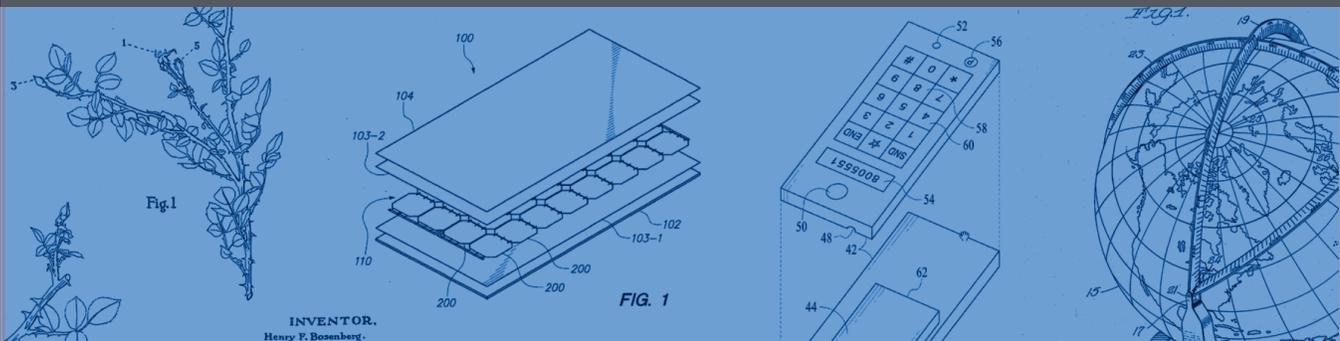


Report to Congress
September 2014

Report on Virtual Marking



Prepared by
The United States Patent and Trademark Office

uspto.gov The United States Patent and Trademark Office
an agency of the Department of Commerce



REPORT ON VIRTUAL MARKING

UNITED STATES PATENT AND TRADEMARK OFFICE

Michelle K. Lee

Deputy Under Secretary of Commerce for Intellectual Property and Deputy Director of the
United States Patent and Trademark Office

Inquiries concerning this report should be directed to: Marina Lamm at (571) 272-5905 or
Marina.Lamm@uspto.gov

The United States Patent and Trademark Office acknowledges and thanks the members of the public who
submitted comments.

REPORT ON VIRTUAL MARKING

UNITED STATES PATENT AND TRADEMARK OFFICE

CONTENTS

<i>Section Title</i>	<i>Page</i>
EXECUTIVE SUMMARY	1
I. INTRODUCTION	4
II. BACKGROUND	7
III. ANALYSIS	8
A. The Effectiveness of Virtual Marking as an Alternative to Physical Marking	8
B. Whether Virtual Marking Has Limited or Improved the Ability of the General Public to Access Information About Patents	13
C. Legal Issues Arising from Virtual Marking	18
D. Deficiencies of Virtual Marking	21
IV. CONCLUSION	24
Appendix A: List of Parties Providing Comments	27

EXECUTIVE SUMMARY

The Leahy-Smith America Invents Act (AIA), signed into law on September 16, 2011, was designed to establish a more efficient and streamlined patent system to improve patent quality and limit unnecessary litigation costs. The AIA made many changes to United States patent law, including an amendment to 35 U.S.C. § 287(a), the so-called “marking” statute. The purpose of marking an article is to provide constructive notice to the public that the article is patented. Failure to appropriately mark an article can preclude the recovery of damages for infringement until effective notice is given. In the AIA, Congress intended to modernize and update the statute.

Prior to the AIA, the marking statute required patented articles to be physically marked by placing the word “patent” or the abbreviation “pat.,” along with the patent number, on the article itself or its packaging. The amendment to § 287(a) introduced in the AIA provides patentees with the option of using “virtual marking,” *i.e.*, affixing onto the article or its packaging the word “patent” or the abbreviation “pat.” followed by an address of a posting on the Internet that associates the patented article with the number of the patent, as an alternative to physical marking. According to the legislative history of the AIA, Congress intended the virtual marking amendment to save costs for manufacturers and to facilitate effective marking of small products.

To assess the effectiveness of virtual marking, Congress directed the United States Patent and Trademark Office (USPTO) to produce a report providing an analysis of:¹

- (A) The effectiveness of virtual marking as provided in the amendment made by Section 16(a) of the AIA as an alternative to the physical marking of patented articles;
- (B) Whether such virtual marking has limited or improved the ability of the general public to access information about patents;
- (C) Legal issues, if any, that arise from such virtual marking; and
- (D) Deficiencies, if any, arising from virtual marking.

Pursuant to this mandate, the USPTO solicited comments from interested parties to complement information gathered from the existing case law and USPTO's independent research on the issue of virtual marking. The USPTO received nine written comments from businesses, independent inventors, patent practitioners, professional organizations, and individuals. Most of the comments supported virtual marking as a more flexible and cost-effective option as compared to physical marking, though one expressed concerns that Internet reliability may impact usage of virtual marking Web pages. Another comment addressed the interface between the marking statute and the false marking statute, 35 U.S.C. § 292(a), suggesting that an appropriate reconciliation between the two could provide additional transparency and cost-savings.

The use of Internet technologies for virtual marking allows patentees to dynamically update patent information without making expensive modifications to the manufacturing process, to provide a real-time, complete list of associated patents, and to include additional patent-related

¹ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011).

information. At the same time, virtual marking's reliance on the Internet poses issues that may limit the general public's access to patent information, including unavailability of Internet access in certain circumstances and privacy issues related to Internet usage. As virtual marking is a relatively new procedure, there is very limited jurisprudence addressing virtual marking issues. However, some legal issues that have arisen with respect to physical marking may be of relevance to virtual marking. For example, the requirement that the patentee prove that once marking was begun, the marking was "substantially consistent and continuous." In the context of physical marking, the courts have held that full compliance with the marking statute was not achieved until the patentee consistently marked substantially all of its patented products. As both physical and virtual marking serve the same public notice function, the "substantially consistent and continuous" requirement appears to be generally applicable to virtual marking. The manner by which the virtual marking Web page "associates" patented products with the patents covering them also may present legal issues with regard to proving constructive notice. Lastly, virtual marking may have some deficiencies, such as the lack of clear guidance as to how patents and products are to be "associated" as well as those related to Internet access and privacy issues.

