1-1-2003

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LIABILITY FOR THE "THREAT OF A SALE": ASSESSING PATENT INFRINGEMENT FOR OFFERING TO SELL AN INVENTION AND IMPLICATIONS FOR THE ON-SALE PATENTABILITY BAR AND OTHER FORMS OF INFRINGEMENT

Timothy R. Holbrook*

I. INTRODUCTION

The company Las-R Printers decides to market a newly designed laser printer. After it begins to advertise but before completing any sales, Las-R discovers that its new printer is covered by a competitor's patent. Realizing that the potential liability could be staggering, the company withdraws the printer from the market and believes it is now safe from the threat of an infringement suit. Before 1994, that may have been the case. Now, however, Las-R Printers may still be liable for infringement because Congress changed the patent law such that merely offering to sell an invention is a form of infringement.1 Congress added this form of infringement to comport with international standards.2 These attempts are nothing new—the

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1. See infra notes 80-81 and accompanying text.

international community has worked toward harmonizing international intellectual property laws since the nineteenth century. The past few decades, however, saw renewed efforts at harmonization. The "most significant" and the "most ambitious" of these efforts has been the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), which provides a minimal level of protection for intellectual property protection for all signatories to the agreement. With respect to changes in U.S. patent law, TRIPS has resulted in the consideration of foreign inventive activities in assessing who is the "first to invent," and thus entitled to the patent; the publication of patent applications after eighteen months; and the change of the patent term from seventeen years from the date that the patent issued to the period between issuance and twenty years from the application date.

TRIPS also added offers to sell an invention as a form of patent infringement. Prior to TRIPS, a party could infringe a

"offering for sale" a product or process).

5. See id. at 688.
7. See TRIPS, supra note 2, 33 I.L.M. at 1197.
8. See Duffy, supra note 4, at 696.
9. See 35 U.S.C. § 271 (g)(1) (2003); 35 U.S.C. § 104 (2003). The United States decides who is entitled to a patent by assessing who was the first to invent the new device, process, or compound. See Anneliese M. Seifert, Will the United States Take the Plunge into Global Patent Law Harmonization? A Discussion of the United States' Past, Present, and Future Harmonization Efforts, 6 MARQ. INTELL. PROP. L. REV. 173, 177 (2002). Previously, only activity occurring within the United States could be used to demonstrate that a person was the first inventor; activities outside of the United States did not count. See id. The United States is alone in determining inventorship by a "first-to-invent" system; the rest of the world affords inventorship status to the first person to file a patent application with the patent office. See id. at 198.
10. See 35 U.S.C. § 122(b) (2003). See also Seifert, supra note 9, at 190. Before the change, patent applications were confidential. See id. The contents of the application only became public if the patent actually issued. See id.
patent under 35 U.S.C. § 271(a) only by making, using, or selling a patented invention without the permission of the patent owner.\textsuperscript{13} Whereas previously "a threat of a sale [did] not constitute an act of infringement,"\textsuperscript{14} now a party who simply offers to sell a device covered by a patent is liable as an infringer, even if the sale is never completed.\textsuperscript{15} In adopting this new form of infringement, however, Congress provided virtually no guidance as to its meaning.\textsuperscript{16} In contrast to the original forms of infringement—making, using, or selling the patented invention—the new version has unique problems in defining its scope. For there to be infringement, there must be an "offer," not merely the creation, utilization, or completed sale of the infringing good.\textsuperscript{17} Before the addition of an offer to sell as a form of infringement, the primary concern was whether the accused device was covered by the claims of the patent.\textsuperscript{18} The "offer to sell" form of infringement adds an additional requirement in assessing infringement: whether an offer has been made.

Moreover, in contrast to making or using wherein the device accused of infringing necessarily exists, which facilitates the infringement analysis, the new form of infringement arguably could apply when the device has yet to be built. Is infringement permissible, then, for a device subject to an offer to sell before it has been put into physical form? What implication does this rights to "offer to sell" in light of a reissued patent. See 35 U.S.C. § 252 (2003); Shockley v. Arcan, Inc., 248 F.3d 1349, 1359-60 (Fed. Cir. 2001).

\textsuperscript{13} See 35 U.S.C. § 271(a) (2003). Section 271 has other forms of infringement, but § 271(a) delineates the traditional, basic forms of infringement. See id.

\textsuperscript{14} Eli Lilly & Co. v. Medtronic, Inc., 915 F.2d 670, 673 (Fed. Cir. 1990).


\textsuperscript{16} See Rotec Indus., Inc. v. Mitsubishi Corp., 215 F.3d 1246, 1250 (Fed. Cir. 2000) ("Unfortunately, other than stating that an 'offer to sell' includes only those offers 'in which the sale will occur before the expiration of the term of the patent,' Congress offered no other guidance as to the meaning of the phrase.") (citation omitted).

\textsuperscript{17} See 35 U.S.C. § 271(a) (2003).

\textsuperscript{18} See, e.g., Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc) ("An infringement analysis involves two steps. First, the court determines the scope and meaning of the patent claims asserted, and then the properly construed claims are compared to the allegedly infringing device.") (citations omitted). See also id. at 1459 ("An accused device that does not literally infringe a claim may still infringe under the doctrine of equivalents if each limitation of the claim is met in the accused device either literally or equivalently.").
possibility have for infringement generally, particularly for selling a device?

Neither courts nor commentators have written about this new version of infringement.¹⁹ The courts have begun to wrestle with some of these issues, but much of the analysis is underdeveloped or just plain erroneous.²⁰ No other articles have performed a rigorous analysis to determine the proper standard for the offer to sell. This article attempts to fill the glaring gaps regarding "offer to sell" infringement. Further, the article proposes a novel framework involving an economic analysis of offers to sell in assessing what harm this new form of infringement is intended to redress.

Part II examines the history of 35 U.S.C. § 271 and what is considered to be infringement of a patent.²¹ The various forms of infringement have expanded over the past fifty years, with the most recent amendment being the addition of "offer to sell" infringement. The evolution of the forms of infringement suggests that Congress has an expansive view of what constitutes infringement and is interested in increasing the strength and scope of U.S. patents.²²

Part III assesses what the proper standard for an "offer" should be under this new provision.²³ After reviewing the

¹⁹. See, e.g., 3D Sys., Inc. v. Aarotech Labs., Inc., 160 F.3d 1373, 1378 (Fed. Cir. 1998) ("Little interpretation of this change as it relates to direct infringement under § 271(a) has been given . . . ."); Sitrick v. Freehand Sys., Inc., No. 02 C 1568, 2002 WL 31443128, at *3 (N.D. Ill. Oct. 30, 2002) (observing "Federal Circuit case law defining 'offer to sell' under § 271 is still developing"); Cybiotronics, Ltd. v. Golden Source Elecs., Ltd., 130 F. Supp. 2d 1152, 1167 (C.D. Cal. 2001) ("As a result, 'offer to sell' has received relatively little interpretation in the courts, and is not helpfully defined in the statute or in its legislative history."); ESAB Group, Inc. v. Centricut, LLC, 34 F. Supp. 2d 323, 333 (D. S.C. 1999) ("There is scant case law available interpreting what constitutes an 'offer to sell' as it appears in the amended form of 35 U.S.C. § 271(a)"). See also Joan E. Beckner, Patent Infringement by Component Export: Waymark Corp. v. Porta Systems Corp. and the Extraterritorial Effect of U.S. Patent Law, 39 Hous. L. Rev. 803, 823 (2001) ("[T]he law surrounding an 'offer to sell' an invention without an actual or contemplated infringing sale remains unsettled.").

Moreover, the author could find only three articles that deal with the issue of the proper scope for offers to sell at any length. See Thomas L. Irving and Stacy D. Lewis, Proving a Date of Invention and Infringement After GATT/TRIPS, 22 AM. INTELL. PROP. L. ASS'N Q.J. 309, 312 (1994); Edwin D. Garlepp, An Analysis of the Patentee's New Exclusive Right to "Offer to Sell", 81 J. PAT. & TRADEMARK OFF. SOC'Y 315 (1999); Robert Ryan Morishita, Patent Infringement After GATT: What Is an Offer to Sell?, 1997 UTAH L. REV. 905.
current case law on this issue as determined by the U.S. Court of Appeals for the Federal Circuit, Part III considers three sources of authority to assess the appropriate standard for "offer to sell" infringement. First, infringement for "offers to sell" is compared and contrasted with the statutory proscription of obtaining a patent on a device that has been "on sale" under 35 U.S.C. § 102(b). The comparison between being "on sale" and being "offered for sale" is appropriate because the concepts are similar and because district courts rely on § 102(b) precedent for guidance in interpreting the "offer to sell" provision of § 271. Second, because § 271(a) was amended to harmonize U.S. law with international law, Part III also compares interpretations of offers to sell and sales in foreign jurisdictions, specifically the United Kingdom and Canada. Third, Part III analyzes the economic consequences of an infringing offer to sell to determine whether the Federal Circuit’s standard for an "offer to sell" adequately redresses the pecuniary harm to the patentee caused by this infringing activity. After evaluating these sources, Part III concludes that a general commercialization standard would best effectuate the objectives of both the "on-sale bar" and "offer to sell" infringement.

Part IV then addresses whether a complete, physical embodiment of an invention should be required for an infringing "offer to sell." Historically, for there to be infringement, the allegedly infringing device had to be in a physically complete form. Merely constructing the components of a device, without actually building the completed device, was not sufficient for infringement. Part IV

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24. The U.S. Court of Appeals for the Federal Circuit has national jurisdiction over patent cases. See 28 U.S.C. § 1295 (granting exclusive appellate jurisdiction to the Federal Circuit for cases from the district court’s if the district court’s jurisdiction was based “in whole or in part” on the parts of 28 U.S.C. § 1338 relating to patent law). The Supreme Court recently altered the Federal Circuit’s jurisdiction so that only cases in which the complaint states a patent cause of action will go to the Federal Circuit. See Holmes Group, Inc. v. Vornado Air Circulation Sys., Inc., 535 U.S. 826, 829 (2002). Cases in which a patent claim is raised only as a counterclaim will go to the regional circuits. See id.


