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I. INTRODUCTION

You are an inventor that has just created a brand-new, state-of-the-art widget that you are trying to get to market. Before you can manufacture and sell your product, you need investors to fund your commercial enterprise. While you are soliciting funding, one of your potential investors seems very interested in your product, so much so that he offers to buy one, just to be the first one to own such a novel invention.

You oblige, but not wanting to bring it to market without the appropriate funding, you make him sign a nondisclosure agreement, secreting the sale behind closed doors.

Soon after, a recession hits, and your prospects for funding drop to an all-time low. With no funding and no publicity for your product, you begrudgingly table the idea of bringing this amazing invention to market.

Four years later, the economy picks back up and you are approached by one of those old investors, who wishes to fund your endeavor. It becomes an instant success, selling millions of units within the first month.

At this point, you realize that you should probably protect your and your investor's investments. You have heard about patents, which should do just that, so you schedule an appointment with a patent attorney and sit down as a prospective client. You tell the attorney about your invention and about your huge commercial success. Among other things, the attorney asks when you first sold the invention. He talks about something called the "on-sale bar," which bars from patentability inventions sold over a year before filing an

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application for patent.[1] Suddenly, you remember that potential investor that you sold your invention to four years ago.

You are stuck in a precarious position: if you admit that you sold your invention over a year ago, you will not be able to protect your significant costs in setting up the operation. However, you figure, the chances of getting caught are astronomically low. If you lie, only you and that one buyer would know about it. Any risk analysis would suggest that lying is the better option. However, is that how it should be?[2]

The on-sale bar to patentability prevents an inventor from patenting an invention if the invention was placed on sale anytime over a year before filing the patent application.[3] This bar is rarely enforced because the United States Patent and Trademark Office (USPTO) lacks the resources to discover prior sales.[4] In addition, administrative proceedings that can be initiated by third parties are either inapplicable or limited in scope.[5] Finally, a patent infringer's affirmative defense of inequitable conduct, which would render a patent unenforceable where the owner deceived the USPTO during the application process, has an unduly high burden of proof as it applies to the on-sale bar.[6] Altogether, the on-sale bar has become an ineffective feature in the patent system to protect inventions in the public domain.[7] However, the on-sale bar is an essential feature in the patent system because it helps promote the progress of useful arts while allowing inventors to make informed choices regarding the sale of the invention.[8]

This Comment will first discuss the features of the on-sale bar.[9] Next, in Part III, it will discuss why the on-sale bar is a necessary feature in the patent system.[10] In Part IV, it will discuss why the on-sale bar is inadequately enforced.[11] In Part V, it will discuss potential

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1. 35 U.S.C. § 102(a)–(b) (2015).
2. This ethical dilemma is not limited to startup businesses. *See, e.g.*, Special Devices, Inc. v. OEA, Inc., 270 F.3d 1353, 1354 (Fed. Cir. 2001) ("OEA did not disclose [the commercial sale of 20,000 units of the claimed invention] . . . to the Patent and Trademark Office.").
3. § 102(a)–(b).
4. *See infra* Section IV.A.
5. *See infra* Section IV.B.
6. *See infra* Section IV.C.
7. *See infra* Part IV.
8. *See infra* Part III.
9. *See infra* Part II.
10. *See infra* Part III.
11. *See infra* Part IV.

changes to the patent system to better suit enforcement of the on-sale bar.[12]

In order to improve the on-sale bar while balancing the interests of inventors and the public, (1) non-public sales should be excluded from the bar,[13] (2) third parties should be allowed to submit more information on prior sales during post-grant proceedings before the USPTO,[14] and (3) the inequitable conduct defense should have a lower standard for prior sales.[15]

II. WHAT IS THE ON-SALE BAR?

The on-sale bar is one of the ways that Congress has implemented the Intellectual Property Clause of the United States Constitution.[16] It creates a balance between the inventor's desire to sell an invention and the government's interest in public disclosure of new inventions.[17] It does so by preventing an inventor from patenting an invention if the invention was placed on sale more than one year before the filing date of its patent application.[18] This grace period allows an inventor to test the commercial viability of an invention before pursuing a patent.[19]

The on-sale bar was not always codified in statute.[20] In the 1829 case *Pennock v. Dialogue*, the invention in the dispute, an "improvement in the art of making leather tubes or hose," had been on sale for up to seven years before the inventor patented the invention.[21] In invalidating the patent, the Supreme Court relied on the requirement that an invention be "not known or used by the

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12. *See infra* Part V.
13. *See infra* Part V.
14. *See infra* Part VI.
15. *See infra* Part VII.
16. *See* U.S. CONST. art. I, § 8, cl. 8 (stating that Congress shall have the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries")
17. *See* Stephen Bruce Lindholm, Comment, *Revisiting* Pfaff *and the On-Sale Bar*, 15 ALB. L.J. SCI. & TECH. 213, 215 (2004).
18. 35 U.S.C. § 102(a)(1), (b)(1) (2015).
19. Lindholm, *supra* note 17.
20. *See* Pennock v. Dialogue, 27 U.S. 1, 2 Pet. 1 (1829).
21. *Id.* at 3, 2 Pet. at 1, 11 ("The invention . . . was completed in 1811; and the letters patent were obtained in 1818. In this interval, upwards of *thirteen thousand feet of hose*, . . . had been made and sold . . . .").

public, before the application."[22] It reasoned that "the progress of science and useful arts" would be "materially retard[ed]" if the system allowed an inventor to delay patenting until "the danger of competition should force him to secure the exclusive right."[23]