On the basis of the public comments and independent research, the USPTO concludes that virtual marking has likely met its intended objectives of reducing manufacturing costs, facilitating marking of small articles, and improving the general public's access to patent information. However, it could be beneficial to revisit the issue at a later date, to account for further user experiences, additional data, and case law developments.

I. INTRODUCTION

A. Background on Patent Marking and the Changes Made by the America Invents Act

On September 16, 2011, President Obama signed into law the AIA.² The purpose of the AIA was to ensure that the United States patent system fulfills the constitutional imperative to “promote the Progress of Science and useful Arts”³ in light of 21st century economic and business challenges.⁴ Specifically, the legislation was designed to “establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs.”⁵

To that end, one of the many changes the AIA made to United States patent law was to amend 35 U.S.C. § 287(a), the so-called “marking” statute.⁶ The marking statute provides a mechanism for patentees⁷ to inform the public that an article is patented through the placement, or “marking,” of certain information about related patents on the article or its packaging.⁸ This serves three related purposes: (1) helping to avoid innocent infringement; (2) encouraging patentees to give notice to the public that an article is patented; and (3) aiding the public to

² Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (hereinafter “AIA”).

³ U.S. CONST. art. I, § 8, cl. 8.

⁴ See H.R. REP. NO. 112-98, at 38-40 (2011).

⁵ See *Id.* at 40.

⁶ 35 U.S.C. § 287(a) (2012) (originally enacted as Act of July 19, 1952, ch. 950, § 287, 66 Stat. 792, 813, which was based on R.S. § 4900; Feb. 7, 1927, ch. 67, 44 Stat. 1058).

⁷ This report uses the terms “patentee” or “producer” to refer collectively to the parties to which 35 U.S.C. § 287(a) applies, namely “[p]atentees, and persons making, offering for sale, or selling within the United States any patented article for or under them, or importing any patented article into the United States.”

⁸ See 35 U.S.C. § 287(a) (2012); see also Eugene Goryunov & Mark Polyakov, *To Mark or Not to Mark: Application of the Patent Marking Statute to Websites and the Internet*, 14 RICH. J.L. & TECH. 2, 4 (2007), available at <http://law.richmond.edu/jolt/v14i1/article2.pdf>.

identify whether an article is patented.⁹ To give effect to these purposes, § 287(a) precludes recovery of damages for infringement of unmarked articles prior to notice of infringement.¹⁰ Specifically, § 287(a) provides that “[i]n the event of failure so to mark, no damages shall be recovered by the patentee in any action for infringement, except on proof that the infringer was notified of the infringement and continued to infringe thereafter, in which event damages may be recovered only for infringement occurring after such notice.”¹¹

Prior to the changes made by the AIA, the only method by which an article could be marked under § 287(a) was by fixing onto it the word “patent” or the abbreviation “pat.,” together with the number of the patent (*i.e.*, by physically applying the patent number to the article, hereinafter referred to as “physical marking”).¹² The AIA added another method of marking to the statute by allowing patentees to affix “patent” or “pat.” on the article along with an address of a posting on the Internet that associates the patented article with the number of the patent (*i.e.*, referencing the patent number through an Internet site, hereinafter referred to as “virtual marking”).¹³ For either marking method, the statute also provides that if the character of the article prevents the patentee from placing the required information on the article itself, the patentee may instead mark the article by fixing to it or to its packaging a label containing the information.¹⁴

The AIA amended the marking statute to account for shortcomings and inflexibilities with the pre-AIA marking requirements. The change also reflected a number of years of

⁹ *Nike, Inc. v. Wal-Mart Stores, Inc.*, 138 F.3d 1437, 1443 (Fed. Cir. 1998) (internal citations omitted).

¹⁰ 35 U.S.C. § 287(a) (2012).

¹¹ *Id.*

¹² 35 U.S.C. § 287(a) (2006) (amended 2011).

¹³ 35 U.S.C. § 287(a) (2012).

¹⁴ *Id.*

discussion with the stakeholder community to modernize the marking statute. For instance, under the pre-AIA marking regime, physical marks on the article or information on the label had to be updated to reflect the numbers of later issuing patents.¹⁵ For physical marks, this could require retooling manufacturing processes or developing new product molds to include the new patent numbers on the article.¹⁶ In addition, it is difficult to physically mark small articles that are covered by multiple patents.¹⁷ Virtual marking under the AIA addresses these shortcomings by allowing patents to be listed on an easily and rapidly updatable Web page as opposed to listing them on the article or its labeling, and potentially at a much lower cost.¹⁸

B. Scope and Purpose of the Report

Along with the changes made to the marking statute, the AIA mandated the USPTO to advise Congress on whether virtual marking is an effective alternative to physical marking.¹⁹ Specifically, the AIA mandated the Director of the USPTO to submit a report to Congress including:

- (A) An analysis of the effectiveness of virtual marking as provided in the amendment made by paragraph (1) of this subsection [Section 16(a) of the AIA] as an alternative to the physical marking of patented articles;

¹⁵ See H.R. REP. NO. 112-98, at 52-53 (2011) (“This amendment will save costs for producers of products that include technology on which a patent issues after the product is on the market, and will facilitate effective marking on smaller products”); S. Rep. No. 111-18, at 14 (2009) (“This amendment will save costs for producers of products that include technology on which a patent issues after the product is on the market, and will facilitate effective marking on smaller products.”).

¹⁶ See Corey McCaffrey, *The Virtues of Virtual Marking in Patent Reform*, 105 NW U.L. REV. 367, 369 (2011); see also *Pequignot v. Solo Cup Co.*, 608 F.3d 1356, 1359 (Fed. Cir. 2010) (citing high cost of recasting molds, which left patent number imprint in plastic drink cup lids, was a deterrent to contemporaneously removing patent numbers from the lids on date of patent expiration).

¹⁷ See e.g., H.R. REP. NO. 112-98, at 52-53 (2011); S. Rep. No. 111-18, at 14 (2009); see e.g., McCaffrey at 395.