27. See infra notes 291-393 and accompanying text.


29. See id.
suggests that the addition of “offer to sell” as a form of infringement challenges this norm, not only for offers to sell but also for completed sales of a patented device. While a requirement that the invention be in its complete and assembled form is appropriate in determining whether an infringer has “made,” “used,” or “imported” an invention, such a standard is inappropriate for sales of, and offers to sell, an infringing device. Instead, drawings or models should be sufficient for offers to sell and actual sales, so long as a person of ordinary skill in the relevant art would be able to read such drawings and readily build the device.

Part V summarizes the conclusions reached in this article.30 The addition of this new form of infringement provides the courts with the opportunity not only to establish the legal criteria for “offers to sell” but also to reconsider the standards for both the “on-sale bar” and for infringement generally. The policies underlying the “on-sale bar” and infringement for offers to sell will be more fully realized with a broader “commercialization” standard, in which any attempt to commercialize the device would be invalidating, if performed more than a year before the patent application is filed, and infringing, if performed during the patent term. Similarly, infringement for an offer to sell makes little sense if the requirement for a physical embodiment of the device remains. Consequently, the courts should bifurcate infringement via offers to sell and for actual sales from those of making, using, or importing the invention. The former should only require an enabling disclosure for there to be infringement, while the latter would retain the requirement for a complete, tangible item. This standard will best protect the property interests of the inventor.

II. THE EVOLUTION OF PATENT INFRINGEMENT
UNDER 35 U.S.C. § 271

The categories of infringing activities have been dynamic since the Patent Act was adopted in 1952. An understanding of the historical development of infringement by both the courts and Congress is crucial in ascertaining the appropriate scope for infringement by an “offer to sell.”

30. See infra notes 394-400 and accompanying text.
A. The Patent Act's Definition of Infringement

Congress intended to codify the common law in the Patent Act. Included in the Patent Act was § 271, which prescribed what constituted infringement of a patent. Specifically, the statute stated that "whoever without authority makes, uses, or sells any patented invention, within the United States infringes the patent." The statute reflected the territorial nature of patent rights: all infringing activities had to occur within the United States. Congress made no revisions to § 271 for over thirty years, leaving the development of infringement law to the courts.

B. Interpretation by the Supreme Court—Deepsouth Packing Co. v. Laitram Corp.

The need for judicial interpretation of § 271 readily became apparent. One glaring oversight was a definition for "patented invention." The statute did not address whether manufacture of all of the components of an invention—without actually assembling the components into the device as claimed in the patent—would constitute infringement. For example, would merely manufacturing the parts of a patented mousetrap infringe, or would there only be infringement once the mousetrap was actually assembled? The statute did not detail the extent to which the infringing device had to be in its completed form as contemplated by the patent claims. It is this

33. Id. See also Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 527 (1972) (noting that the Patent Act defined direct infringement as occurring when an infringer makes, uses, or sells the patented product). The original Patent Act also included limitations with respect to contributory infringement and inducement to infringe, as well as limitations on those forms of infringement. See 35 U.S.C. § 271(b)-(d).
34. See id.
36. See, e.g., Hewitt-Robins, Inc. v. Link-Belt Co., 371 F.2d 225, 229 (7th Cir. 1966).

If anything is settled in the patent law, it is that a combination patent covers only the totality of the elements in the claim and that no element, separately viewed, is within the grant. We deem it equally clear that unassembled elements of a combination patent do not constitute the "patented invention." See id. (citation omitted).
precise question that the Supreme Court addressed in *Deepsouth Packing Co. v. Laitram Corp.*\(^{37}\)

The two patents in *Deepsouth* related to shrimp deveining machines.\(^{38}\) Deepsouth, the accused infringer, did not practice the invention in the United States, instead it sought "to make the parts of deveining machines, to sell them to foreign buyers, and to have the buyers assemble the parts and use the machines abroad."\(^{39}\) The Court, therefore, confronted a situation in which an infringing machine had not been made, used, or sold in the United States, instead, the disassembled components of a machine that would infringe if constructed in the United States were exported and later assembled overseas.\(^{40}\) The Court noted that "[t]he statute makes it clear that it is not an infringement to make or use a patented product outside of the United States."\(^{41}\) The key question was whether Deepsouth had sold the invention in the United States.\(^{42}\) The Court concluded that Deepsouth's activity did not constitute a sale in the United States and was thus non-infringing.\(^{43}\) In reaching this decision, the Court framed the issue as follows:

[Laitram's] argument that Deepsouth sells the machines... cannot carry the day unless it can be shown that Deepsouth is selling the 'patented invention.' The sales question thus resolves itself into the question of manufacture: did Deepsouth 'make' (and then sell) something cognizable under the patent law as the patented invention, or did it 'make' (and then sell) something that fell short of infringement?\(^{44}\)

The Supreme Court agreed with the latter: Deepsouth made (and then sold) something that fell short of infringement.\(^{45}\)

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37. See *Deepsouth*, 406 U.S. at 524-25.
38. See id. at 519-20.
39. Id. at 523.
40. See *Deepsouth*, 406 U.S. at 524 ("The company contends that by this means both the 'making' and the 'use' of the machines occur abroad and Laitram's lawful monopoly over the making and use of the machines throughout the United States is not infringed."). Infringement under 35 U.S.C. § 271(a) is limited to activities "in the United States." See 35 U.S.C. § 271(a). Thus assembly of the device overseas would not be infringement under the law at the time. See *Deepsouth*, 406 U.S. at 524.
41. Id. at 527.
42. See id.
43. See id. at 532.
44. Id. at 527.
45. See id. at 529.
Relying on a Second Circuit Court of Appeals case, the Court reasoned that a patentee's "monopoly does not cover the manufacture or sale of separate elements capable of being, but never actually, associated to form the invention." In the Court's view, for there to be infringement for selling the invention, the entire device must have been completely assembled in the United States.

In supporting its position, the Court recognized "this Nation's historical antipathy to monopoly." As a result of this hostility towards patents, the court noted that "the limitations on [a patent's] exercise are equally strictly enforced." The Court "would require a clear and certain signal from Congress before approving the position of a litigant who ... argues that the [scope of patent protection] is wider, and the area of public use narrower, than courts had previously thought."

The Court narrowly construed the patent statute in the absence of clear congressional intent. Arguably inappropriate, however, was the Court's conflation of the terms "make" and "sell" from the patent statute. The Court, by phrasing the question of whether the infringer "did ... 'make' (and then sell)" suggests that the making of the invention is a necessary prerequisite to selling the invention. This reading of the statute seemingly vitiates the "sale" form of infringement because, for there to be a sale, the person selling the device would have infringed already under the "make" provision. This reading violates the canon of statutory construction that "courts should

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46. See Radio Corp. v. Andrea, 79 F.2d 626, 628 (2d Cir. 1935). The dissenters in Deepsouth criticize the majority's characterization of this as a leading case espousing the "prevailing law." See Deepsouth, 406 U.S. at 533 (Blackmun, J., dissenting).
47. Deepsouth, 406 U.S. at 529 (quoting Radio Corp., 79 F.2d at 628).
48. See id. See also id. at 533 (Blackmun, J., dissenting) ("Here everything was accomplished in this country except putting the pieces together as directed (an operation that, as Deepsouth represented to its Brazilian prospect, would take 'less than one hour') ... ").
49. Id. at 530.
51. Id.
52. See id.
53. See id. at 527.
54. Cf. Richard A. Leavitt, The "Selling" of Patented Goods: In Search of a Definition, 66 TUL. L. REV. 1903, 1915 (1992) ("Adopting this 'contract for sale' definition would leave the right to exclude others from domestic selling of the patented invention a mere subset of the right to exclude others from making the invention.").
disfavor interpretations of statutes that render language superfluous.\textsuperscript{55}

C. Congress Intercedes to Mitigate (or Eviscerate?) Deepsouth

The impact of Deepsouth, however, was only temporarily felt as Congress supplied the requested “clear and certain signal” by statutorily overruling Deepsouth’s key holding in 1984.\textsuperscript{56} Congress responded to the Supreme Court’s overture in 1984 by amending § 271 in two significant ways.\textsuperscript{57} First, Congress passed the Drug Price Competition and Patent Term Restoration Act of 1984,\textsuperscript{58} which added § 271(e).\textsuperscript{59} Section 271(e) established that it is not infringement to make, use, sell, or import the invention “solely for uses reasonably related to the development and submission of information under a Federal law which regulates the manufacture, use, or sale of drugs or veterinary biological products.”\textsuperscript{60} Submitting an application to the Food and Drug Administration (FDA) for approval to market a drug, however, is a form of infringement according to the statute.\textsuperscript{61}

In 1984, Congress also adopted 35 U.S.C. § 271(f), which closed the “export the components/assemble abroad” loophole.\textsuperscript{62} Section 271(f) provides:

(1) Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, in such manner as to actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer. (2) Whoever without authority supplies or causes to be supplied in or from the United States any component of a

\textsuperscript{57} See infra notes 58-59 and accompanying text.
\textsuperscript{59} See id.
patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.\footnote{63}{35 U.S.C. § 271(f)(1)-(2).}

Congress effectively overruled Deepsouth when Congress made it an act of infringement to export either the complete but disassembled invention, or even a component of an invention for which there is no noninfringing use.\footnote{64}{See Amstar Corp. v. Envirotech Corp., 823 F.2d 1538, 1546 (Fed. Cir. 1987) (noting "Congress' effective overruling of Deepsouth in 1984, 35 U.S.C. § 271(f)").} In doing so, Congress actually significantly expanded the patentee's exclusive rights.\footnote{65}{See H.R. 6286, supra note 56 (codified as amended at 35 U.S.C. § 271(f)(1)-(2) (2003)). See also 35 U.S.C. § 271(f)(1)-(2) (2003).} But § 271(f) only deals with the export aspect of Deepsouth; the requirement for a complete device remains the controlling law for infringement for making or selling a patented invention under § 271(a).\footnote{66}{See Waymark Corp. v. Porta Sys. Corp., 245 F.3d 1364, 1367 (Fed. Cir. 2001) ("[T]he analysis of Deepsouth controls in this case. Because Porta Systems tested within the United States only components without patent protection, Deepsouth dictates that Porta Systems has not infringed . . . under § 271(a)."); Rotec Indus., Inc. v. Mitsubishi Corp., 215 F.3d 1246, 1252-53 n.2 (Fed. Cir. 2000) ("Hence, as to claims brought under § 271(a), Deepsouth remains good law: one may not be held liable under § 271(a) for 'making' or 'selling' less than a complete invention."). See also Dwyer Murphy, Paper Converting Machine Co. v. Magna-Graphics Corporation: Increased Protection Against Making and Using Combination Patents, 34 AM. U. L. REV. 761, 766 (1985).} The link between making and selling remains intact, inappropriately rendering the selling language superfluous under the present law.