The on-sale bar was eventually codified in the Patent Act of 1836.[24] This version of the on-sale bar included two distinct features.[25] First, the on-sale bar applied if the invention was sold at any time before applying for a patent.[26] Second, it required the applicant's consent to the sale.[27] Both of these features would eventually be modified in subsequent versions of the on-sale bar.[28]

Three years later, the Patent Act of 1839 removed the requirement that the invention be sold with the applicant's consent.[29] It also added a two-year grace period, which allowed an inventor to sell an invention before applying for a patent for that invention.[30] In 1939, Congress reduced the grace period from two years to one year.[31]

In 1998, the Court instituted a two-prong test for determining whether the on-sale bar applied.[32] These elements are questions of law.[33] First, the invention must be the subject of a commercial sale or offer for sale,[34] as defined by "[g]eneral principles of contract law."[35]

The second requirement in the two-prong test is that "the invention must be ready for patenting."[36] The Court has held that this requirement can be met in at least two ways: first, "by proof of reduction to practice," or second, by "descriptions . . . sufficiently

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22. *Id.* at 19, 2 Pet. at 13 (interpreting the Patent Act of 1793, ch. 11, § 1, 1 Stat. 318, 318–19 (codified as amended in scattered sections of 35 U.S.C.)).
23. *Id.*
24. Patent Act of 1836, ch. 357, § 6, 5 Stat. 117, 119 (codified as amended in scattered sections of 35 U.S.C.).
25. *Id.*
26. *Id.*
27. *Id.*
28. *See infra* notes 29–31 and accompanying text.
29. *See* The Driven-Well Cases, 123 U.S. 267, 271, 276 (1887).
30. Patent Act of 1839, ch. 88, § 7, 5 Stat. 353, 354 (codified as amended at 35 U.S.C. §§ 102, 271 (2015)).
31. Act of Aug. 5, 1939, ch. 452, 53 Stat. 1213 (codified as amended at 35 U.S.C. § 102 (2015)).
32. Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 67 (1998).
33. Meds. Co. v. Hospira, Inc., 827 F.3d 1363, 1371 (Fed. Cir. 2016).
34. *Pfaff*, 525 U.S. at 67.
35. Linear Tech. Corp. v. Micrel, Inc., 275 F.3d 1040, 1052 (Fed. Cir. 2001) ("[A] completed sale requires an offer, an acceptance, and consideration.").
36. *Pfaff*, 525 U.S. at 67.

specific to enable a person skilled in the art to practice the invention."[37]

The Leahy-Smith America Invents Act (AIA), passed in 2011, modified 35 U.S.C. § 102, the statute containing the on-sale bar.[38] Under the AIA, § 102 now prevents patentability if "the claimed invention was . . . in public use, on sale, *or otherwise available to the public*" more than one year from the filing date of the patent application.[39] This addition of the language "or otherwise available to the public" has created debate on whether a sale must be public in order to trigger the on-sale bar:[40] the word "otherwise" suggests that the on-sale and public-use bars to patentability must also require that the invention was made available to the public.[41]

A sale is non-public if it is performed under conditions of secrecy.[42] For instance, sales subject to a nondisclosure agreement would likely constitute a non-public sale.[43] Prior to the AIA, non-public sales could trigger the on-sale bar.[44] However, under the AIA, the answer to whether non-public sales can trigger the on-sale bar is unknown.[45]

The history of the on-sale bar displays a careful balancing act between the needs of the inventor and the interests of the government.[46] In addition, the history describes a desire to simplify and streamline conclusions of law and findings of fact, creating a

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37. *Id.* at 67–68.
38. Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified as amended in scattered sections of 35 U.S.C.).
39. *Id.* sec. 3, § 102(a)(1), (b)(1) (emphasis added). Note that § 102(a) creates three distinct bars for public use, sale, and making the invention otherwise available to public, i.e., an invention may be in public use without being on sale. *See* Dart Indus., Inc. v. E.I. Du Pont De Nemours & Co., 489 F.2d 1359, 1364–65 (7th Cir. 1973). This Comment focuses exclusively on the on-sale bar.
40. *See, e.g.*, Helsinn Healthcare S.A. v. Teva Pharm. USA, Inc., 855 F.3d 1356, 1367–71 (Fed. Cir. 2017) (discussing, but not ruling on, the lower court's holding that a sale must be publicly available in order to bar patentability).
41. *Id.*
42. *See id.* at 1368 (discussing the argument that "secret sales" do not fall under the AIA).
43. *But cf.* Bernhardt, L.L.C. v. Collezione Europa USA, Inc., 386 F.3d 1371, 1381 (Fed. Cir. 2004) ("The presence or absence of a confidentiality agreement is not dispositive of the *public use* issue, but 'is one factor to be considered in assessing all the evidence.'" (quoting Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1266 (1986)) (emphasis added)).
44. Hobbs v. United States, 451 F.2d 849, 860 (5th Cir. 1971).
45. *See Helsinn Healthcare S.A.*, 855 F.3d at 1371 (limiting the holding to whether the distribution agreements at issue were invalidated).
46. *See supra* notes 20–45 and accompanying text.

bright-line rule for determining whether the on-sale bar was triggered.[47]

III. WHY IS THE ON-SALE BAR NEEDED?

The patent system, as a whole, is designed "[t]o promote the Progress of Science and useful Arts."[48] Through a patent, the owner gains exclusive property rights related to the invention for a limited time.[49] However, as a tradeoff, the inventor must disclose how to make and use the invention to the public.[50] In addition, the invention becomes part of the public domain at the end of the patent term.[51]