¹⁸ See McCaffrey at 369, 389.

¹⁹ AIA, § 16(a)(3).

- (B) An analysis of whether such virtual marking has limited or improved the ability of the general public to access information about patents;
- (C) An analysis of the legal issues, if any, that arise from such virtual marking; and
- (D) An analysis of the deficiencies, if any, arising from virtual marking.²⁰

In accordance with Congress's instructions, this report analyzes the effectiveness of virtual marking. Part II of the report provides background on the scope of the study that the USPTO undertook to fulfill this congressional mandate. Part III, A-D, responds to each of the analyses requested by the statute.

II. BACKGROUND

To better understand the impact the virtual marking amendment to § 287(a) has had on U.S. patent holders and the public, the USPTO gathered information and perspectives through a solicitation of public comments via a Federal Register notice published on June 16, 2014 (Notice).²¹ Interested members of the public were invited to submit written comments on issues related to virtual marking, in particular, the four issues identified by Congress.²² The Notice also requested information on other related topics, including: any experiences with creating and maintaining adequate and effective virtual marking Web sites; any experiences with using virtual marking Web sites to locate relevant patent information; any challenges with sufficiently associating patent numbers with the corresponding product within the virtual marking Web site;

²⁰ *Id.*

²¹ Notice of Request for Comments on Virtual Marking, 79 Fed. Reg. 34,291 (June, 16, 2014).

²² *Id.*

and the economic impacts of virtual marking, such as the cost differences between physical marking and virtual marking.²³

The USPTO received a total of nine written comments from businesses, independent inventors, patent practitioners, professional organizations, and individuals.²⁴ Appendix A provides a list of the entities that submitted written comments to the USPTO. To complement the public submissions, and to ensure an appropriate foundation of information on which to base the analyses contained in this report, the USPTO also conducted an extensive review of the relevant literature and case law.

III. ANALYSIS

A. The Effectiveness of Virtual Marking as an Alternative to Physical Marking

When Congress amended 35 U.S.C. § 287(a) to provide for virtual marking, they identified two particular objectives: (1) to “save costs for producers of products that include technology on which a patent issues after the product is on the market;” and (2) to “facilitate effective marking on smaller products.”²⁵ This part of the report will analyze the effectiveness of virtual marking as an alternative to physical marking from the standpoint of these two objectives. Parts III.B through III.D that follow consider additional issues related to effectiveness of virtual marking.

²³ *Id.*

²⁴ *Infra* App. A (list of parties providing comments); *see also* Request for Comments on Virtual Marking, http://www.uspto.gov/patents/law/comments/virtual_marking_comments.jsp (last visited Aug. 12, 2014).

²⁵ H.R. REP. NO. 112-98, at 52-53 (2011); S. Rep. No. 111-18, at 14, (2009).

1. Does Virtual Marking Save Costs for Producers of Products That Include Technology on Which a Patent Issues After the Product is on the Market?

Section 287(a) encourages patentees to provide constructive notice to the public that an article is patented by limiting recovery of damages for infringement if the patentee fails to properly mark the product with relevant patent information.²⁶ In such cases, damages will be limited to those accruing after the patentee provides actual notice of infringement.²⁷ To avoid this limitation, where an article is already on the market and a patent covering it later issues, the patentee is required to update the mark to identify the patent number of each newly issued patent.²⁸ Relatedly, in order to avoid claims of false marking under 35 U.S.C. § 292, a patentee also may need to update a mark to reflect the fact that a patent covering the article has expired,²⁹ has been invalidated,³⁰ or no longer covers the article due to an adverse claim interpretation.³¹

Updating physical marks in such situations can result in additional manufacturing costs, due to, *inter alia*, retooling of manufacturing processes or development of new product molds to

²⁶ 35 U.S.C. § 287(a) (2012).

²⁷ *Id.*

²⁸ 35 U.S.C. § 287(a) (2012); see also 7 Donald S. Chisum, Chisum on Patents § 20.03(7) (2014) (“Section 287 imposes a duty to mark on patent owners who sell patented articles and, in case of failure so to mark, limits damages to those acts of infringement which occur after the giving of notice.”).

²⁹ See *Pequignot v. Solo Cup. Co.*, 608 F.3d 1356, 1362 (Fed. Cir. 2010) (“In sum, we agree with Pequignot and the district court that articles marked with expired patent numbers are falsely marked.”); see also 7 Donald S. Chisum, Chisum on Patents § 20.03 (2014) (“There is little authority on whether continued use of a patent number on an article after expiration of the patent constitutes culpable mismarking. The patent marking statute (35 U.S.C. Section 287) requires marking only with the patent number. Because the issue date is not given, the expiration date cannot readily be determined. Therefore, a strong case can be made for finding culpable mismarking when a person intentionally continues to mark articles with the number of an expired patent.”).

³⁰ See McCaffrey at 369 (“patentees must change their marks when their patents expire or become invalid in the course of litigation.”); see also *id.* at 390-93 (“If ... a patent becomes involved in litigation and is invalidated, then it no longer protects any product. A product that is marked with the invalidated patent’s number exposes the patentee to false marking liability.”).

³¹ See McCaffrey at 391 (“Just as with invalid patents, a patent determined to have a narrower scope under a court’s unfavorable claim construction, whether at trial or on appeal, exposes the patentee to false marking liability if it marks a now-excluded product with that patent number.”). See generally, McCaffrey at 390-93 (“that unfavorable claim construction puts the patentee in a tricky situation. On the one hand, the patentee knows it will be engaged in false marking going forward. On the other hand, the unfavorable claim construction stands a reasonable chance of being reversed on appeal, and if the patentee ceases to mark while the appeal is pending, it will fail to satisfy the consistent-and-continuous marking requirement.”).

include new patent numbers on the products or to delete inapplicable ones.³² The magnitude of the additional costs is difficult to ascertain reliably given the lack of empirical data regarding the impacts of physical marking on manufacturing processes, but several public commenters noted that it is costly to make changes to a product.³³ In addition, the case law suggests the costs can be substantial in certain situations. In *Pequignot v. Solo Cup. Co.*,³⁴ the evidence at trial indicated that updating the tooling used to physically mark a product (Solo’s plastic drink cup lids) would cost more than \$500,000, and potentially up to \$1.5 million.