D. Further Amendments Expand Infringement

§ 271(g).\footnote{69} Section 271(g) is similar to § 271(f) in that it closes a loophole in the statute resulting from the territorial nature of the patent rights. Specifically, § 271(g) defines an infringer as anyone who

without authority imports into the United States or sells or uses within the United States a product which is made by a process patented in the United States shall be liable as an infringer, if the importation, sale, or use of the product occurs during the term of such process patent.\footnote{70}

Prior to the adoption of § 271(g), a competitor could circumvent a U.S. patent only if it covered the process of making the product, but not the product itself.\footnote{71} Technically, in order to infringe the patent under § 271(a), a competitor would have to perform the process within the United States.\footnote{72} If the process was used overseas, there would be no infringement.\footnote{73} A competitor could avoid infringement, therefore, by manufacturing the chemical via the patented process outside of the United States and then importing the unpatented product.\footnote{74} Section 271(g) is Congress's response to this problem and an attempt to reach some extraterritorial conduct—the use of the infringing process—through the domestic nexus of importation and domestic sale or use.\footnote{75}


\footnote{70} See id. For example, a chemical company may have discovered a more cost effective process to make an already known chemical. The process could be patented, but the chemical compound itself may not be.

\footnote{71} See, e.g., United States v. Studiengesellschaft Kohle, 670 F.2d 1122, 1127-28 (D.C. Cir. 1981) ("A sale of a product made by a patented process does not itself infringe the patent; it is the unauthorized use of the process that infringes the patent.").

\footnote{72} See Mycogen Plant Science, Inc. v. Monsanto Co., 252 F.3d 1306, 1318 (Fed. Cir. 2001), \textit{vacated and remanded on other grounds}, 535 U.S. 1109 (2002) ("The congressional reports make clear that the principal purpose of the statute was to prevent a patent owner's competitors from avoiding the patent by producing products outside the United States and then importing them.").

\footnote{73} See id.

\footnote{74} See, e.g., S. Res. 1543, 99th Cong., 132 CONG REC. S17386 (1986)

A significant loophole in our patent laws, as compared with those of our major trading partners, has emerged as a major factor in the dynamics of global innovation and economic competition. In contrast to Japan and nearly all of the Western European nations, the United States does not provide patent protection against the importation, and subsequent use or sale, of products made abroad without authorization using a process patented in the United States.

\footnote{75} A product avoids infringement if it has been "materially changed by
In 1992, Congress passed the Patent and Plant Variety Protection Remedy Clarification Act, which added § 271(h). The Act clarified that state sovereign immunity to a patent infringement suit is abrogated by federal patent law. The Supreme Court subsequently invalidated this provision as unconstitutional.

Finally, in 1994, Congress amended § 271(a), (c), (e), and (f) to include "offers to sell" and "importation" of an invention, and added § 271(i) in order to meet our obligations under the TRIPS Agreement to harmonize United States intellectual property laws with international patent laws. These changes were made with little discussion and, as such, there is no legislative history to inform the metes and bounds of this new form of infringement. Section 271(i) limits infringement via offers to sell by noting that "[a]s used in this section, an 'offer for sale' or an 'offer to sell' by a person other than the patentee, or any designee of the patentee, is that in which the sale will occur before the expiration of the term of the patent."
The history of § 271 demonstrates that, contrary to the Supreme Court's historical antipathy to patents, Congress has taken an expansive view of them, enlarging the class of activities covered by the patent statute's forms of infringement. Consequently, a more expansive view of infringement in the courts is appropriate in light of Congress' continued efforts to place more subject matter under § 271.

III. WHAT CONSTITUTES AN "OFFER" UNDER SECTION 271—LESSONS FROM THE ON-SALE BAR, HARMONIZATION, AND ECONOMICS

The body of law regarding what constitutes an infringing "offer for sale" remains relatively undeveloped. Subpart A reviews the development of the law as it now stands in the Federal Circuit. Given its obvious similarity to the "on-sale bar," subpart B compares the law of the "on-sale bar" to the law for "offer to sell" infringement to determine whether the standards of the "on-sale bar" can provide insight as to the appropriate test for "offers to sell." Next, because part of the purpose underlying adoption of "offer to sell" infringement was contemplated sale is to occur, and the accused infringer likely would not make definite statements as to the date of completion. As such, the best solution to this difficulty is a rebuttable presumption: absent a clear expression of a date outside of the patent term in the actual offer to sell, the courts should presume that the contemplated sale will occur during the patent term unless the accused infringer can come forward with evidence to demonstrate that the sale will occur post-expiration. If the accused infringer can make such a showing, then the presumption fails. The court would then weigh the evidence to see whether the patentee has satisfied her burden of proving infringement by a preponderance of the evidence. This rebuttable presumption would thus help facilitate disclosure of such information by the accused infringer, who is the party in the best position to have knowledge of and access to information regarding the contemplated sales date.

82. See supra notes 56-81 and accompanying text. Compare Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 531 (1972) ("To the degree that the inventor needs protection in markets other than those of this country, the wording of 35 U.S.C. §§ 154 and 271 reveals a congressional intent to have him seek it abroad through patents secured in countries where his goods are being used.") with Mycogen Plant Science, Inc. v. Monsanto Co., 252 F.3d 1306, 1318 (Fed. Cir. 2001) ("[T]he statute was intended to grant patent holders the same protection against overseas infringers as they already enjoyed against domestic entities.").

83. The Federal Circuit has clarified a few ambiguities. See, e.g., 3D Sys., Inc. v. Aarotech Labs., Inc., 160 F.3d 1373, 1379 (Fed. Cir. 1998) (noting that the determination of what constitutes an offer for sale is a matter of federal law, not state contract law); Hollyanne Corp. v. TFT, Inc., 199 F.3d 1304, 1308 (Fed. Cir. 1999) (noting that a mere offer to donate does not constitute an offer for sale).

84. See infra notes 90-129 and accompanying text.

85. See infra notes 130-203 and accompanying text.
to harmonize United States patent law with the international standard, subpart C considers international interpretations of the most closely corresponding provisions in the United Kingdom and Canada.\textsuperscript{86} Subpart D considers the harm that may accrue to a patent holder by an infringing offer to sell and concludes that the current legal standard fails to redress the injury to the patentee.\textsuperscript{87} Weighing all of these considerations, subpart E concludes that the present requirement for a formal commercial offer for both the "on-sale bar" and "offer to sell" infringement is inappropriate.\textsuperscript{88} Instead, the courts should use a broader "commercialization" standard, which could ensnare activities such as advertising.

A. The Federal Circuit's Development of the "Offer to Sell" Standard—What Is an "Offer" Under § 271(a)?

The threshold question when assessing infringement via an "offer to sell" is what exactly constitutes an "offer."\textsuperscript{89} The statute itself provides no guidance; the legislative history is also void of assistance. The development of the law has been left to the traditional, common law approach.

Several cases in the Court of Appeals for the Federal Circuit have discussed the "offer to sell" type of infringement. The first cases arose in contests over personal jurisdiction. In 3D Systems, Inc. v. Aarotech Laboratories, Inc.,\textsuperscript{90} the Federal Circuit addressed whether personal jurisdiction could be asserted over a defendant based solely on an infringing offer to sell. \textsuperscript{91} Recognizing that this case was one of first impression, the court rejected the argument that state law should govern whether or not there has been an offer.\textsuperscript{92} Instead, the court concluded that it would apply federal common law in making this assessment in order to promote uniformity.\textsuperscript{93} The court held that there was personal jurisdiction.

\begin{itemize}
  \item \textsuperscript{86} \textit{See infra} notes 204-27 and accompanying text.
  \item \textsuperscript{87} \textit{See infra} notes 228-64 and accompanying text.
  \item \textsuperscript{88} \textit{See infra} notes 279-88 and accompanying text.
  \item \textsuperscript{89} \textit{See, e.g.,} 3D Sys., Inc. v. Aarotech Labs., Inc., 160 F.3d 1373, 1378-79 (Fed. Cir. 1998) (discussing possible definitions of "offer to sell" to satisfy personal jurisdiction requirements); Lifting Techs., Inc. v. Dixon Indus., Inc., No. CV-96-98-MOClL, 1996 WL 653391, at *3 (D. Mont. Aug. 27, 1996) (relying on on-sale bar precedent of what constitutes an "offer" to interpret § 271(a)).
  \item \textsuperscript{90} 160 F.3d at 1373.
  \item \textsuperscript{91} \textit{See id.} at 1378.
  \item \textsuperscript{92} \textit{See id.} at 1378.
  \item \textsuperscript{93} \textit{See id.} at 1379.
\end{itemize}
jurisdiction, based on price quotation letters being sent to persons in the relevant state:

The price quotation letters sent by Aaroflex to California residents state on their face that they are purportedly not offers, but to treat them as anything other than offers to sell would be to exalt form over substance. As a matter of federal statutory construction, the price quotation letters can be regarded as "offer[s] to sell" under § 271 based on the substance conveyed in the letters, i.e., a description of the allegedly infringing merchandise and the price at which it can be purchased.\footnote{Id. Accord Sitrick v. Freehand Sys., Inc., No. 02 C 1568, 2002 WL 31443128, at *4 (N.D. Ill. Oct. 30, 2002) (holding that brochures containing description and price sufficient for personal jurisdiction).}

Since 3D Systems dealt solely with the question of personal jurisdiction, the court did not discuss in detail the requirements for finding liability for offers to sell.\footnote{See 3D Systems, 160 F.3d at 1378.}

