings can be brought only against patents whose effective filing date for every claim is on or after March 16, 2013. Such patents will not be issued in significant numbers until at least 2015, at which point the post-grant review challenges will be expected. Paul M. Janicke, *Overview of the New Patent Law of the United States*, 21 TEX. INTELL. PROP. L.J. 63, 69–70 (2013); *see also* Jay M. Mattappally, *Goliath Beats David: Undoing the Leahy-Smith America Invents Act's Harmful Effects on Small Businesses*, 58 LOY. L. REV. 981, 1018 n.274 (2012) (quoting former Chief Judge Paul Michel, who said that post-grant review is bad for small business because it gives big business an additional avenue to challenge and delay small business patents).

end of post-grant review proceedings, they are unlikely to challenge other companies' issued patents except in the most extreme of circumstances.¹¹³

C. Inter Partes Review

The AIA also created a new *inter partes* review proceeding to allow third parties to challenge the validity of patents when more than nine months have passed since their issuance.¹¹⁴ Any person who is not the owner of a patent can file a petition to institute an *inter partes* review of that patent, requesting that one or more claims of the patent be cancelled.¹¹⁵ However, the grounds for cancellation that can be asserted in an *inter partes* review are more limited than the grounds for post-grant review. A request for *inter partes* review can only be based on invalidity of the claims due to lack of novelty or obviousness, and only on the basis of prior art consisting of patents or printed publications.¹¹⁶ Like a post-grant review petition, the patent owner is permitted to file a response arguing why the review should not be initiated.¹¹⁷

An *inter partes* review may be instituted only if the USPTO Director finds that there is "a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."¹¹⁸ This is a heightened standard¹¹⁹ that replaced the pre-AIA threshold for instituting an *inter partes* reexamination. Previously, a

¹¹³ At the time of this writing, the fee for filing a post-grant review petition was \$12,000. *Fee Schedule*, *supra* note 19. If more than twenty claims were challenged, there was an additional fee of \$250 for each claim over twenty. *Id.* If post-grant review was instituted, the petitioner was assessed a post-institution fee of \$18,000. *Id.* If more than fifteen claims were included, there was a surcharge of \$550 for each additional claim. *Id.* Thus, the filing fees alone for a successful post-grant review petition could easily be in excess of \$30,000 and the attorney fees incurred could be many times that amount.

¹¹⁴ 35 U.S.C. § 311 (2012). Under the AIA, *inter partes* review replaced the former *inter partes* reexamination proceeding effective September 16, 2012.

¹¹⁵ *Id.* § 311(a)–(b).

¹¹⁶ *Id.* § 311(b). Patent eligible subject matter, utility, enablement, written description, and claim indefiniteness are not grounds that can be raised in an *inter partes* review proceeding.

¹¹⁷ *Id.* § 313.

¹¹⁸ *Id.* § 314(a).

¹¹⁹ See H.R. REP. NO. 112-98, pt. 1, at 45–46, 48 (2011); see also Joe Matal, *A Guide to the Legislative History of the America Invents Act: Part II of II*, 21 FED. CIR. B.J. 539, 598 (2012) ("The threshold for initiating an inter partes review is elevated from 'significant new question of patentability'--a standard that currently allows 95% of all requests to be granted--to a standard requiring petitioners to present information showing that their challenge has a reasonable likelihood of success. Satisfaction of the new threshold will be assessed based on the information presented both in the petition for the proceeding and in the patent owner's response to the petition.").

petitioner only had to raise a substantial new question of patentability,¹²⁰ which was generally considered to be a relatively low standard.¹²¹ *Inter partes* review may not be instituted if the petitioner (or real party in interest) has already filed a civil action challenging the validity of a claim of the patent.¹²²