With virtual marking, there is no need for retooling, remolding, or other manufacturing changes to account for updates in patent status.³⁵ Instead, the Web page may be updated with the new patent information associated with the virtually marked article.³⁶ The issue in terms of cost savings is whether creating, updating, and maintaining a virtual marking Web page is less expensive than updating physical marks. Once again, the lack of empirical data, as well as the various factors that may affect Web page design and maintenance, makes it difficult to develop reliable cost estimates, though some evidence suggests the difference between virtual and

³² See e.g., McCaffrey at 369 (“Physical marking is expensive, inflexible, and increasingly inapplicable...”); see also H.R. Rep. No. 112-98, at 53 (2011) (“For many products, it is difficult and expensive to change a mold or other means by which a product is marked as patented...”).

³³ See Comments from Greg Freuler, President of galaxG tools, Comments as a Manufacturer/Inventor (July 8, 2014), <http://www.uspto.gov/patents/law/comments/vm-f-freuler20140708.pdf>; and Comments from Wayne P. Sobon, President of the American Intellectual Property Law Association (AIPLA), Response to the Notice of Request for Comments on Virtual Marking 79 Fed. Reg. 34291 (July 16, 2014) [hereinafter “Comments of AIPLA”], <http://www.uspto.gov/patents/law/comments/vm-a-aipla20140714.pdf>; and Comments from Rebecca Hanovice, Callaway Golf, Comments Regarding Virtual Marking Provisions of AIA (July 16, 2014) [hereinafter “Comments of Callaway”], <http://www.uspto.gov/patents/law/comments/vm-e-callaway20140716.pdf>.

³⁴ *Pequignot v. Solo Cup. Co. (Pequignot I)*, 646 F. Supp. 2d 790, 793 (E.D. Va. 2009), aff’d in part, vacated in part, 608 F.3d 1356 (Fed. Cir. 2010).

³⁵ See McCaffrey at 369 (“The major advantage of virtual marking is that it untangles marking from the manufacturing process.”).

³⁶ *Id.*

physical marking may be on the order of tens or hundreds of thousands of dollars in certain circumstances.³⁷

Related to the issue of cost savings, one public comment³⁸ addressed the interface between the marking statute and the false marking statute, 35 U.S.C. § 292(a).³⁹ The comment expressed concern that virtually marking an as-yet unpatented article (*e.g.*, one that is subject to a pending patent application, or “patent pending”) may create liability for false marking under § 292(a).⁴⁰ While the false marking statute permits an article to be marked “patent pending,” the marking statute requires the article to be marked “patent” or “pat.” in order to permit recovery of damages based on constructive notice.⁴¹ The implication of the comment is that the marking and false marking statutes should be reconciled so that articles need to be marked only once with either “patent pending” or “patent” or “pat.” and the Internet address of the virtual marking Web page, with the Web page being appropriately updated to reflect changes in application or patent status. Through this reconciliation, virtual marking could provide additional transparency to the public by associating not only patents but also pending applications with the article, thereby providing additional cost-savings to manufacturers by avoiding the need to remark.

³⁷ Compare, *e.g.*, *ACLU v. Reno*, 31 F. Supp. 2d 473, 482 (E.D. Pa. 1999) (“Creation of a Web site can range in cost from a thousand to tens of thousands of dollars, with monthly operating costs depending on one’s goals and the Web site’s traffic”) with *Pequignot*, *supra* note 34.

³⁸ See Comments from Emily Hinkens, Attorney, Marking of Products Covered by Pending Applications (July 08, 2014) [hereinafter “Comments of Hinkens”], <http://www.uspto.gov/patents/law/comments/vm-f-hinkens20140708.pdf>.

³⁹ 35 U.S.C. § 292(a) (2012), the so-called “false marking” statute, provides penalties for marking an unpatented article with the word “patent” or any word or number importing that the same is patented, for the purpose of deceiving the public.

⁴⁰ 35 U.S.C. § 292(a) (2012).

⁴¹ *Id.*; 35 U.S.C. § 287(a) (2012).

2. Does Virtual Marking Facilitate Effective Marking of Small Products?

Prior to the AIA, the marking statute permitted patentees to provide the information required for physical marking on a label attached to the article or to its packaging where the information could not be directly affixed to the article due to its character.⁴² The AIA did not change this practice, but rather applied it to virtual marking as well.⁴³ Thus, regardless of the marking method adopted, the patentee can either directly mark the article or apply a label to it or its packaging.

The test for whether an article has been sufficiently marked, either by direct marking or attaching a label, is whether notice to the public has been provided that the article is patented.⁴⁴ Size is a factor courts consider in determining whether labeling as opposed to direct marking is acceptable. For example, in *Sessions v. Romadka*, the Supreme Court ruled that it was permissible to mark the packaging of small hinges because it would be difficult to mark the hinges legibly.⁴⁵ Courts also consider other factors, such as trade customs, expense, and whether the article would be defaced.⁴⁶ Some courts further have denied recovery of damages where it was determined that direct marking as opposed to labeling should have been used under the circumstances.⁴⁷

⁴² 35 U.S.C. § 287(a) (2006) (amended 2011).

⁴³ 35 U.S.C. § 287(a) (2012).

⁴⁴ *Sessions v. Romadka*, 145 U.S. 29, 49-50 (1892).

⁴⁵ *Id.*

⁴⁶ *Rutherford v. Trim-Tex, Inc.* 803 F. Supp. 158, 161-64 (N.D. Ill. 1992) (analyzing factors that other courts have looked to, including defacement of the article, expense, trade, custom, and size of the article).