The Federal Circuit further elaborated on the requirements to establish personal jurisdiction by infringing offers to sell in Hollyanne Corp. v. TFT, Inc.\footnote{199 F.3d 1304 (Fed. Cir. 1999).} In Hollyanne, the court focused on "whether an offer to donate is the equivalent of an offer to sell."\footnote{Id. at 1308.} The court concluded that an offer to donate is insufficient to constitute an offer to sell.\footnote{See id. at 1309.} Personal jurisdiction, therefore, was lacking.\footnote{See id. at 1310.} The court expressly reserved the question of "whether or under what circumstances actual advertisements of a product are sufficient to be considered an 'offer to sell.'"\footnote{Id. at 1309 n.6.}

This question did not remain unanswered for long. Discussing the standard for "offers to sell" on the merits in Rotec Industries, Inc. v. Mitsubishi Corp.,\footnote{215 F.3d 1246 (Fed. Cir. 2000).} the Federal Circuit concluded that formal commercial offers to sell are required for infringement under § 271(a).\footnote{See id. at 1255-56.} In Rotec, the court confronted the possible offer to sell a crane and conveyor systems to carry concrete long distances to the People’s Republic of China.\footnote{See id. at 1249.} The district court granted summary judgment of non-infringement.
under § 271(a)'s "offer to sell" provision.\textsuperscript{104} Addressing "offers to sell" for the first time on the merits and not merely as a matter of personal jurisdiction, the Federal Circuit "define[d] § 271(a)'s 'offer to sell' liability according to the norms of traditional contractual analysis."\textsuperscript{105} The court further determined that the meaning of "'offer to sell' is to be interpreted according to its ordinary meaning in contract law, as revealed by traditional sources of authority"\textsuperscript{106} such as the Uniform Commercial Code and dictionaries,\textsuperscript{107} as well as the Restatement (Second) of Contracts.\textsuperscript{108}

After discussing the appropriate legal standard, the Federal Circuit addressed the merits of the case.\textsuperscript{109} In support of its argument that the defendant made infringing offers, the patentee offered the following evidence:

1. the offering parties met nine times in the United States about supplying a conveyor system for the Three Gorges Dam Project; 2. Johnson and Tucker designed and priced the contemplated system in the United States; and 3. the written offer identified Johnson as the supplier for the concrete system, and confirmed that Johnson had provided all relevant technical and financial documents.\textsuperscript{110}

The court concluded that the patentee failed to show infringing offers to sell because "[n]one of [the] evidence . . . establishes any communication by Defendants with any third party."\textsuperscript{111} Without communication to a third party, there could be no commercial detriment to the patentee.\textsuperscript{112} The court also

\textsuperscript{105} Rotec Indus., Inc. v. Mitsubishi Corp., 215 F.3d 1246, 1254-55 (Fed. Cir. 2000).
\textsuperscript{106} Id. at 1255. Ironically, by requiring an actual commercial offer, the Federal Circuit—contrary to the only purpose for adopting offer to sell infringement—has disharmonized United States law from the international community, where the "offer to sell" analog has been determined to include advertisements. See infra notes 211-24 and accompanying text.
\textsuperscript{107} See id. at 1255 (comparing interpretation of § 271(a) with interpretation of the term "sale or importation" under the Tariff Act of 1930 in Enercon v. ITC, 151 F.3d 1376 (Fed. Cir. 1998), in which the court referenced both the UCC and dictionaries).
\textsuperscript{108} See id. at 1257, 1255 n.5.
\textsuperscript{109} See id. at 1250.
\textsuperscript{110} See id. at 1255.
\textsuperscript{111} Id.
\textsuperscript{112} See id. ("In the absence of a communication with a third party, it is difficult to imagine any commercial detriment of the rightful patentee taking place.").
concluded that further evidence of negotiations was insufficient because proof of agency of one representative was lacking\(^{113}\) and the deposition testimony offered lacked the requisite proof ""of willingness to enter into a bargain, so made as to justify another person in understanding that his assent to that bargain is invited and will conclude it.""\(^{114}\) As a result, the court affirmed the grant of summary judgment of non-infringement.\(^{115}\)

Later cases have further clarified the "offer to sell" language of § 271(a). For example, in _Embrex, Inc. v. Service Eng'g Corp._,\(^{116}\) the court addressed an offer to sell in the context of a patent that claimed a method, as opposed to a device or a compound.\(^{117}\) The court looked at the law addressing the infringing sales of patented methods and noted that ""[t]he law is unequivocal that the sale of equipment to perform a process is not a sale of the process within the meaning of § 271(a).""\(^{118}\) Similarly, the court concluded that ""a mere offer to sell a machine... cannot serve as the sole basis for finding infringement of the claimed method.""\(^{119}\)

The court has also looked at the extent to which the addition of "offer to sell" language has affected the defense of intervening rights that apply to reissued patents.\(^{120}\) A patentee can seek reissuance of an already-granted patent if the patent holder

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113. See id. at 1256. Without proof that the agent had contracting authority, the Federal Circuit concluded that the district court correctly excluded the evidence as inadmissible hearsay. See id.

114. Id. at 1257 (quoting RESTATEMENT (SECOND) OF CONTRACTS § 24 (1979)).

115. See id. at 1258. In her concurrence, Judge Newman disagreed with the reasoning of the majority. See id. (Newman, J., concurring). In her opinion, the case should have been decided on the ground that the offer to sell did not contemplate a "sale" that would occur within the United States. See id. Relying on § 271(i), Judge Newman concluded that not only must the offer be made in the United States, but the sale contemplated in that offer also must take place within the United States. See id. An offer made in the United States to sell a device in Australia, for example, would not infringe. See id. The majority avoided the issue of what the contemplated sale must cover, leaving the question unanswered. See id. The district courts that have addressed this issue have adopted Judge Newman's perspective. See, e.g., Cybiotronics, Ltd. v. Golden Source Elecs., Ltd., 130 F. Supp. 2d 1152, 1171 (C.D. Cal. 2001); Quality Tubing, Inc. v. Precision Tube Holdings Corp., 75 F. Supp. 2d 613, 624-25 (S.D. Tex. 1999).

116. 216 F.3d 1343 (Fed. Cir. 2000).

117. See id. at 1349.

118. Id. at 1349 (quoting Joy Techs. Inc. v. Flakt, Inc., 6 F.3d 770, 773 (Fed. Cir. 1993)).

119. Id.

believes the original patent is inoperative, invalid, or has claimed more or less than the patent holder had the right to claim. If the patent holder made these errors without any intent to deceive the Patent and Trademark Office (PTO), then the PTO will reissue the patent again as corrected. Because the scope of a patent's claims can change as a result of reissue, competitors who may have relied upon the original patent in order to design around or otherwise compete with the patentee may have concerns as to the scope of the patent and their potential liability. The reissued patent could now cover activities that the original patent did not, which could unfairly ensnare a competitor who was not infringing the original patent, but who may now infringe the reissued patent.

To combat this inequity, 35 U.S.C. § 252 ¶ 2 provides for "intervening rights," which act as a limited defense to patent infringement. There are two forms of intervening rights: absolute and equitable. Absolute intervening rights are absolute in the sense that the patentee has no recourse under the Patent Act and the court must grant the infringer relief. Section 252 also affords equitable intervening rights. A court may allow the infringer to continue performing an infringing process or to continue to manufacture, use, offer to sell, or sell articles either made before reissue or for which the potential

122. See id.
123. See 4 DONALD CHISUM, CHISUM ON PATENTS § 15.05[2]-[3]. See also Sontag Chain Stores Co. v. National Nut Co., 310 U.S. 281, 293-94 (1940).
124. See 35 U.S.C. § 252 ¶ 2 (2003). Although the concepts are fairly straightforward, the statutory language of § 252 is complex and difficult to follow. See id. This paragraph summarizes the relevant legal considerations for the granting of intervening rights. See infra notes 127-28 and accompanying text.
125. See BIC Leisure Prods., Inc. v. Windsurfing Int'l, Inc., 1 F.3d 1214, 1217 (Fed. Cir. 1993).
infringer made substantial preparations prior to reissue.\textsuperscript{128}

Prior to the adoption of "offer to sell" infringement, intervening rights applied only to products already made at the date the patent reissued.\textsuperscript{129} In Shockley \textit{v.} Arcan, Inc.,\textsuperscript{130} the infringer argued that absolute intervening rights should apply to an offer for sale for which there are only "price quote letters that contain a description of the infringing materials without regard to whether those offers covered products already manufactured."\textsuperscript{131} The court rejected this contention by stating that "regardless of whether Arcan's December 1997 price quote was an offer for sale to Sam's, the 10,000 Z-Creepers at issue had not been manufactured before the '732 reissuance. Absolute intervening rights therefore do not protect Arcan's importation and sale of its Z-Creepers."\textsuperscript{132} The Federal Circuit clarified that, for absolute intervening rights to apply, the infringing good must have been manufactured prior to the reissue date.\textsuperscript{133} In other words, "the 'offer to sell' language . . . has not changed the statutory requirement that absolute intervening rights apply only to existing products."\textsuperscript{134}

As these cases demonstrate, the Federal Circuit has provided some much-needed guidance with respect to "offers to sell." The contours of this form of infringement, however, remain ill-defined. The cases have not clearly addressed what constitutes an infringing "offer" or the extent to which the accused device must be in a physical form to infringe.

B. \textit{The Implications of the "On-Sale Bar" of} \textsuperscript{\textsection}102(b) \textit{for "Offer to Sell" Infringement}

The adoption of "offer to sell" infringement provided a number of court challenges due to the dearth of Congressional guidance on the matter. Although the Federal Circuit has

\begin{footnotes}
\footnote{128. 35 U.S.C. \textsection 252 \textsuperscript{\textsection}2 (2003). \textit{See also} Shockley \textit{v.} Arcan, Inc., 248 F.3d 1349, 1360-61 (Fed. Cir. 2001) (noting that it is within the court's discretion to apply equitable intervening rights).}
\footnote{129. \textit{See} BIC, 1 F.3d at 1221.}
\footnote{130. 248 F.3d at 1349.}
\footnote{131. \textit{Id.} at 1360.}
\footnote{132. \textit{Id.} The court also affirmed the denial of equitable intervening rights because the infringer was found to willfully infringe. \textit{See id.} at 1361. Because the infringer had unclean hands in equity, the Federal Circuit found no abuse of discretion by the district court in denying equitable intervening rights. \textit{See id.}}
\footnote{133. \textit{See id.} at 1353.}
\footnote{134. \textit{Id.}}
\end{footnotes}
started to define the contours of this form of infringement, the
district courts were the first to struggle with "offers to sell." The
logical place for the district courts to have turned was the "on-
sale bar" of 35 U.S.C. § 102(b).135 This statutory provision
provides a limitation on the ability of an inventor to obtain a
patent.136 If the invention was on sale in the United States more
than one year prior to the date the inventor files her patent
application, then she is precluded from obtaining a patent.137
Given the "on-sale" language in the statute and the judicial gloss
on this provision, § 102(b) provides a natural beginning point for
the district courts to analyze the new form of infringement
under § 271(a).