The on-sale bar furthers the goal of the patent system: the promotion of the "useful arts."[52] It encourages inventors to disclose their inventions by denying the exclusive rights that accompany patent protection if they do not make an enabling disclosure of their inventions in a timely manner.[53] Furthermore, it prohibits undue extension of exclusive rights by preventing inventors from patenting their inventions only after competitors arise.[54] In other words, the one-year grace period to file creates a balance between the inventor's interest in deciding when to patent an invention and the government's interest in promoting the useful arts.[55]

The public has an interest in "obtain[ing] widespread disclosure of new inventions . . . as soon as possible."[56] The government-granted right to exclude is the incentive that drives disclosure and innovation,[57] but it also puts a hold on others for the patent's term.[58] During the patent's term, anybody who wishes to take advantage of the invention must license from the patent owner.[59] As a result, the patent owner holds the most bargaining power until the patent

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47. *See supra* notes 32–37 and accompanying text.
48. U.S. CONST. art. I, § 8, cl. 8.
49. 35 U.S.C. § 154(a)(1)–(2) (2015). These rights include "the right to exclude others from using, offering for sale or selling [the invention] throughout the United States, or importing [the invention] into the United States." *Id.* § 154(a)(1).
50. 35 U.S.C. § 112(a) (2015).
51. Scott Paper Co. v. Marcalus Mfg. Co., 326 U.S. 249, 255 (1945).
52. *See supra* notes 48–49 and accompanying text.
53. 35 U.S.C. § 102(a)–(b) (2015); *see infra* notes 56–62 and accompanying text.
54. *See infra* notes 69–71 and accompanying text.
55. *See infra* notes 56–57, 67–68 and accompanying text.
56. RCA Corp. v. Data Gen. Corp., 887 F.2d 1056, 1062 (Fed. Cir. 1989).
57. *See* U.S. CONST. art. I, § 8, cl. 8.
58. 35 U.S.C. § 154(a)(1)–(2) (2015).
59. *See id.* § 154(a)(1); *see also* 35 U.S.C. § 261 (2015) (permitting patentees to license patents).

expires.[60] Only after the patent becomes part of the public domain can the public freely take advantage of the inventor's disclosure.[61] The sooner an invention is patented, the sooner the patent will become part of the public domain.[62]

A sale of an invention would likely disclose less than the written description of the invention from a patent.[63] Patents require a written description of the claimed invention sufficient to allow a person skilled in the pertinent art to make and use the invention.[64] However, sales do not have this requirement: even if the public had access to the invention through sale, the public may not be able to capitalize on the invention without further explanation.[65] Thus, the public is benefited by the inventor's disclosure that might not have occurred but-for the on-sale bar.[66]

On the other hand, the inventor has an interest in deciding when to patent an invention.[67] Inventions oftentimes require large investments of capital, and if inventors are unable to test the commercial viability of their inventions, they might be discouraged from patenting their inventions.[68]

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60. *See* Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1092 (1972) ("[S]omeone who wishes to remove the entitlement from its holder must buy it from him in a voluntary transaction in which the value of the entitlement is agreed upon by the seller.").
61. Diane H. Crawley, *America Invents Act: Promoting Progress or Spurring Secrecy?*, 36 U. HAW. L. REV. 1, 4 (2014) ("Once the inventor's patent rights expire, the public is free to make and use the invention disclosed in the patent.").
62. *See* § 154. In general, utility patents last for "20 years *from the date on which the application for the patent was filed* in the United States." *Id.* § 154(a)(2) (emphasis added).
63. *See infra* notes 64–65 and accompanying text.
64. 35 U.S.C. § 112(a) (2015).
65. *See* Crawley, *supra* note 61, at 1 ("[W]here the invention is capable of being kept secret while being commercially exploited, an inventor must choose between secrecy and patent protection.").
66. *See supra* note 56 and accompanying text.
67. Pfaff v. Wells Elecs., Inc., 525 U.S. 55, 64–65 (1998).
68. *See id.* Patent owners have suggested exceptions be created for such commercial endeavors, to limited success. *See, e.g.*, Special Devices, Inc. v. OEA, Inc., 270 F.3d 1353, 1354 (Fed. Cir. 2001) (rejecting a "supplier" exception to the on-sale bar, which would "allow inventors to stockpile commercial embodiments of their patented invention[s] via commercial contracts with suppliers more than a year before they file their patent application").

Even so, the public also has an interest in "prohibiting an extension of the period for exploiting the invention."[69] The longer an inventor waits to patent an invention, the longer it will take to become part of the public domain.[70] Likewise, the public has an interest in preventing the "removal of inventions from the public domain which the public justifiably comes to believe are freely available."[71]

IV. WHAT IS WRONG WITH THE ON-SALE BAR?

A. *The USPTO Is Unable to Adequately Enforce the On-Sale Bar*

In order to enforce the on-sale bar, the USPTO relies on a general duty of disclosure.[72] Applicants have "a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability."[73] Violations of the duty of disclosure result in the rejection of the application.[74]

Despite this duty and the consequences stemming from it, applicants are incentivized to disclose as little information as possible, even if it is material to patentability.[75] All documents, including disclosures of sales, are publicly available after the application is published or a patent issued.[76] As a result, competitors are able to discover valuable information relating to the applicant's potential market and economic standing.[77]

Even further, inventions are typically published eighteen months after their filing dates, regardless of whether the application thereafter becomes abandoned.[78] Applicants risk disclosing inventions only to