⁴⁷ 7 DONALD S. CHISUM, CHISUM ON PATENTS § 20.03(7)(c)(iii) (2014); *see, e.g., Creative Pioneer Products Corp. v. K Mart Corp.*, 5 U.S.P.Q.2d 1841, 1848 (S.D. Tex. 1987) ("the character of the product was such that a marking on the product would have been a relatively simple matter. Therefore, marking the packaging ... is insufficient to commence the period for the recovery of damages."); *John L. Rie, Inc. v. Shelly Bros., Inc.*, 366 F. Supp. 84, 181 USPQ 157 (E.D. Pa. 1973) (explaining ample space on product precluded marking of packaging).

Against this background, virtual marking may have some advantages over physical marking, bearing in mind the limited experience and empirical data associated with virtual marking to date. First, where multiple patent numbers are involved, the reduced amount of information required to be placed on or with the article through virtual marking may permit a relatively small article to be directly marked rather than labeled, and thus avoid any question of whether labeling would suffice to permit recovery of damages. Second, even where an article was properly marked on the label under either method, virtual marking does not require updating the labeling to reflect changes in patent status, as discussed in the preceding section—only the virtual marking Web page needs to be updated. Thus, the patentee can forego the costs that would otherwise be associated with having to update the patent information on the label.

B. Whether Virtual Marking Has Limited or Improved the Ability of the General Public to Access Information About Patents

1. Does Virtual Marking Limit the General Public's Access to Information About Patents?

a. Internet Access Issues

As mentioned above, with physical marking, the patent numbers associated with an article must be marked either on the article itself or on a label attached to it or its packaging.⁴⁸ Accordingly, physical marking provides the general public with immediate access to the patent numbers associated with the article. With virtual marking, the patent numbers are not present on the article or its packaging, but rather on an Internet Web page referenced by the mark on the

⁴⁸ 35 U.S.C. § 287(a) (2012).

article (or its labeling).⁴⁹ While the only way for the general public to access patent numbers for a virtually marked article is by way of the Internet,⁵⁰ the lack of Internet availability may be a barrier to public access to the patent information.⁵¹

Lack of availability may be due to a variety of circumstances. One is general lack of Internet connectivity in a particular location due to, *e.g.*, geographic remoteness or lack of resources.⁵² Another is interruptions of Internet service due to, *e.g.*, technical issues with the virtual marking Web page or the Internet service provider.⁵³ One public commenter also noted that non-technical events such as natural disasters or financial bankruptcy of the entity maintaining the virtual marking Web page may render a server hosting a virtual marking Web page inaccessible.⁵⁴

b. Privacy Concerns

Internet availability issues aside, privacy concerns may dissuade users with Internet access from connecting to a virtual marking Web page.⁵⁵ Section 287(a) requires only that virtual marking Web pages be “accessible to the public without charge.”⁵⁶ One commentator has suggested that under a literal reading of this provision, nothing prevents an entity hosting a

⁴⁹ *Id.*

⁵⁰ *See Id.*; *see also* McCaffrey at 376 (“virtual marking adds the extra step of typing the URL into a Web browser to find the relevant patent numbers”).

⁵¹ 35 U.S.C. § 287(a) (2012); *see also* McCaffrey at 376.

⁵² *See* U.S. CENSUS BUREAU, COMPUTER AND INTERNET USE IN THE UNITED STATES, 6 (2013), *available at* <http://www.census.gov/prod/2013pubs/p20-569.pdf>.

⁵³ *See e.g.*, McCaffrey at 395-96 (describing Web pages as “inherently unstable”); *see generally* *Pisciotta v. Old Nat’l Bancorp*, 499 F.3d 629, 632 (7th Cir. 2007) (noting that Web pages may be subject to sophisticated malicious intrusion). *See also* Comments from Nickolaus E. Leggett, Independent Analyst and Inventor, Response to the USPTO Request for Comments on Virtual Marking PTO-P-2014-0032 (July 10, 2014) [hereinafter “Comments of Leggett”], <http://www.uspto.gov/patents/law/comments/vm-f-leggett20140710.pdf>.

⁵⁴ Comments of Leggett, *supra* note 53.

⁵⁵ *See* McCaffrey at 396.

⁵⁶ 35 U.S.C. § 287(a) (2012).

virtual marking Web page from requiring members of the public to provide personal information to register or create a personal account in order to gain access to its content.⁵⁷ This in turn raises questions about the uses to which such information may be put, including possible identity theft, which could undermine the public's willingness to access the patent information on the Web page.⁵⁸

Another privacy issue relates to the small computer files known as "cookies" used by Web pages to store information about the user accessing the Web page.⁵⁹ For example, cookies can be used to collect information about what Internet searches a user has performed or which Web pages they previously visited.⁶⁰ Requiring cookies to be enabled in order to access the virtual marking Web page, and thus allowing tracking of a person's Internet usage by the hosting entity, could negatively affect the public's willingness to access the Web page.⁶¹

Finally, the possible recording of Internet Protocol addresses, or IP addresses, may impact the general public's use of virtual marking Web pages. An IP address is a unique address assigned to a particular computer connected to the Internet.⁶² While an IP address assigned to any one computer may change over time, often Internet service providers log these IP address

⁵⁷ See McCaffrey at 397.

⁵⁸ See *In re Pharmatrak, Inc. Privacy Litig.*, 220 F. Supp. 2d 4, 11 (D. Mass. 2002) (plaintiffs sued over improper interception of personal information on Web pages without plaintiff's knowledge); *In re Doubleclick Privacy Litig.*, 154 F. Supp. 2d 497, 502-03 (S.D.N.Y. 2001) (plaintiffs alleged defendant Web page-operator was collecting personal information without their knowledge or consent); *Solutions v. Ahmad Rashid Mohammed*, 2012 U.S. Dist. LEXIS 163033 (S.D. Tex. Nov. 15, 2012) (plaintiffs sued over stolen personal information via the Internet); FEDERAL TRADE COMMISSION, COMPUTER SECURITY | CONSUMER INFORMATION, (2011) available at <http://www.consumer.ftc.gov/articles/0009-computer-security> (last visited 18 July 2014).

⁵⁹ *In re Doubleclick Privacy Litig.*, 154 F. Supp. 2d 497, 502-03 (S.D.N.Y. 2001).

⁶⁰ *Id.*

⁶¹ See *Id.*; see also McCaffrey at 397 (urging Congress to remove barriers to access of virtual marking Web pages based in part on privacy concerns the public may have).