The history of the interaction of the "on-sale bar" and "offer
to sell" infringement, although short, is already rather patched
and convoluted. This subpart reviews recent parallel
developments in "on-sale bar" jurisprudence, the Federal
Circuit's original rejection, and its subsequent reversal of its
position regarding the use of the "on-sale bar" as persuasive
authority with respect to "offers to sell."

1. The Current State of the "On-Sale Bar" Jurisprudence

The "on-sale bar" is a statutorily-based limitation on the
patentability of an invention.138 Specifically, a patent cannot be
obtained if the "invention was . . . on sale in this country, more
than one year prior to the date of the application for patent in
the United States."139 Four policy considerations underlie the
"on-sale bar" to patentability: (1) the policy against removal of
inventions from the public that the public has come to view as
freely available due to the prolonged sales activity; (2) the policy
in favor of prompt and widespread disclosure of new inventions
to the public;140 (3) the policy against allowing inventors to

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135. See, e.g., Lifting Techs., Inc. v. Dixon Indus., Inc., No. CV-96-98-MOCCL,
1996 WL 653391, at *3 (D. Mont. Aug. 27, 1996) (relying on on-sale bar precedent to
interpret § 271(a)).
137. See id.
139. Id. See generally Timothy R. Holbrook, The More Things Change, the More
They Stay the Same: Implications of Pfaff v. Wells Electronics, Inc. and the Quest for
the history and development of on-sale bar jurisprudence).
140. This policy is promoted by the on-sale bar in that once commercial activity
has begun, the patentee must promptly file at the patent office or risk losing the
patent. See id.
exploit commercially the exclusivity afforded by the patent beyond the statutorily prescribed period (currently twenty years from the application date); and (4) the policy in favor of affording the inventor a reasonable amount of time (one year from the date of the commercial activity) to determine whether the patent is a worthwhile investment.141

The Supreme Court recently addressed the "on-sale bar." In Pfaff v. Wells Electronics,142 the Court articulated a two-part test for applying the "on-sale bar": (1) the invention must be subject to a commercial offer for sale and (2) the invention must be "ready for patenting" or developed to a point when it would be appropriate to file a patent application.143 According to the court, whether an invention is ready for patenting can be demonstrated in at least two ways: by proof of reduction to practice before the critical date; or by proof that prior to the critical date the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to enable a person skilled in the art to practice the invention.144 Because an inventor can obtain a "paper patent," the Court reasoned that there is not any reason an "invention" cannot be on sale prior to its construction.145

141. See UMC Elecs. Co. v. United States, 816 F.2d 647, 652 (Fed. Cir. 1987). See also Seal-Flex, Inc. v. Athletic Track and Court Constr., 98 F.3d 1318, 1322 (Fed. Cir. 1996) (noting that the on-sale bar provides "a balance of the policies of allowing the inventor a reasonable amount of time to ascertain the commercial value of an invention, while requiring prompt entry into the patent system after sales activity has begun") (citing Envirotech Corp. v. Westech Eng’g, Inc., 904 F.2d 1571, 1574 (Fed. Cir. 1990)).
143. See id. at 67.
144. Id. at 67-68. "Reduction to practice" is a term of art in patent law that basically means that the inventor has constructed a functional version of the invention. See UMC Elecs., 816 F.2d at 652 (“Under our precedent there cannot be a reduction to practice of the invention here without a physical embodiment which includes all limitations of the claim.”); Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1376 (Fed. Cir. 1986) (“Actual reduction to practice requires that the claimed invention work for its intended purpose.”) (citation omitted). A reduction to practice does not require that the constructed version be commercially viable. See Barmag Barmer Maschinenfabrik AG v. Murata Machinery, Ltd., 731 F.2d 831, 839 (Fed. Cir. 1984) (“[C]ommercial marketability is not a requirement of reduction to practice.”).
145. A "paper patent" is a patent on an invention that has never actually been constructed. See Pfaff, 525 U.S. at 61-63 (discussing The Telephone Cases, 126 U.S. 1 (1888). In The Telephone Cases, the Supreme Court upheld Alexander Graham Bell’s patent on the telephone as valid even though he filed his application before ever
After *Pfaff*, the Federal Circuit began to redefine the "on-sale" bar in *Group One, Ltd. v. Hallmark Cards, Inc.*,146 which held that a formal commercial offer for sale is required to satisfy the first part of the *Pfaff* test.147 The court was concerned with the uncertainty attending "some more amorphous test" and therefore aspired to bring "greater certainty" to this area of the law.148 The court looked to the Supreme Court’s decision in *Pfaff*, which established the "ready for patenting" test, to determine whether the "on-sale bar" applied.149 In *Pfaff*, the Supreme Court noted that the invention must be "ready for patenting" and the subject of a "commercial offer for sale."150 Relying on this latter language, the *Group One* court decided that the use of the "commercial offer" language suggested that the Supreme Court intended that only offers in the contract sense could trigger the bar.151

In so holding, the court rejected the language in *RCA Corporation v. Data General Corporation*152 that the "on-sale bar" may arise "by a patentee’s commercial activity which does not rise to the level of a formal ‘offer’ under contract law principles."153 According to the Federal Circuit in *Group One*, this language was "unnecessary to the decision" and "non-binding dictum."154 Instead, a formal commercial offer, governed by general principles of contract law such as those articulated in the UCC, governs the "on-sale bar."155

Ironically, after writing off the language in *RCA* as dicta, the Federal Circuit relied on dicta in *Pfaff* regarding commercial offers for sale.156 Whether the Supreme Court truly intended to

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146. 254 F.3d 1041 (Fed. Cir. 2001).
147. See id. at 1047.
148. See id. at 1047-48.
149. See *Pfaff*, 525 U.S. at 67. See generally Holbrook, supra note 139 (discussing the *Pfaff* "ready for patenting test").
150. See id.
151. See *Group One*, 254 F.3d at 1046-47.
152. 887 F.2d 1056 (Fed. Cir. 1989).
153. Id. at 1062.
154. *Group One*, 254 F.3d at 1046.
155. See id. at 1047. The UCC is one tool that can be used in determining these general contract principles; other sources include treatises and the Restatement (Second) on Contracts. See infra note 201.
156. The Federal Circuit freely acknowledged *Pfaff*’s dicta: Though the Court did not elaborate on what was meant by "a commercial offer for sale"–the issue not being directly presented–the language used strongly suggests that the offer must meet the level of an offer for sale in
adopt a strict "commercial offer" criterion is unclear. In *Pfaff*, the Supreme Court noted that certainty would not be a problem for an inventor because "[a]n inventor can both understand and control the timing of the first commercial marketing of his invention." Instead of adopting a strict requirement for a formal offer, the Supreme Court may have considered commercial marketing, such as advertising, to be sufficient. *Group One* seems to continue a recent trend in Federal Circuit jurisprudence of relying upon ambiguous language in Supreme Court opinions to create binding, new precedent, regardless of the context of the language in the Supreme Court's decision.

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157. Cf. Peter D. Sabido, Group One, Ltd. V. Hallmark Cards, Inc.: The § 102(b) On-Sale Bar Bright-Line Test of Pfaff v. Wells Electronics, Inc. Just Got Brighter, 6 J. SMALL & EMERGING BUS. L. 583, 595 (2002) ("[T]he Supreme Court in *Pfaff* did not overrule Federal Circuit law by a 'strong suggestion' that a commercial offer under contract law is required for a § 102(b) offer for sale.").


While not actually changing the law, Judge Rader has suggested in a concurrence that the "experimental use" defense has been eliminated by the Supreme Court's decision in *Warner-Jenkinson*, even though the viability of such defense was never at issue in *Warner-Jenkinson*. See Embrex, Inc. v. Service Eng'g Corp., 216 F.3d 1343, 1353 (Fed. Cir. 2000) (Rader, J., concurring) ("The Supreme
In any event, the Federal Circuit has strictly adhered to this new standard in subsequent cases.\textsuperscript{160}

The parallel between these two provisions would appear obvious—offering an invention for sale is a form of infringement, whereas placing an invention on sale more than one year prior to filing the patent application renders the patent invalid. While the similarities between the two sections may be apparent, the Federal Circuit, in its early “offer to sell” jurisprudence, dismissed any reliance on “on-sale bar” law to interpret infringement concerning offers to sell.\textsuperscript{161} The court reasoned that:

The policy reasons underlying the on-sale prohibition of § 102(b) include the concern that patentees will commercialize their inventions while deferring the beginning of the statutory patent term, encouraging prompt and widespread disclosure of inventions to the public, discouraging the removal of inventions from the public domain when the public has come to rely on their ready availability, and giving investors a reasonable period to discern the potential value of the invention. These policy reasons have no resonance with § 271(a)’s statement of the rights of the patentee to exclude others from making, using, offering to sell, or selling the patented invention. Thus, “offer to sell” under § 271 cannot be treated as equivalent to “on sale” under § 102(b).\textsuperscript{162}

\textsuperscript{160} See, e.g., Linear Tech. Corp. v. Micrel, Inc., 275 F.3d 1040, 1048 (Fed. Cir. 2001); Scaltech, Inc. v. Retec/Tetra, LLC, 269 F.3d 1321, 1328 (Fed. Cir. 2001).

\textsuperscript{161} See 3D Sys., Inc. v. Aarotech Labs., Inc., 160 F.3d 1373, 1379 n.4 (Fed. Cir. 2001) (“We decline to import the authority construing the 'on sale' bar of § 102(b) . . . ”).