Once an *inter partes* review has been instituted, it proceeds much like a post-grant review proceeding. It is a trial before the PTAB and is subject to the procedural rules of the PTAB.¹²³ Again, a challenged claim is given its broadest reasonable construction in light of the specification.¹²⁴ The patent owner has the right to file a response arguing against the grounds for unpatentability raised by the petitioner,¹²⁵ and the patent owner may also file a motion to amend the patent, cancelling a challenged claim for proposing a reasonable number of substitute claims.¹²⁶ The Board is generally expected to render a final written decision within one year¹²⁷ and appeals may be filed with the Federal Circuit Court of Appeals.¹²⁸

Both post-grant review and *inter partes* review include severe estoppel provisions. The petitioner or the real party in interest in an *inter partes* review or post-grant review proceeding challenging the validity of a claim in a patent is estopped from requesting or maintaining a further proceeding before the USPTO with respect to that claim on any ground that the petitioner actually raised or reasonably could have raised during the earlier proceeding.¹²⁹ Further, if the post-grant review or *inter partes* review results in a final written opinion, the petitioner or real party in interest may not assert in any civil action that the challenged claim is invalid on any ground that the petitioner raised or reasonably could have raised during the post-grant review or *inter partes* review.¹³⁰ The estoppel effect extends to

¹²⁰ 35 U.S.C. § 312(a); *see also*, U.S. PATENT & TRADEMARK OFFICE, *supra* note 44, at § 2216.

¹²¹ A “substantial new question of patentability” meant that the petitioner had to identify a prior art reference, or a group of references, that raised a new question about whether one or more of the claims were valid. The reference or group of references could not merely be technically cumulative of what was raised before, but it could be a reference that was considered previously that was being cast in a new light or a different way that escaped review previously. *See Substantial New Question of Patentability*, U.S. PAT. & TRADEMARK OFF., <http://www.uspto.gov/web/offices/pac/mpep/s2216.html>.

¹²² 35 U.S.C. § 315(a)(1). A counterclaim challenging the validity of a patent claim does not constitute a civil action challenging the validity of a claim of a patent, however. *See id.* § 315(a)(3).

¹²³ 37 C.F.R. § 42.100(a) (2012).

¹²⁴ *Id.* § 42.100(b).

¹²⁵ *Id.* § 42.120(a).

¹²⁶ *Id.* § 42.121(a).

¹²⁷ *Id.* § 42.100(c).

¹²⁸ 35 U.S.C. § 319 (2012).

¹²⁹ *Id.* §§ 315(e)(1), 325(e)(1).

¹³⁰ *Id.* §§ 315(e)(2), 325(e)(2).

actions in federal district court, as well as Section 337 proceedings before the International Trade Commission.

The high costs associated with filing a request for *inter partes* review,¹³¹ the heightened standard for initiation of a proceeding and the estoppel effect of any final decision may make small companies reluctant to use *inter partes* review to challenge another company's patent.¹³² Conversely, larger competitors with significant legal budgets may view *inter partes* review as a convenient way to call into question the value of a startup's portfolio. If *inter partes* review is instituted, the startup company will be required to spend significant amounts of money on attorney fees in order to defend against the action and attempt to preserve its patent.

IV. CONCLUSION

The AIA was enacted with many purposes in mind. It was intended to create high quality patents that will lead to economic stabilization and prosperity. The White House predicted that the Act would benefit entrepreneurs by helping them to obtain patents more quickly, bring more products to market and create more jobs. In fact, the AIA may have created multiple layers of uncertainty for startups that hamper their ability to get patents, call into question the validity (and therefore the value) of any patents they receive and lead to potential economic instability.

¹³¹ The current fee for filing a request for *inter partes* review is \$9,000, with an additional fee of \$200 per claim for each claim over twenty. *Fee Schedule, supra* note 19. If *inter partes* review is instituted, the petitioner must pay a post institution fee of \$14,000, plus an additional fee of \$400 per claim for each claim over fifteen that is included in the review. *Id.*

¹³² *Crouch Testimony, supra* note 11. Post-grant review and *inter partes* review were intended as cost-effective mechanisms for challenging wrongly-issued patents, but the filing fees are prohibitive for small businesses and public interest groups wanting to challenge patents. *Id.*