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69. Bernhardt, L.L.C. v. Collezione Europa USA, Inc., 386 F.3d 1371, 1381 (Fed. Cir. 2004), *abrogated on other grounds by* Egyptian Goddess, Inc. v. Swisa, Inc., 543 F.3d 665 (Fed. Cir. 2008) (en banc).
70. *See* 35 U.S.C. § 154 (2015).
71. *Bernhardt, L.L.C.*, 386 F.3d at 1379.
72. *See* 37 C.F.R. § 1.56 (2012).
73. *Id.*
74. *Id.* ("[N]o patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct.").
75. *See* Crawley, *supra* note 61, at 5 ("One of the costs of seeking patent protection is the risk that the application for patent will be rejected by the Patent and Trademark Office . . . .").
76. 35 U.S.C. § 122(b)(1) (2015).
77. *See* Crawley, *supra* note 61, at 5 ("[The] disclosure aspect of patent law holds particular risks for inventors whose inventions could have been maintained as trade secrets.").
78. § 122(b)(1).

have their applications rejected.[79] In other words, an inventor could be left without patent protection, and the public would have an enabling disclosure of the inventor's invention.[80]

A morally ambiguous inventor may rather lie to the patent office than risk handing an enabling disclosure, sans patent protection, to any competitors.[81] The patent system should not be set up to incentivize immoral conduct.

B. *Administrative Solutions Are Inadequate to Substitute Litigation Involving the On-Sale Bar*

A third party has two general ways to challenge a patent after it has issued.[82] First, the party may seek judicial determination on the patent's validity or enforceability.[83] Second, the party may seek an administrative solution with the USPTO.[84]

The USPTO offers a variety of proceedings after a patent has issued:[85] *ex parte* reexamination,[86] post-grant review,[87] and *inter partes* review.[88] These proceedings allow a petitioner to challenge the validity of a patent.[89] However, these proceedings often restrict the references that a petitioner can use to challenge the patent.[90] In the context of enforcing the on-sale bar, these proceedings will be unavailable in all but the most trivial cases.[91] As a result, a potential infringer would have to resort to expensive litigation in order to challenge a patent.[92]

In *ex parte* reexamination proceedings, any person may challenge a patent on the basis of three types of references: issued patents, printed

79. Crawley, *supra* note 61, at 5.
80. *Id.*
81. *See id.* at 6 ("[O]ur inventor is left worse off than if she had never sought patent protection . . . .").
82. *See infra* notes 83–84 and accompanying text.
83. 35 U.S.C. § 282 (2015).
84. *See infra* notes 85–112 and accompanying text.
85. *See infra* notes 86–88 and accompanying text. In addition to the proceedings listed, the USPTO also oversees another type of proceeding: *inter partes* reexamination. 37 C.F.R. § 1.913 (2017). However, because the USPTO is currently in the process of phasing out this type of proceeding, *id.*, it will not be discussed in this Comment.
86. 35 U.S.C. § 302 (2015).
87. 35 U.S.C. § 321 (2015).
88. 35 U.S.C. § 311 (2015).
89. §§ 302, 311, 321.
90. *Id.*
91. *See infra* note 113 and accompanying text.
92. *See infra* note 125 and accompanying text.

publications, or "statements of the patent owner filed in a proceeding before a federal court or the Office in which the patent owner took a position on the scope of any claim of a particular patent."[93]

These references largely do not allow a petitioner to challenge a patent based on the on-sale bar.[94] Regarding printed publications, a reference is a printed publication only if a person of ordinary skill in the pertinent art "can locate it and recognize and comprehend therefrom the essentials of the claimed invention without need of further research or experimentation."[95] Thus, any printed publication that is sufficient to invalidate a patent under the on-sale bar would be sufficient to invalidate the patent under multiple other bars to patentability, such as the public-use bar or the requirement that a patentable invention be novel.[96]

The next type of reference available in *ex parte* reexamination, a separate, previously-issued patent, would likely not disclose sales of the challenged patent.[97] Likewise, a statement made before a federal court or the USPTO would likely not disclose such sales simply because the statement would be a flat-out admission that the invention is barred from patentability under the on-sale bar.[98]

Rather than the above-listed references, a petitioner would likely rely on something akin to a proverbial "smoking gun" document containing a sale of the invention.[99] However, this type of reference is likely not admissible in an *ex parte* reexamination.[100] In other words, even though such a "smoking gun" would bar patentability if revealed during the application process, it cannot be used in *ex parte* reexamination.[101]

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93. 35 U.S.C. §§ 301(a), 302 (2015).
94. *See id.* §§ 301, 302.
95. I.C.E. Corp. v. Armco Steel Corp., 250 F. Supp. 738, 743 (S.D.N.Y. 1966).
96. *See* 35 U.S.C. § 102 (2015).
97. *See id.* Ideally, the USPTO would not have allowed the challenged patent if the previously-issued patent had disclosed sales of the invention in the challenged patent.
98. *See* §§ 102, 301–302.
99. *See, e.g.*, Special Devices, Inc. v. OEA, Inc., 270 F.3d 1353, 1353–54 (Fed. Cir. 2001) (invalidating a patent based on an order for 20,000 units of the claimed invention).
100. *See supra* notes 94–97 and accompanying text. Note that emails are likely not "printed publications" under the patent code. *See supra* notes 94–97 and accompanying text.
101. *See* § 102. In the context of applying for a patent, an email would not be considered a printed publication, but rather evidence of a sale predating the critical on-sale bar date. *See* Envirotech Corp. v. Westech Eng'g Inc., 904 F.2d 1571, 1575 (Fed. Cir. 1990) ("[T]he inventor's attempted exploitation must be objectively manifested as a definite sale or offer to sell the invention.").