\textsuperscript{162} Id. (citation omitted).
Notwithstanding this rejection of the use of "on-sale bar" jurisprudence, "offer to sell" infringement and the "on-sale bar" are now coextensive with respect to what constitutes an offer—a commercial offer as defined by general contract law. The Federal Circuit also has disavowed its earlier refusal to apply "on-sale bar" methodology to § 271(a), at least with respect to what constitutes an offer. In Rotec Industries, Inc. v. Mitsubishi Corp., the court recognized that the panel in 3D Systems had rejected the importation of "on-sale bar" methodology into § 271(a), but noted that "the analysis of an 'offer to sell' under § 271(a) is consistent with the [Supreme] Court's analysis in Pfaff of § 102(b)."

District courts have subsequently used the "on-sale bar" cases and offer to sell cases interchangeably in addressing the issue of what constitutes an "offer." With respect to what constitutes an "offer to sell," the Federal Circuit has made § 271(a) coextensive with the "on-sale bar" of § 102(b) by requiring a formal commercial offer for both. The court has made clear that general contract law principles developed under federal common law, and not an individual state's contract law, are to be used to determine what constitutes an offer. A

163. See supra notes146-55 and accompanying text.
164. See Elan Corp. v. Andrx Pharms., Inc., Nos. 98-7164-CIV, 98-7057-CIV, 2002 WL 459889, at *13 n.5 (S.D. Fla. March 14, 2002) (“Yet a more recent Federal Circuit decision disagrees with 3D Sys. and holds that 'the analysis of an 'offer to sell' under § 271(a) is consistent with the Court's analysis in Pfaff of § 102(b). I agree with Rotec on this point and will look to guidance from cases interpreting § 271 as well.') (citation omitted).
165. Rotec Indus., Inc. v. Mitsubishi Corp., 215 F.3d 1246, 1254 (Fed. Cir. 2000) (“Similarly, the court rejected the argument that it might look to 'on-sale bar' analysis under 35 U.S.C. § 102(b).”).
166. Id.
167. See, e.g., Elan, 2002 WL 459889 at *16 (citing 3D Sys., 160 F.3d at 1379, an offer to sell infringement case, for support of its on-sale bar analysis).
168. See Rotec, 215 F.3d at 1254-55
This analysis (of § 102(b)) is not divergent from our § 271(a) analysis, because an offer for sale, whether made before or after a patent is applied for, or after it is granted, requires no more than a commercial offer for sale. Both sections invoke the traditional contractual analysis. Therefore, we similarly define § 271(a)'s "offer to sell" liability according to the norms of traditional contractual analysis.

Id.
169. See 3D Sys., Inc. v. Aarotech Labs., Inc., 160 F.3d 1373, 1379 (Fed. Cir. 1998) (“[T]he tort of patent infringement due to an "offer to sell" is a federal statutory creation which is not limited by California contract law."). If state contract law governed whether an invention had been offered for sale, then the federal statutory tort of infringement would vary from state to state, destroying national uniformity
description of the goods, plus a price, at a minimum is required to constitute an offer.\textsuperscript{170}

2. Comparing and Contrasting the Policies Underlying the "On-Sale Bar" and "Offer to Sell Infringement"—Is it Appropriate to Treat the Two the Same?

The Federal Circuit initially rejected using the "on-sale bar" and offer to sell infringement interchangeably.\textsuperscript{171} Subsequently, the Federal Court has retreated from this position.\textsuperscript{172} Whether or not these two doctrines should be coextensive, however, warrants further investigation.

The Federal Circuit originally opined that, because the policies underlying the two provisions differed, they should not be treated the same.\textsuperscript{173} The Federal Circuit was correct in that the two provisions do implicate different policy considerations. The "on-sale bar" is concerned with attempts by the patentees to commercialize their inventions prematurely, remove inventions that are in the public domain due to sales activity, encouraging prompt disclosure of inventions to the public, and giving inventors time to assess the commercial viability of their inventions.\textsuperscript{174} "Offer to sell" infringement, in contrast, deals with a third party violating the inventor's exclusive rights. These reasons, as articulated by the Federal Circuit to distinguish these provisions,\textsuperscript{175} are entirely unsatisfying because, in economic terms, the provisions are the same.

\textsuperscript{170} See id.
\textsuperscript{171} See id. at 1379 n.4.
\textsuperscript{172} See Rotec, 215 F.3d at 1254-55.
\textsuperscript{173} See 3D Sys., 160 F.3d at 1379 n.4.
\textsuperscript{174} See supra notes 161-62 and accompanying text.
\textsuperscript{175} The Federal Circuit specifically reasoned:

We decline to import the authority construing the "on sale" bar of § 102(b) into the "offer to sell" provision of § 271(a). The policy reasons underlying the on-sale prohibition of § 102(b) include the concern that patentees will commercialize their inventions while deferring the beginning of the statutory patent term, encouraging prompt and widespread disclosure of inventions to the public, discouraging the removal of inventions from the public domain when the public has come to rely on their ready availability, and giving investors a reasonable period to discern the potential value of an invention. These policy reasons have no resonance with § 271(a)'s statement of the rights of the patentee to exclude others from making, using, offering to sell, or selling the patented invention. Thus, "offer to sell" under § 271(a) cannot be treated as equivalent to "on sale" under § 102(b).

3D Sys., 160 F.3d at 1379 n.4 (citation omitted).
The purpose of "offer to sell" infringement is to prevent attempts by infringers to exploit the invention in contravention of the patentee's exclusive rights. This protection is to allow the patentee to recoup the costs of developing the invention. Similarly, the "overriding concern" of the "on-sale bar" is to prevent inventors from commercially exploiting the invention beyond the patent term. The "on-sale bar" prevents the patentee from extracting the value of the patent prior to actually receiving the patent, mitigated by the one-year grace period. The economics underlying the two provisions are the same. The value that the patentee extracts from the patent pre-term is the same value that an infringer inappropriately extracts during the patent term—the commercial value of the invention. Consequently, the policies identified by the Federal Circuit are an improper basis upon which to justify treating "offers to sell" and the "on-sale bar" differently.

The policies identified by the court are not the only ones implicated by "offers to sell" infringement and the "on-sale bar." In determining whether interpreting these doctrines coextensively is appropriate, the nature of the "on-sale bar" and "offer to sell" infringement should be considered. Specifically, "offer to sell" is an infringement provision concerned with providing protection to a patentee. In contrast, the "on-sale bar," is a prior art provision concerned with preventing patents

176. See id.
177. See Holbrook, supra note 139, at 944.
178. Netscape Communications Corp. v. Konrad, 295 F.3d 1315, 1323 (Fed. Cir. 2002) ("The overriding concern of the on-sale bar is an inventor's attempt to commercialize his invention beyond the statutory term.") (citing STX, LLC v. Brine, Inc., 211 F.3d 588, 590 (Fed. Cir. 2000)).
180. See 5 DONALD S. CHISUM, CHISUM ON PATENTS § 16.02[5][g], at 25-33 n.33 (Cumulative Supp. 2001); Garlepp, supra note 19 at 323.
181. See id. ("A key policy consideration underlying the on sale bar—to prevent an inventor from commercializing the invention for more than a year before filing a patent application—closely resembles the policy underlying a patentee's statutory right to exclude unauthorized sales and offers to sell: to prevent others from deriving commercial advantage from the invention without compensating the patent owner.").
182. Cf. id. at 23 (Cumulative Supp. 2001) ("To the extent that policy analysis enter into the analysis, it would seem that a patentee ought to have a remedy against (but only against) any unauthorized commercialization of his or her patented invention that is as specific and definite as the commercialization that would have started the Section 102(b) clock for filing a patent application.").
183. See infra notes 186-87 and accompanying text.
for inventions that are already in the public domain. The following subparts explore this distinction and consider the appropriate legal standards for both the "on-sale bar" and "offer to sell" infringement in light of the policies that underlie each.

a. Section 271(a) Is an Infringement Provision, Concerned with Harm to the Patentee

In all the arguments made for and against treating offers to sell on the "on-sale bar" the same, one basic argument has been overlooked—statutory interpretation. The language of the two provisions is different. Arguably, each could be construed to have a different scope. The term "offer to sell" is narrower than "on sale." The use of the term "offer" implicates the concept of the contract term. The latter, however, is silent as to offers. Prompted by the Pfaff dicta, the Federal Circuit adopted the limitation of a formal commercial offer, but previous case law shows that this is not the only interpretation. The "on-sale bar" reasonably could be construed to include more than formal offers, such as advertisements and other mere invitations for offers.

Further consideration of the purposes of these provisions suggests an initial pause in treating them as coextensive. "Offer to sell" is an infringement provision and is concerned solely with appropriation of the inventor's device. An overly broad definition of offer to sell infringement could have a chilling effect on competitors, particularly attempts to design around the patent. If something short of a commercial offer could constitute infringement, a competitor's ability to assess the marketability of a device would be limited and would risk earlier exposure to an infringement suit. This increased risk of litigation would at least marginally discourage competitors from entering the market because they would be impeded from assessing the true value of their respective products.

Infringement under the doctrine of equivalents would exacerbate this problem because modifications made to a product to avoid the patent may not be sufficient to avoid liability. Under the doctrine of equivalents, a party whose device avoids the literal scope of a patent claim may still be

184. See infra notes 188-207 and accompanying text.
liable as an infringer if the differences between her device and the patent claim are insubstantial.\textsuperscript{187} As a result, even if the competitor modified her device to avoid the patent, she could still be drawn into a lawsuit on the basis of a marketability study on a device that is not different enough from the invention claimed in the patent to avoid the doctrine of equivalents. Consequently, the risk of chilling appropriate and beneficial behavior (i.e., design arounds) counsels against an expansive interpretation of what constitutes an offer to sell.

b. The "On-Sale Bar" Is a Prior Art Provision—Severe Problems with Present Federal Circuit Jurisprudence Under § 102(b)

The "on-sale bar" is a prior art provision\textsuperscript{188} that defines what information is considered to be in the public domain with respect to assessing whether an invention is novel\textsuperscript{189} or nonobvious.\textsuperscript{190} An essential aspect of the "on-sale bar" is whether the invention should be considered in the public domain as a result of the commercial activity of the inventor.\textsuperscript{191} Advertisements—generally viewed as invitations for offers and not formal offers themselves\textsuperscript{192}—could transmit the relevant information about the invention to the public as easily as a formal commercial offer.\textsuperscript{193} Sales brochures and similar information could easily provide a description of the device that is sufficient to place the invention within the public's grasp. A formal offer would not be required. The primary question should be whether the invention is in the public domain, not whether there has been a formal commercial offer. In addition, many commercial offers may be less in the public domain because they are more likely to be party-to-party negotiations and not mere advertising. Both the language and the differing

\textsuperscript{188} See Holbrook, supra note 139, at 963-64.
\textsuperscript{191} See Holbrook, supra note 139, at 965.
\textsuperscript{192} See Elan Corp., 2002 WL 459889, at *15 (citing WILLISTON ON CONTRACTS § 4:7 (4th ed. 1990)).
\textsuperscript{193} Whether a formal commercial offer or merely an invitation for offers, the activity would still have to satisfy the "ready for patenting" standard under Pfaff. See Pfaff v. Wells Electronics, 525 U.S. 55, 67 (1998).
purposes of the "on-sale bar" and offer to sell infringement\textsuperscript{194} counsel that they should be treated differently, with the "on-sale bar" being given a broader definition, encompassing a wider range of activity.