⁶² *United States v. Steiger*, 318 F.3d 1039, 1042 (11th Cir. 2003) (quoting Daniel J. Solove, *Digital Dossiers and the Dissipation of Fourth Amendment Privacy*, 75 S. CAL. L. REV. 1083, 1145 (2002)).

assignments.⁶³ Servers hosting Web pages also may log the IP addresses of the computers with which a connection has been made.⁶⁴ That is, a virtual marking Web page may keep a log of the IP addresses used by members of the general public who access it. This log may be used to uncover the identity of the computer used to access the virtual marking Web page on any given date,⁶⁵ which could negatively affect usage of virtual marking Web pages if user anonymity is a concern.

2. Does Virtual Marking Improve the General Public's Access to Information About Patents?

a. Dynamic Updating of Patent Information

As discussed in Part III.A.1 of this report, the status of patents covering an article may change during the lifetime of the article, such as if a patent expires or is invalidated. To provide constructive notice under § 287(a), however, the patentee must associate the numbers of applicable patents with the article, either physically or virtually, meaning that as the status changes, the patent number listing also must change.⁶⁶

With physical marking, changes to an article's patent protection status require a producer to change the patent number marking on the article or on any permissible labeling.⁶⁷ As discussed previously, such changes may require expensive modifications to the manufacturing process.⁶⁸ The time and expense necessary to update a manufacturing process can further cause

⁶³ *Id.* (quoting Elbert Lin, *Prioritizing Privacy: A Constitutional Response to the Internet*, 17 BERKELEY TECH. L.J. 1085, 1104 n.101 (2002)).

⁶⁴ *See Chism v. Washington*, 661 F.3d 380, 384 (9th Cir. 2011).

⁶⁵ *See e.g., Id.*

⁶⁶ *See e.g., McCaffrey* at 374-75; *see also* 35 U.S.C. § 287(a) (2012).

⁶⁷ *See* 35 U.S.C. § 287(a) (2012).

⁶⁸ *Supra* Part III.A.1; *see also* McCaffrey at 369.

a delay in releasing articles to include an updated list of applicable patents.⁶⁹ For example, one commentator stated, “In the past, we had to list each patent on, and then update, that packaging on a regular basis, which was time consuming, wasteful, expensive, and often outdated by the time it was implemented.”⁷⁰

Virtual marking allows the patentee to immediately update patent status, which, according to several comments, provides substantial benefits to patentees and the public.⁷¹ One commentator explained, “It was simple for us to set up an easily accessible Web site [...] that can be updated in real time, and at little or no cost, as new patents are issued and new products are released.”⁷² Another commentator explained that “virtual marking [...] enhances [our] ability to keep [patent] information current and in the public’s hands more quickly because of the ease with which electronic information can be updated.”⁷³

b. Access to Additional Patent-Related Content

As noted in preceding sections, virtual marking has certain advantages over physical marking, such as the ability to update patent status in real-time. Use of Internet technology also permits virtual marking Web pages to leverage functionalities unavailable with physical marking to provide the public with additional, useful information related to the article and/or the patents covering it.⁷⁴ For instance, the virtual marking Web page may contain hyperlinks directing the

⁶⁹ See McCaffrey at 369; *Pequignot v. Solo Cup Co.*, 608 F.3d 1356, 1359 (Fed. Cir. 2010) (stating that wholesale replacement of mold cavities to mark patented articles would be costly and burdensome).

⁷⁰ Comments of Callaway, *supra* note 33.

⁷¹ See e.g., Comments of AIPLA, *supra* note 33; Comments of Callaway, *supra* note 33; Comments from Michel J. Bendel, Kimberly-Clark, Virtual Patent Marking comments (Agency/Docket Number: PTO-P-2014-0032) (July 16, 2014) [hereinafter “Comments of Kimberly-Clark”], <http://www.uspto.gov/patents/law/comments/vm-e-kimberlyclark20140716.pdf>.

⁷² Comments of Callaway, *supra* note 33.

⁷³ Comments of Kimberly-Clark, *supra* note 71.

⁷⁴ See McCaffrey at 397-98.

user from the listed patents to another Web page where the complete patent document or other information associated with it might be found.⁷⁵

C. Legal Issues Arising from Virtual Marking

As the virtual marking provision was only introduced to the marking statute three years ago, there is very limited jurisprudence addressing virtual marking issues. Accordingly, while this part of the report addresses such case law where it exists, it also provides an analysis of legal issues that have arisen with respect to physical marking that may be of relevance to virtual marking.

1. Case Law Involving Virtual Marking Issues

There is only one judicial decision to date involving virtual marking. In *A to Z Machining Serv., LLC v. National Storm Shelter, LLC*, decided shortly after the AIA was enacted, a district court considered the question of whether affixing the address of a Web page to the patented article without including the word “patent” or “pat.” would satisfy the notice requirements under § 287(a).⁷⁶ The court held that the address of the Web page alone was insufficient to give constructive notice under § 287(a), even though defendants viewed the Web page, stating, “[t]he statute's language is clear: the website ‘together with’ either the word ‘patent’ or ‘pat.’ must be marked on the item” in order to satisfy the statute.⁷⁷

⁷⁵ *Id.*; see also *infra* Part III.D.1. (The USPTO analyzed several virtual marking Web pages currently in operation and observed at least one Web page that contained a listing of patent numbers with hyperlinks to PDF documents of the patents associated with the product.).

⁷⁶ *A to Z Machining Serv., LLC v. National Storm Shelter, LLC*, 2011 WL 6888543, at *5-7 (W.D. Okla. 2011).