Another type of administrative proceeding is post-grant review.[102] In post-grant review, a third party may challenge a patent on any ground of patentability.[103] Notably, post-grant review is *not* limited to patent and printed publications, unlike *ex parte* reexamination.[104] However, a petitioner must request post-grant review on or before nine months from the grant of a patent or the issuance of a re-issued patent.[105] Depending on the market, nine months may not be enough time to discover and initiate a proceeding against the patent owner.[106]

The last type of relevant administrative proceedings is *inter partes* review.[107] The petition for *inter partes* review can only be filed *after* nine months from the grant of the patent or at the termination of a post-grant review.[108] In other words, the time for filing a petition for an *inter partes* review begins just as the time to file a petition for a post-grant review ends.[109]

Inter partes review is significantly more limited than post-grant review.[110] *Inter partes* review is limited to challenges based on the novelty or non-obviousness of the invention, and the petition can only be based on patents or printed publications.[111] Thus, like *ex parte* reexamination, *inter partes* review largely does not allow a petition to challenge a patent on the basis of the on-sale bar.[112]

Taking into account all of these proceedings, the result is that even if a third party had a proverbial "smoking gun" that would preclude patentability under the on-sale bar, the only administrative solution available is post-grant review.[113] However, the window to file a

102. 35 U.S.C. § 321 (2015).
103. *Id.* § 321(b).
104. *Id.*; 35 U.S.C. §§ 301–302 (2015).
105. *Id.* § 321(c).
106. *See, e.g.*, Special Devices, Inc. v. OEA, Inc., 117 F. Supp. 2d 989, 991, 993 (C.D. Cal. 2000) (ruling on the validity of a patent originally issued in 1995 in a lawsuit filed in 1999).
107. 35 U.S.C. § 311 (2015).
108. *Id.* § 311(c).
109. *Id.*
110. *Compare id.* § 311(b) (allowing for *inter partes* review only if the challenge is based on novelty or non-obviousness objections using only patents and printed publications as references), *with* § 321(b) (allowing for post-grant review under several conditions provided in 35 U.S.C. § 282(b)(2)–(3) (2015)).
111. § 311(b).
112. *Compare id.* (allowing petitioners to cite only patents and printed publications as references in *inter partes* review), *with* 35 U.S.C. §§ 301–302 (2015) (allowing petitioners to cite only patents, printed publications, and statements of the patent owner as prior art references in *ex parte* reexamination).
113. *See supra* notes 99–112 and accompanying text.

petition for post-grant review closes a mere nine months after the patent has been granted.[114] If someone wanted to challenge a patent based on the on-sale bar, that person would be limited to litigation.[115] Administrative proceedings are intended to be a low-cost, faster alternative to litigation,[116] but precluding the on-sale bar limits their applicability.[117]

C. *During Litigation, the Intent Requirement for the Affirmative Defense of Inequitable Conduct Is Too High for the On-Sale Bar*

Another problem with the on-sale bar is its enforceability in litigation.[118] In order to attack a wrongfully-obtained patent based on the on-sale bar, a challenger must show that the invention was sold before the critical date.[119] From there, the challenger has two options.[120] First, the challenger could analyze each claim of the patent and show that the prior sale had foreclosed patentability of the individual claims to the invention.[121] The challenger would have to repeat this analysis for each claim of the patent.[122] The apparent problem with this approach is that patents can have an unlimited number of claims.[123] A challenger runs the risk that this route will invalidate only some, but not all, of the relevant claims of the

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114. § 321(c).
115. *See* Crawley, *supra* note 61, at 11–13.
116. *See, e.g.*, Samson Vermont, *AIPLA Survey of Costs of Patent Litigation and* Inter Partes *Review*, PAT. ATT'Y (Jan. 30, 2017), https://www.patentattorney.com/aipla-survey-of-costs-of-patent-litigation-and-inter-partes-review/. As of this writing, the cost for filing a request for *ex parte* reexamination is a mere $12,000 for large entities. 37 C.F.R. § 1.20(c)(1) (2013).
117. *See supra* notes 113–15 and accompanying text.
118. *See infra* notes 119–42 and accompanying text.
119. Special Devices, Inc. v. OEA, Inc., 270 F.3d 1353, 1354 (Fed. Cir. 2001) (invalidating a patent based on sales more than one year before filing an application for patent).
120. *See infra* notes 121–42 and accompanying text.
121. *See, e.g.*, *Special Devices, Inc.*, 270 F.3d at 1354 (challenging claims 1–9 of the patent at issue).
122. *See id.*
123. *See, e.g.*, U.S. Patent No. 5,404,263 (filed Mar. 10, 1993) (issued Apr. 4, 1995) (demonstrating that the patent invalidated in *Special Devices, Inc.* had twenty-four total claims). The basic filing fee alone allows the application to claim up to three independent claims and up to twenty total claims. 37 C.F.R. § 1.16(h)–(i) (2015). Applicants can add as many claims as they would like for a nominal fee. *See id.*

patent.[124] In addition, this route significantly increases the cost and expense of litigation.[125]

The second option would be to accuse the patent owner of inequitable conduct while applying for the patent.[126] A finding of inequitable conduct renders the entire patent unenforceable.[127] In other words, instead of challenging each claim in the patent individually, if merely one claim was granted as a result of inequitable conduct, then all of the claims are invalid.[128] The defense of inequitable conduct acts as a deterrent effect against misconduct.