In fact, a crafty inventor could avoid the requirement that the invention reach the level of a commercial offer to sell. As advertisements are invitations to solicit offers or to enter into a bargain, a patentee could advertise the invention. Then, if a potential consumer offered to buy the invention, and the inventor declined, technically there still has been no offer to sell, but merely an offer to buy the invention. Despite clear attempts to commercialize the device, the relevant patent claims would not be invalid under a strict reading of the Federal Circuit's "on-sale bar" test. A patentee thus would be free to advertise for a considerable length of time beyond the one year grace period with impunity because, by definition, there would be no offer to sell and only offers to buy or to negotiate.\textsuperscript{195} This hypertechnical view shows that the current test is far too narrow if the overriding concern of the "on-sale bar" is an inventor's attempt to commercialize the invention beyond the statutory term.

The Federal Circuit adopted the "commercial offer" standard in the interest of promoting predictability for application of the "on-sale bar,"\textsuperscript{196} and likely the "offer to sell" doctrine as well. Such certainty may be more elusive than the court believes. District courts have struggled with what exactly constitutes a commercial offer.\textsuperscript{197} The UCC does not define "offer" explicitly.\textsuperscript{198} Moreover, as the Federal Circuit explained,

\textsuperscript{194} See supra notes 185-93 and accompanying text.
\textsuperscript{195} One commentator has identified a number of commercial activities that a patentee could take without transgressing the bar of §102(b), such as sending samples, advertising, or distributing price lists without order forms. See Sabido, supra note 157, at 604-05. The invention could easily be within the grasp of the public at this point, and failure to invalidate the patent would undermine the role of the on-sale bar as a prior art provision. See id.
\textsuperscript{196} See Group One, Ltd. v. Hallmark Cards, Inc., 254 F.3d 1041, 1047 (Fed. Cir. 2001).
\textsuperscript{197} See infra notes 198-201 and accompanying text. The insurance industry has also struggled with this issue. See generally David A. Gauntlett, "Offer for Sale" Patent Infringement Lawsuits: New Opportunities for Insurance Coverage, New Controversies, 54 SMU L. REV. 1919 (2001). The issue has arisen as to whether infringement for an offer to sell an invention is an "advertising" injury under various insurance policies. See id.
the UCC

is a model code . . . and no body of case law has explored its provisions. Instead, it has been enacted with modifications in the several states. Thus, the body of case law from which we must draw guidance under Group One is that of the state and federal courts interpreting their individual versions of the UCC. From this body of state law, we will search for the common denominator for assistance in drafting the common law of contract that now governs the on-sale bar.199

The courts are expected to scour all of those sources of law for guidance.

In addition to all of the relevant state and federal common law, courts are "forced to resort to extra-Code contract law via § 1-103 to determine whether a party has made an offer."200 The courts have turned to a myriad of secondary sources for guidance in assessing whether a party's activities constitute a commercial offer for sale.201 Given this wide variety of sources that must be combed to ascertain what constitutes an offer, ex ante predictability for inventors who are trying to decide when they need to file their patent application is likely a dream. If trained lawyers must resort to a host of materials to assess whether there has been an offer, assuming that a technologist untrained in the law could do the same is absurd. Determining whether activities constitute a formal commercial offer is a rather complex analysis and thus does not foster predictability or certainty in either area of the law.202

Robert S. Summers, Uniform Commercial Code § 1-4 (4th ed. 1995)); Finnsugar Bioproducts, Inc v. Amalgamated Sugar Co., No. 97 C 8746, 2002 WL 460812 at *5 (N.D. Ill. March 26, 2002). See also Sabido, supra note 157, at 596 ("[The U.C.C.] does not provide any guidance on what the terms 'offer' or 'offer for sale' mean .... Thus, a court determining whether the alleged infringer has demonstrated the offer for sale prong [of the Pfaff test] will not find the U.C.C. very helpful.").


202. What constitutes a sale—let alone an "offer for sale"—is far from definite and demonstrates the considerable uncertainty that attends the "commercial offer" approach for § 271(a) and § 102(b). Under the generic formula of "general contract principles," there are a variety of standards. For example, a contract may not require delivery for there to be a sale, but a contract may require delivery for the
Additionally, from the perspective of certainty, a broader interpretation of the "on-sale bar" may in fact enhance certainty. Citing the Supreme Court’s goal in Pfaff to "bring greater certainty to the analysis of the on-sale bar," the Federal Circuit reasoned that applying contract principles would better achieve this objective because:

"[c]ourts are quite accustomed to and comfortable with determining whether a particular communication or series of communications amounts to an offer in the contract sense, and that type of determination is well established in law. In contrast, the dictum test suggested in RCA, under which something less than a formal commercial offer could still be an offer for purposes of the on-sale bar, opens up a vast sea of uncertainty, and requires a whole new mode of analysis, one whose parameters remain ill-defined.

Aside from the fact that the parameters of what constitutes a "commercial offer" also remain ill-defined, the court adopted the wrong perspective from which we should judge certainty. The Federal Circuit is concerned explicitly with the courts. But predictability in a validity contest should be concerned with the inventor. The Supreme Court’s interest in enhancing certainty was for the benefit of inventors, not judges—"[p]etitioner correctly argues that these provisions identify an interest in providing inventors with a definite standard for determining when a patent application must be filed." Most inventors likely do not have the ability to discern what constitutes a "formal" commercial offer because they may be unable to assess properly whether their commercial activity would be invalidating.

As a result, a general rule on "commercialization" would

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sale to be complete. See Leavitt, supra note 54, at 1913-14 (comparing the definitions of "contract" and "contract of sale" in Black’s Law Dictionary). The UCC, to which the Federal Circuit has referred in developing its on-sale bar and offer to sell infringement jurisprudence, also is not clear either. In fact, the UCC seems to suggest that in order for there to be a commercial sale, the object under consideration must already exist. See U.C.C. § 2-401(2); Leavitt, supra note 54, at 1917-18 (noting that the UCC sets as the default rule that there must be "physical delivery of the goods" for title to pass). But see infra notes 317-54 and accompanying text (rejecting a requirement for a physical embodiment of the invention for there to be a sale under § 271(a)).


204. Id.

205. See supra notes 196-202 and accompanying text.

provide a broader category of proscribed activity. Any commercialization activities—such as advertisements or sales brochures—would invalidate the patent. Given this broader rule, if there is any doubt by the inventor, then he or she should file the patent. Perhaps a broader commercialization standard would ensure that the patentee errs on the side of caution instead of nearing the fuzzy line of what constitutes a formal "offer." The inventor thus would be on notice if any steps are taken to commercialize the invention.207 This standard would also avoid the potential abuse of commercial offers previously identified, wherein a patentee could assess the commercial value of a patent beyond the grace period by technically never offering the invention for sale but only inviting offer through advertisement.208

C. Harmonization of U.S. Patent Law—Lessons to Be Learned from Abroad

Another, and often neglected, source for insight as to what constitutes an "offer" under offer to sell infringement is the international community. The only reason that this form of infringement was added to the United States law was to harmonize it with the rest of the world under the TRIPS Agreement.209 Consideration of how foreign jurisdictions have applied their form of "offer to sell" infringement is appropriate. This subpart discusses the law as it relates to offers to sell, or their closest analogs, in Canada and the United Kingdom.210

1. United Kingdom—"Offers to Dispose"

In the United Kingdom, the Patents Act of 1977 defines infringement in section 60. Specifically, the Act states:

Section 60. Meaning of infringement.

(1) Subject to the provisions of this section, a person infringes

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207. But see Harris Corp. v. Ericsson Inc., 194 F. Supp. 2d. 533, 546 (N.D. Tex. 2002) ("From a public policy perspective, setting a premature date when the inventor should apply for a patent by finding an ambiguous circumstance to constitute a commercial offer for sale would tend to diminish clarity."). The concern expressed by the district court with setting a premature date, however, seems misplaced. See id. That concern is mitigated by the requirement that the invention be ready for patenting. See id.

208. See supra notes 193-96 and accompanying text.

209. See supra notes 2-8 and accompanying text.

210. The author also investigated the law in Australia, but found no relevant cases.
a patent for an invention if, but only if, while the patent is in force, he does any of the following things in the United Kingdom in relation to the invention without the consent of the proprietor of the patent, that is to say—

(a) where the invention is a product, he makes, disposes of, offers to dispose of, uses or imports the product or keeps it whether for disposal or otherwise;

(c) where the invention is a process, he disposes of, offers to dispose of, uses or imports any product obtained directly by means of that process or keeps any such product whether for disposal or otherwise.211

The United Kingdom's Patents Court recognized that the "offer to dispose" language has the same interpretation "as the corresponding provisions of the European Patent Convention (EPC), the Community Patent Convention (CPC), and the Patent Co-operation Treaty (PCT)."212 This section is also concerned with harmonization, such as the United States' "offers to sell." "Practically speaking... one can go directly to the corresponding treaty provision and construe that. Our provision will have the same meaning.... No one has ever found a departure from the corresponding Treaty provision."213

In Gerber Garment Technology Inc. v. Lectra Systems Ltd.,214 the Patents Court in the United Kingdom addressed the meaning of "offer to dispose."215 The issue was whether an advertisement alone would constitute an offer to dispose of the invention.216 The accused infringer in Gerber made advertisements two years prior to the first sale of the infringing device.217 The patentee asserted that it was entitled to damages due to the price depression that such offers created.218 The infringer argued the

213. Id.
215. See id. The Federal Circuit discussed this case but rejected its holding. See Rotec Industries, Inc. v. Mitsubishi Corp., 215 F.3d 1246, 1253 (Fed. Cir. 2000) ("Of course, we must ultimately decide this issue as a matter of United States law.").
217. See id.
218. See id. See also infra notes 238-78 and accompanying text (analyzing the economic effect an infringing offer may have depending on market conditions).
distinction between an "offer" and an "invitation to treat." An offer is "an indication of terms of a contract by which the offeror will consider himself bound if the terms are accepted. Anything short of that, in pre-contractual negotiations or an advertisement, will not do." In the words of the Federal Circuit, the infringer was arguing that there must be a commercial offer for there to be infringement.