⁷⁷ *Id.*

2. Selected Other Legal Issues That May Potentially Arise From Virtual Marking

The courts have held that the purpose of the constructive notice provision of § 287(a) is “to give patentees the proper incentive to mark their products and thus place the world on notice of the existence of the patent.”⁷⁸ It is well-settled that “[s]atisfaction of the constructive notice requirements of § 287(a) is a question of fact,”⁷⁹ and that the patentee bears the burden of proof to show adequate constructive notice was given.⁸⁰ The following discussion addresses select issues regarding the burden of proof and evidentiary requirements in demonstrating constructive notice that may be applicable to virtual marking situations.

a. “Substantially Consistent and Continuous” Requirement

One of the requirements for proving constructive notice is that the patentee shows that once marking has begun, it must be substantially consistent and continuous.⁸¹ For instance, in *American Med. Sys. v. Med. Eng’g Corp.*, the court held that full compliance with the marking statute was not achieved until the patentee “consistently marked substantially all of its patented products and it was no longer distributing unmarked products.”⁸² Similarly, in *Nike v. Wal-Mart*, the court held that to satisfy the constructive notice provision of the marking statute the patentee has to show that substantially all of the products being distributed were marked, and that once

⁷⁸ *American Med. Sys., Inc. v. Med. Eng’g Corp.*, 6 F.3d 1523, 1537 (Fed. Cir. 1993) (hereafter “AMS”) (quoting *Laitram Corp. v. Hewlett-Packard Co.*, 806 F.Supp. 1294, 1296, 25 USPQ2d 1827, 1834-35 (E.D. La.1992)).

⁷⁹ *Funai Electric Co. v. Daewoo Elec. Corp.*, 616 F.3d 1357, 1373 (Fed. Cir. 2010) (citing *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111 (Fed. Cir. 1996)).

⁸⁰ See e.g., *Sentry Protection Products, Inc. v. Eagle Mfg. Co.*, 400 F.3d 910, 918 (Fed. Cir. 2005).

⁸¹ See AMS, 6 F.3d at 1537 (“once marking has begun, it must be substantially consistent and continuous”); *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360, 1378 (Fed. Cir. 2010) (quoting *Sentry Protection Products*, 400 F.3d at 918).

⁸² AMS, 6 F.3d at 1537, 1538.

marking has begun, it must be substantially consistent and continuous.⁸³ In determining whether the patentee marked its products sufficiently to comply with the constructive notice requirement, the focus is on whether the patentee's actions were sufficient, in the circumstances, to provide notice *in rem*.⁸⁴

As both physical and virtual marking serve the same public notice function, the “substantially consistent and continuous” requirement appears to be generally applicable to virtual marking. However, until the matter is litigated, it is difficult to identify precisely how it will be applied to the different circumstances involved with virtual marking. For instance, as discussed previously, technical issues may interrupt Internet service or virtual marking Web page availability, or make the Web page inoperable for periods of time.⁸⁵ Prolonged unavailability of a virtual marking Web page or infrequent updates to patent status may raise issues concerning the continuity of the constructive notice.

b. Association Requirement

As mentioned previously, § 287(a) requires that the Internet posting “associate[] the patented article with the number of the patent.”⁸⁶ However, the statutory language of the virtual marking amendment does not specify the degree of correlation⁸⁷ required between the patented article and the patent numbers in order to provide a legally sufficient “association” of the two.⁸⁸ Since there is no limit to the number of patents that could be listed on a virtual marking site, the

⁸³ *Nike, Inc. v. Wal-Mart Stores, Inc.*, 138 F.3d 1437, 1446 (Fed. Cir. 1998).

⁸⁴ *Id.*

⁸⁵ *See supra* Part III.B.1.a.

⁸⁶ 35 U.S.C. § 287(a) (2012).

⁸⁷ *See infra* Part III.D.1.

⁸⁸ 35 U.S.C. § 287(a) (2012).

patentees could list hundreds of patents on their site.⁸⁹ Courts may question whether the patentee has fulfilled the association requirement if the patent at issue is difficult to find in a large list of patents featured on a virtual marking site, or if it is difficult to correlate which of those patents cover a particular model number. Additionally, in physical marking, the patentee is limited by the amount of space available on the product or label. The same constraint does not exist in virtual marking, as a Web page has no space limitations.⁹⁰ A patentee therefore could bury the patent number on a Web page with a large quantity of patent information making it difficult to locate the patent number. This issue is explored in further detail in Part III.D below given its relation to the analysis in that section.

D. Deficiencies of Virtual Marking

A number of concerns with virtual marking have already been identified and discussed in previous sections of this report.⁹¹ This section will further elaborate on one issue previously mentioned and another issue raised in the public comments.

1. Adequate Constructive Notice

As previously noted, § 287(a) requires that the Internet Web page for the virtual mark “associate” the patented article with the number of the patent.⁹² It does not, however, specify the type of correlation required between the two. To determine how this requirement was being implemented, as well as to get an initial picture of how virtual marking Web pages were being developed and designed, the USPTO analyzed several virtual marking Web pages currently in

⁸⁹ McCaffrey at 395.

⁹⁰ *Id.*

⁹¹ *See supra* Parts III.B.1; III.C.2.a.

⁹² 35 U.S.C. § 287(a) (2012).

operation.⁹³ One notable observation in this regard is that all of the Web pages reviewed listed all patented products produced or sold by the company responsible for the Web page. None of the Web pages were specific to a single model or product type sold. Below is a categorization of how the patent information associated with the product was presented on the virtual marking Web pages reviewed:

- Listing each product’s model identifier and the patents associated with that model identifier;
- Listing only the patent numbers, without any model identifier;
- Listing different product types with their associated patent numbers;
- Listing the patent numbers with the associated Universal Product Code (UPC) of the product;
- Listing the patent numbers and hyperlinks to PDF documents of the patents associated with the product; and
- Listing the patent numbers according to any of the above configurations, with or without information indicating when the listing was last updated.