In order for the court to find inequitable conduct, the claimant must prove two elements by clear and convincing evidence.[129] First, the claimant must show that the applicant had the specific intent to deceive the USPTO.[130] Second, the claimant must show "but-for" materiality: that the patent was granted as a result of the deception.[131]

The test for inequitable conduct requires the claimant to prove that the applicant had the specific intent to deceive the USPTO.[132] This element requires that the claimant "prove that the applicant *actually knew* that . . . the USPTO would not allow a patent claim if the USPTO had been aware of the undisclosed information."[133] Proving that the applicant *should* have known is insufficient.[134]

Imagine the "smoking gun" document mentioned previously.[135] Would that be enough to show specific intent? In many situations, likely not.[136] For example, a large multinational organization would likely have a research-and-development department, legal

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124. *See, e.g.*, O'Reilly v. Morse, 56 U.S. (15 How.) 62, 120 (1853) (invalidating only one claim of the patent at issue).
125. *See* RICHARD W. GOLDSTEIN & DONIKA P. PENTCHEVA, AM. INTELLECTUAL PROP. LAW ASS'N, REPORT OF THE ECONOMIC SURVEY 37 (2015), http://files.ctctcdn.com/e79ee27 4201/b6ced6c3-d1ee-4ee7-9873-352dbe08d8fd.pdf (reporting that median litigation costs at the end of discovery ranged from $400,000 to $3,000,000 in 2015).
126. Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1285 (Fed. Cir. 2011).
127. *Id.* at 1288.
128. *Id.*
129. *Id.* at 1287.
130. *Id.* at 1290.
131. *Id.* at 1291.
132. *Id.* at 1290.
133. Sam S. Han, Therasense *Nonsense*, 37 U. DAYTON L. REV. 185, 192 (2012) (emphasis added).
134. *Id.*
135. *See supra* notes 99, 101 and accompanying text.
136. *See Therasense, Inc.*, 649 F.3d at 1290–91 ("[W]hen there are multiple reasonable inferences that may be drawn, intent to deceive cannot be found.").

department, sales team, and a host of others.[137] If the sales team sold the invention, who could say that the patent attorney or the inventor knew about it?[138] Certainly not the defendant in an infringement case.[139]

A higher standard for finding inequitable conduct changes the risk-benefit analysis for the applicant.[140] A higher standard for inequitable conduct means the courts will see fewer inequitable conduct defenses raised, and as a result, fewer patents will be held unenforceable.[141] In other words, a higher standard decreases the risk to the morally ambiguous applicant while keeping the benefits high: the exclusive rights relating to an otherwise-unobtainable patent for twenty years.[142]

V. NON-PUBLIC SALES SHOULD NOT BE INCLUDED IN THE ON-SALE BAR

One response to the USPTO's inability to enforce the on-sale bar is to narrow the scope of the bar.[143] Excluding non-public sales would suit the interests of both the government and inventors.[144] Furthermore, excluding non-public sales would have the benefit of not disturbing inventions already in the public domain.[145] Even though such a change would reduce the number of references available to reject applications, it will not have a negative impact on the patent system.[146]

Excluding non-public sales would balance the government's interest in public disclosure and the inventor's interest in being able to control when to patent an invention.[147] This solution contains an internal check: sales subject to secrecy requirements oftentimes lack

137. *See, e.g.*, *Board of Directors*, SHELL GLOBAL, https://www.shell.com/about-us/leadership/board-of-directors.html (last visited Apr. 20, 2018).
138. *Cf.* The Driven-Well Cases, 123 U.S. 267, 272 (1887) (holding that the inventor's consent to the sale is irrelevant to the on-sale bar).
139. *See* FED. R. CIV. P. 26(b)(1) (requiring discovery requests to be proportional, relevant, and non-privileged).
140. *See Therasense, Inc.*, 649 F.3d at 1288 (raising the standard for finding inequitable conduct in order to limit "discovery into corporate practices" and to decrease "the complexity, duration and cost of patent infringement litigation").
141. *See id.*
142. *See id.*; *see also* 35 U.S.C. § 154(b) (2015) (providing the twenty-year term limit for an issued patent).
143. *See supra* notes 38–45 and accompanying text.
144. *See infra* notes 147–51 and accompanying text.
145. *See infra* notes 152–53 and accompanying text.
146. *See infra* notes 155–58 and accompanying text.
147. *See* Lindholm, *supra* note 17.

the publicity to generate significant income.[148] Thus, the government's interest in widespread public disclosure is not precluded by allowing inventors to sell their inventions secretly.[149]

This solution is also beneficial to the patent owner. The patent owner need no longer worry about revealing confidential negotiations during the application process.[150] Likewise, if the patent owner was subject to a lawsuit, less would need to be revealed during discovery, as confidential sales would no longer be relevant to any charges of inequitable conduct.[151]

This solution would not disturb inventions in the public domain.[152] Since non-public inventions are, by definition, not available to the public, there is no worry about pulling inventions out of the public domain.[153] In addition, inventors would not be significantly incentivized to keep their inventions secret because non-public sales are not able to generate significant income standing alone.[154]

The consequence of this solution is that it reduces the amount of references that the USPTO can use to reject patent applications.[155] However, this restriction on available references would not have a negative impact on the patent system.[156] Rather, excluding non-public sales would incentivize disclosure of new works because non-public sales are often used to secure a manufacturer for the invention.[157] Thus, even though the number of available references

148. *See* Crawley, *supra* note 61, at 5–6 (discussing trade secrets and noting that they deprive society "of the disclosure of the invention"). However, notably, some high-price, low-quantity items may be excluded from the internal check discussed above. Though, because of their infrequent sales and small market sizes, these items may be better suited for trade secret protections rather than patent protection. *See* Tamara Monosoff, *To Patent or Not to Patent?*, ENTREPRENEUR (Sept. 26, 2005), https://www.entrepreneur.com/article/80088.

149. *See supra* notes 56–68 and accompanying text.

150. Non-public sales are, by definition, subject to secrecy. Hobbs v. United States, 451 F.2d 849, 860 (5th Cir. 1971).

151. *See supra* notes 132–39 and accompanying text.

152. *See infra* notes 153–54 and accompanying text.

153. *See* Bernhardt, L.L.C. v. Collezione Europa USA, Inc., 386 F.3d 1371, 1379 (Fed. Cir. 2004) (quoting Minn. Mining & Mfg. Co. v. Chemque, Inc., 303 F.3d 1294, 1301 (Fed. Cir. 2002)), *abrogated on other grounds by* Egyptian Goddess, Inc. v. Swisa, Inc., 543 F.3d 665 (Fed. Cir. 2008) (en banc).

154. *See supra* note 148 and accompanying text.

155. *See supra* note 146 and accompanying text.

156. *See infra* notes 157–58 and accompanying text.

157. *See, e.g.*, Meds. Co. v. Hospira, Inc., 827 F.3d 1363, 1374–75, 1377–78 (Fed. Cir. 2016) (finding that private sales for manufacturing services only, in which the inventor maintains control of the invention, does not trigger the on-sale bar).

to reject a patent decreases, excluding non-public sales should have a positive effect on the government's goal: to incentivize the disclosure of inventors.[158]

VI. THE USPTO SHOULD ALLOW PETITIONERS TO SUBMIT EVIDENCE RELATED TO THE ON-SALE BAR IN ADMINISTRATIVE PROCEEDINGS CHALLENGING THE VALIDITY OF A PATENT

Currently, administrative proceedings largely do not encompass the on-sale bar because available references are inapplicable in all proceedings except post-grant review.[159] Therefore, the USPTO should expand the scope of these proceedings to allow petitioners to submit evidence relating to the on-sale bar.[160] Expanding the scope of administrative proceedings would decrease the USPTO's cost of enforcing the on-sale bar.[161] Allowing evidence related to the on-sale bar in these proceedings would also increase the effectiveness of the on-sale bar.[162] In addition, the negative consequences for allowing the submission of evidence related to the on-sale bar are negligible.[163]

Allowing petitioners to submit evidence related to the on-sale bar shifts some of the cost of enforcing the on-sale bar from the USPTO to those who have a specific interest in challenging the validity of a patent.[164] The USPTO lacks the resources to investigate every patent application for compliance with the on-sale bar.[165] Furthermore, those with a specific interest in the validity of a patent likely have greater access to information relating to the on-sale bar compared to the USPTO.[166] Thus, shifting the costs increases the efficiency of enforcing the on-sale bar.[167]

The danger is that companies may file frivolous petitions in order to throw monkey wrenches into their competitors' patents.[168] Certainly, with their lower cost, administrative proceedings seem like

158. *See supra* notes 146, 148–49, 152–54 and accompanying text.
159. *See supra* Section IV.B.
160. *See infra* notes 161–78 and accompanying text.
161. *See supra* Section IV.A.
162. *See infra* notes 164–67 and accompanying text.
163. *See infra* notes 168–76 and accompanying text.
164. *See* 37 C.F.R. § 1.20 (2013).
165. *See supra* Section IV.A.
166. *See, e.g.*, Special Devices, Inc. v. OEA, Inc., 270 F.3d 1353, 1354 (Fed. Cir. 2001) (explaining that the patent owner did not disclose a sale of 20,000 units of the invention but the manufacturer of the units did).
167. *See supra* notes 164–66 and accompanying text.
168. *Cf.* Crawley, *supra* note 61, at 13 (explaining that administrative proceedings increase the cost of enforcing a patent).

a more viable option than litigation.[169] However, because these proceedings require pleading with particularity, frivolous petitions are unlikely to meet this standard for issues relating to the on-sale bar.[170]

Another danger comes with allowing more evidence in administrative proceedings: the danger that inventors will forego patent protection altogether in favor of trade secret protection.[171] Allowing more evidence makes administrative proceedings more petitioner-friendly, increasing the risk that the patent will be invalidated and altering the inventor's cost-benefit analysis.[172] If inventors feel that patent protection is too weak, they will opt for trade secret protection or no protection in lieu of patent protection.[173] As a result, the public is denied an enabling disclosure of the invention,[174] and the inventor must spend resources protecting the invention because the inventor lacks the exclusive rights that accompany patent protection.[175] As one commentator states, "When an inventor chooses not to patent her invention, and instead opts for trade secret protection, the progress of science and the useful arts is impeded, not promoted."[176]

However, even with an exception carved out for the on-sale bar, the evidence submitted in administrative proceedings is more restricted than what would be admissible in litigation.[177] In addition, the USPTO requires a petitioner to submit "evidence that supports the grounds for the challenge to each claim" before the petition is even considered.[178]

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169. *See supra* note 116 and accompanying text.
170. *See* 35 U.S.C. §§ 302, 312, 322 (2015).
171. *See* Crawley, *supra* note 61, at 7 ("The . . . [AIA] makes patent protection less attractive by making patents . . . more vulnerable to post-grant challenges . . . .").
172. *See id.*
173. *Id.* at 7–8.
174. *See* 35 U.S.C. § 112(a) (2015).
175. *See* UNIF. TRADE SECRETS ACT WITH 1985 AMENDMENTS § 1(4)(ii) (NAT'L CONFERENCE OF COMM'RS ON UNIF. STATE LAWS 1985), http://www.uniformlaws.org/shared/docs/trade%20secrets/utsa_final_85.pdf (requiring that trade secrets be "subject . . . [to] efforts that are reasonable under the circumstances to maintain its secrecy").
176. Crawley, *supra* note 61, at 6.
177. *See, e.g.*, 35 U.S.C. § 311(b) (2015) (limiting *inter partes* review to novelty and non-obviousness grounds and "only on the basis of prior art consisting of patents or printed publications").
178. 35 U.S.C. § 312(a)(3) (2015).