This analysis indicates that patentees are employing a variety of different mechanisms for associating products with patents covering them on their virtual marking Web pages, and that no single approach dominates. Given that virtual marking is still a relatively new process, and also in view of the lack of prescriptiveness in the statute as to how patents and products are to be “associated,” a certain degree of variation in implementation of Web pages can be expected as

⁹³ To identify virtual marking Web pages, the USPTO’s computer scientists wrote a program that performs “screen scraping,” *i.e.*, parsing text on a Web page and extracting specified data elements. Using the program, the Internet search was performed for the following terms: i) “virtual marking,” ii) “virtual patent marking,” and iii) “patent marking.” For each search result returned, the program copied the uniform resource locator (URL) and exported it to a file. Thereafter, each Web page associated with the URL was reviewed to verify its virtual marking content. Virtual marking content was confirmed for roughly 23.6 percent of the URLs returned. In addition, routine Internet searches were conducted for the phrase “virtual marking.” The observations are based solely on the results returned through these searches.

companies sort out what works best for their situation. It should be noted, however, that the lack of clear guidance as to what “associate” entails could raise transparency issues if, *e.g.*, one must engage in unreasonable efforts to associate particular patents, among dozens or hundreds listed on a Web page, with a particular product.⁹⁴ The use of a standard format for virtual marking Web pages may alleviate some of the difficulties in establishing the statutorily required association between the patented article and the number of the patent.

2. Lack of Education on Virtual Marking

One commenter noted that virtual marking is not widely used.⁹⁵ While this lack of use is not a deficiency of virtual marking *per se*, it perhaps suggests that patentees are not overly familiar with virtual marking. The commenter proposed that the USPTO undertake an initiative to educate the public on how to use virtual marking and on the advantages of using this alternative.⁹⁶ The commenter further suggested that increased knowledge and awareness of virtual marking may lead to more usage of virtual marking, thereby benefiting both patent owners and the public.⁹⁷ Providing the public with relevant information about virtual marking through educational materials and presentations may help to increase the usage of virtual marking.

⁹⁴ See McCaffrey at 394-95 (“Allowing patentees to list thousands of patent numbers with no guidance for the public does not provide adequate notice.”).

⁹⁵ Comments of AIPLA, *supra* note 33.

⁹⁶ *Id.*

⁹⁷ *Id.*

IV. CONCLUSION

The AIA sought to improve the marking statute by providing for virtual marking of patented articles. Specifically, the virtual marking provision was intended to save costs for producers of products that include technology on which a patent issues after the product is on the market, and to facilitate effective marking of smaller products.⁹⁸

The virtual marking provision allows patentees to provide constructive notice of patent protection to the general public via a posting on the Internet.⁹⁹ The use of Internet technologies gives patentees the ability to dynamically update patent information, to provide a real-time, complete list of associated patents, and to include additional patent-related information. This may in turn increase transparency by improving the public's ability to access a wider scope of information about relevant patents.¹⁰⁰ One public comment suggested that further transparency might be achieved if the marking and false marking statutes could be reconciled so as to allow a patentee to mark a product once, with patent pending and granted patent status being updated on a virtual marking Web page.¹⁰¹ However, virtual marking's reliance on the Internet poses issues that may limit the general public's access to patent information, including unavailability of Internet access in certain circumstances and privacy issues related to Internet usage.¹⁰²

Because virtual marking is a relatively new procedure, there is little applicable case law on the subject.¹⁰³ Some legal issues pertinent to physical marking, such as the requirement that the patentee prove that once marking has begun, it must be "substantially consistent and

⁹⁸ H.R. REP. NO. 112-98, at 52-53 (2011); S. Rep. No. 111-18, at 14 (2009).

⁹⁹ See 35 U.S.C. § 287(a) (2012).

¹⁰⁰ *Supra* Parts III.B.2.a; III.B.2.b.

¹⁰¹ See Comment of Hinkens, *supra* note 38.

¹⁰² *Supra* Parts III.B.1.a; III.B.1.b.

¹⁰³ *Supra* Part III.C.1.

continuous,” also may be applicable to virtual marking, perhaps with adaptations reflecting the circumstances involved with hosting and maintaining a virtual marking Web page, such as prolonged unavailability of a virtual marking Web page or infrequent updates to patent status on the Web page.¹⁰⁴ The manner by which the virtual marking Web page “associates” patented products with the patents covering them may likewise present legal issues, given that virtual marking allows physical separation of the patent information from the marked product. The use of a standard format for virtual marking Web pages could be useful in establishing the statutorily required association between the products and the corresponding patents.

Lastly, virtual marking may have some deficiencies.¹⁰⁵ For example, patentees may employ a variety of very different approaches for presenting patent and product information on their virtual marking Web pages, creating potential transparency issues for the public in connecting particular patents with particular products.¹⁰⁶ Internet access and privacy issues may also impede more widespread usage of virtual marking Web pages.¹⁰⁷ For example, members of the public may be prevented or dissuaded from accessing a virtual marking Web page due to interruptions in the availability of the Web page, requirements to provide personal information in order to access the Web page, and tracking of use of the Web page by the host.¹⁰⁸ Finally, in accordance with a suggestion that the limited use of virtual marking may be attributed to the public’s lack of knowledge on how to use virtual marking and the advantages of this alternative,

¹⁰⁴ *Supra* Part III.C.2.a.

¹⁰⁵ *Supra* Part III.D.

¹⁰⁶ *Supra* Part III.D.1.

¹⁰⁷ *Supra* Parts III.B.1.a; III.B.1.b.

¹⁰⁸ *Supra* Parts III.B.1.a; III.B.1.b.

it has been proposed that an educational initiative which would increase knowledge and awareness of virtual marking may lead to more usage of virtual marking.¹⁰⁹

The USPTO concludes that virtual marking has likely met its intended objectives of reducing manufacturing costs and facilitating public notice in certain situations, bearing in mind the limitations inherent in this analysis with regard to availability of empirical data and user experiences with virtual marking. To better assess virtual marking's impact, the issue could be revisited at a later date, to account for further user experiences, additional data, and jurisprudential developments.

¹⁰⁹ Comments of AIPLA, *supra* note 33.

Appendix A: List of Parties Providing Comments¹¹⁰

Intellectual Property Organizations and other Associations

American Intellectual Property Association (AIPLA)

Companies

Callaway Golf

Kimberly-Clark Worldwide, Inc. and Kimberly-Clark Global Sales, LLC

Individuals

Greg Freuler

Emily M. Hinkens

Chris Kotran

Nickolaus Leggett

Jessica Lowe

“Post Card”

¹¹⁰ See Notice of Request for Comments on Virtual Marking, 79 Fed. Reg. 34,291 (June, 16, 2014).