VII. THE STANDARD FOR FINDING INEQUITABLE CONDUCT SHOULD BE LOWERED FOR THE ON-SALE BAR

The specific intent requirement for finding inequitable conduct should be lowered for the on-sale bar.[179] Rather than the "actual knowledge" standard required for the affirmative defense, the requirement should apply an objective "should have known" standard for the on-sale bar.[180] This standard, coupled with "but-for" materiality, does not make the defense susceptible to abuse.[181] In addition, lowering the intent standard for the on-sale bar would not have the same negative effects as lowering the standard for other avenues for a patent examiner's rejection of an application.[182] Lastly, supplemental examination, a new type of administrative proceeding available to patent owners, would help alleviate the burden on the patent owner due to the "should have known" standard.[183]

Lowering the standard lessens the burden on the claimant supporting the inequitable conduct defense[184] and would make it more akin to the way the USPTO would enforce the bar.[185] The USPTO does not consider intent when making a rejection based on the on-sale bar.[186] Rather, it is a bright line rule: either the invention was sold before the critical on-sale bar date, or it was not.[187] A defendant in an infringement suit should not have a significantly higher standard in this case than what is required by the USPTO when the applicant applied for a patent in such a situation.[188]

Lowering the standard does not make the defense susceptible to abuse.[189] Discovery would be limited to documents pertaining to

179. *See supra* Section IV.C.
180. *See* Han, *supra* note 133, at 189, 191–92.
181. *See infra* notes 184–90 and accompanying text.
182. *See infra* notes 184–93 and accompanying text.
183. *See infra* notes 194–97 and accompanying text.
184. *See* Han, *supra* note 133, at 191–92.
185. *See* 35 U.S.C. § 102 (2015).
186. *See id.*
187. *Id.*
188. Rejections based on the on-sale bar can be distinguished from some of the other types of rejections because the on-sale bar does not rely heavily on the reasoning of the patent examiner. *Compare* § 102(a)(1) (setting forth the on-sale bar), *with* 35 U.S.C. § 103 (2015) (stating the requirement that patentable inventions be non-obvious).
189. *Contra* Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1288 (Fed. Cir. 2011) (raising the standard for finding inequitable conduct in order to limit "discovery into corporate practices" and to decrease "the complexity, duration and cost of patent infringement litigation").

sales of the invention over a year before the filing date of the application.[190]

The complaint that patent examiners are overloaded with prior art references[191] likely does not hold for the on-sale bar because few documents are needed to support a rejection based on the on-sale bar.[192] Something as simple as a commercial invoice would satisfy the applicant's duty to disclose information related to the on-sale bar.[193]

The AIA has also introduced a new method to absolve a patent owner's duty to disclose: supplemental examination.[194] If the patent owner requests supplemental examination, the USPTO will "consider, reconsider, or correct information believed to be relevant to the patent."[195] In other words, the patent owner can request a supplemental examination in order to disclose information that should have been disclosed during the application process.[196] As a result, the supplemental examination blocks all defenses "based upon information that was considered, reconsidered, or corrected pursuant to a supplemental examination request."[197]

The on-sale bar to patentability bars only the specific version of the invention that was placed on sale.[198] However, a patent can contain multiple variations of an invention.[199] Thus, after a patent has issued, if the patent owner later discovers a sale that the owner should have known, the owner can cancel the claims to the invention that was placed on sale.[200] This situation is preferable to a charge of inequitable conduct, which would invalidate the entire patent, regardless of which variation of the invention was on sale.[201] In addition, the public is benefited by the patent owner's self-regulation of claims that should not have been patented.[202]

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190. *See* § 102(b)(1) (stating that sales "made 1 year or less before the effective filing date of a claimed invention shall not be prior art").
191. *Therasense, Inc.*, 649 F.3d at 1289.
192. *See supra* note 99 and accompanying text.
193. *See supra* note 99 and accompanying text.
194. 35 U.S.C. § 257 (2015).
195. *Id.* § 257(a).
196. *Id.*
197. *Id.* § 257(c)(2)(B).
198. *See* 35 U.S.C. § 102 (2015).
199. *See* 35 U.S.C. § 112 (2015).
200. *See* § 257.
201. *See* Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1288–89 (Fed. Cir. 2011).
202. *See supra* note 61 and accompanying text.

VIII. CONCLUSION

The on-sale bar is one of the ways that Congress has implemented the Intellectual Property Clause of the United States Constitution by requiring inventors to timely file an application if they wish to receive patent protection.[203] If the provision does not fulfill its objectives, then it should be modified to do so.[204] Any proposed changes should account for the interplay between patent prosecution and patent litigation.[205] Thus, a three-part approach is likely the best and most comprehensive solution: (1) excluding private sales from the on-sale bar,[206] (2) expanding administrative proceedings to include evidence pertaining to the on-sale bar,[207] and (3) lowering the standard for finding inequitable conduct for the on-sale bar.[208]

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203. U.S. CONST. art. I, § 8, cl. 8.
204. *See supra* Part III.
205. *See supra* Section IV.C.
206. *See supra* Part V.
207. *See supra* Part VI.
208. *See supra* Part VII.