The Patents Court, however, rejected this argument. Section 60 "is derived from Article 25 of the Community Patent Convention," which grants the patentee the right to prevent unauthorized third parties "from making, offering, putting on the market, or using a product which is the subject matter of the patent." Relying on this language, the court concluded that "offer to dispose" is broader in scope than contractual offers:

A party who approaches potential customers individually or by advertisement saying he is willing to supply a machine, terms to be agreed, is offering it or putting it on the market. If that is to happen during the life of the patent he infringes. He is disturbing the patentee's monopoly which he ought not to do. So I think the early advertisements were infringements, not mere threats.

The United Kingdom has construed "offer to dispose" as including more than formal commercial offers, in contrast to the Federal Circuit's interpretation of "offers to sell" to be strictly limited to formal commercial offers. Contrary to the goal of adopting "offers to sell" an invention as infringement, the Federal Circuit has now "un-harmonized" our patent law on the international level.

2. Canada—"Vending" of an Invention

Canadian courts have also discussed whether infringing activities falling short of actual commercial offers constitute infringement. The state of the law, however, is less certain in Canada than in the United Kingdom. Presently, Canadian law grants the patentee "the exclusive right, privilege and liberty of

220. See id.
221. See Rotec Indus., Inc. v. Mitsubishi Corp., 215 F.3d 1246, 1246 (Fed. Cir. 2000).
223. See id. at 411-12 (quoting Article 25 of the CPC).
224. See id. at 412.
making, constructing and using the invention and selling it to others to be used." As a signatory to the TRIPS Agreement, Canadian law should proscribe offers to sell an invention as well, or some other comparable language. Nothing in the current Canadian statute seems to meet this requirement. Moreover, Canadian courts have not addressed the issue of whether acts that fall short of a completed sale should constitute infringement under the present Canadian law. In light of these absences, consideration of the prior Canadian Patent Act may provide insight into whether Canadian courts will consider acts that fall short of actual sales as infringing activity.

Section 46 of the 1970 Patent Act in Canada afforded the patentee "the exclusive right, privilege and liberty of making, constructing, using and vending to others to be used the said invention." In *Domco Industries Ltd. v. Mannington Mills Inc.*, all of the sales were in the United States. The patentee argued, however, that the accused infringer's activities in Canada amounted to an infringing "vending" of the invention. According to the patentee, "'vending' goes beyond actual sales and covers the promotion of sales of the product in Canada." The Canadian Federal Appeal Court, however, rejected this argument and concluded that "'vending has the same meaning as selling.'" The Appeal Court upheld the trial court's conclusion:

What the evidence demonstrates, at most, is that the defendant Mannington offered in Canada, for sale in the United States, the infringing floor covering. These were "paper offers" insofar as activities within Canadian jurisdiction are concerned as the defendant did not have possession of the infringing materials in Canada. In my view this cannot amount to offering for sale in Canada as the sale was to take place in the United States, and if it is offering in Canada for sale elsewhere that activity does not per se amount to infringement in Canada.

The Canadian court refused to interpret the patent laws to

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228. See id. at para. 7.
229. See id.
230. See id.
231. See id. at para. 18.
232. Id. at para. 7.
include anything less than an actual sale as infringement. Whether this case remains good law is questionable, however, because the court was interpreting the prior patent statute. The present law has no "vending" provision. Regardless, it does demonstrate that the Canadian perspective on the exclusive rights of a patent are more in line with that of the Federal Circuit.

Reference to the international standards of other countries does not shed conclusive light on what should constitute an offer. Canada and the United Kingdom seem to have differing perspectives on the law. In the United Kingdom, commercialization in a broader sense, such as advertising, is sufficient for infringement. While the Canadian courts have not directly addressed the issue of infringement by an offer to sell, they seem to have taken a narrower approach, requiring formal commercial offers. The United Kingdom's analysis, however, should be afforded more weight in determining the appropriate legal standard in the United States because the United Kingdom court explicitly addressed infringement for "offers to dispose," which corresponds to the United States' "offers to sell" provision. Consequently, international considerations suggest a broader interpretation of what constitutes an infringing offer than the strict requirement for a formal commercial offer, the current standard articulated by the Federal Circuit.

D. An Economic Analysis of "Offers to Sell"—Making the Punishment Fit the Crime

In addition to consideration of the "on-sale bar" and international provisions analogous to "offers to sell," another important consideration in assessing the proper scope of "offer to sell" infringement is the pecuniary impact on a patentee if another party makes an unauthorized offer to sell without actually completing the sale. This subpart evaluates the economic considerations of "offer to sell" infringement, a topic which has been overlooked by the courts and pertinent literature.

233. See id. at para. 18.
235. See id.
236. See supra note 224 and accompanying text.
237. See supra notes 231-33 and accompanying text.
1. **Assessing the Economic Consequences of an Infringing “Offer to Sell”**

What is the real harm to the patentee if someone makes a competing offer to sell, but does not actually complete the sale? At first glance, there seems to be no harm—if there is no sale, then the patentee has not lost anything. The Federal Circuit, however, has described “offer to sell” infringement as a “real act... with actual consequences... [that] subject[s] a defendant to full liability under the law.” The purpose of this form of infringement is to prevent an infringer from “generating interest in a potential infringing product to the commercial detriment of the rightful patentee.” The Federal Circuit unfortunately has yet to explain in economic terms what would be the commercial detriment. Other courts seem to believe that there is little actual harm from a mere offer to sell. At present, none of the academic literature has addressed this issue, so this article will attempt to correct this omission.

In evaluating the economic impact of an infringing offer to sell on a patentee, this subpart considers three scenarios: (1) an inventor not practicing the invention and not competing in the relevant market; (2) an inventor competing in a market with available non-infringing substitutes; and (3) an inventor competing in a market without available non-infringing substitutes.

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239. 3D Sys., Inc. v. Aarotech Labs., Inc., 160 F.3d 1373, 1379 (Fed. Cir. 1998).
240. See, e.g., American Bio Med. Corp. v. Peninsula Drug Analysis, Co., No. CIV.A. 99-218-SLR, 1999 WL 615175, at *4 n. 6 (D. Del. Aug. 3, 1999) (“Given the fact that liability under 35 U.S.C. § 271(a) can now rest on mere ‘offers to sell,’ the court is reluctant to require proof of actual sales and is not sure what other ‘tangible effect’ is contemplated.”). This issue has also arisen in the context of insurance, with the insured party arguing that “offer to sell” infringement is an “advertising” injury covered by a given insurance policy. See, e.g., Everett Assoc., Inc. v. Transcontinental Ins. Co., 57 F. Supp. 2d. 874, 884 n.8 (N.D. Cal. 1999) (“Defendant Transcontinental also argues that there could be no duty to defend because the only available remedy for ‘offer to sell’ infringement is an injunction...”); Quantum Group, Inc. v. American Sensor, Inc., No. 96 C 0761, 1998 WL 171837, at *5 (N.D. Ill. April 10, 1998) (“Specifically, Klesman contends that there is no basis on which damages could be calculated against it under theories of lost profits or reasonably royalties.”).
241. A patentee could compete either by selling the item directly or through licensees. Licensees of the patentee are considered effectively agents of the patentee for this analysis.
a. Patentees Not Utilizing the Invention

In the first scenario, the patent holder is exercising the right to exclude by prohibiting use of the invention while not practicing the invention herself. The patentee is not actually in the market for the patented or similar goods. For the non-practicing inventor, harms from offers to sell are de minimus. Because she is not in the market, the inventor has not lost sales to a competing infringer. Moreover, the patentee has incurred no marketing expenses, no start up costs, or other transaction costs to enter the market. The only expenses incurred are from the development of the invention and the cost of procuring the patent. Yet, notwithstanding the absence of true economic harm to the patent holder in this scenario, she will be entitled to a reasonable royalty, which is the floor for patent infringement damages.242

The non-utilizing inventor likely will receive a low royalty rate for damages. The reasonable royalty calculus is rather complicated,243 but one of the numerous factors included are other royalties paid to the inventor or in the market,244 which

242. See 35 U.S.C. § 284 (2003) ("Upon finding for the claimant the court shall award the claimant damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer . . . ."). See also Robert S. Frank, Jr. and Denise W. DeFranco, Patent Infringement Damages: A Brief Summary, 10 FED. CIR. B.J. 281, 281 (2000) ("Therefore, even where the patentee has not shown any harm caused by the infringement, the patentee is still entitled to the award of a reasonable royalty."); John W. Bagby, Business Method Patent Proliferation: Convergence of Transactional Analytics and Technical Sciences, 56 BUS. LAW. 423, 454-55 (2000); Mohammad S. Rahman, Patent Valuation: Impacts on Damages, 6 U. BALTIMORE INTELL. PROP. L.J. 145, 156 (1998).

Affording an exclusive right over mere offers to sell may indirectly benefit the non-utilizing patentee if the patentee intends to eventually license the patent. Persons offering an infringing invention presumably would engage in some sort of advertising or other marketing to locate potential consumers. Once the patentee locates the infringer through such marketing activities, the inventor would have the ability to enjoin the alleged sale prior to its completion, unlike under prior law-when the sale had to be complete for there to be infringement. The earlier availability of injunctive relief may allow the inventor to obtain the license more quickly than under the pre-TRIPS statute. While the non-utilizing patentee may not incur any true harm from an offer to sell the invention, such infringement may afford lower transaction costs in locating potential licensees, to the benefit of the inventor and to the public because the invention will now be utilized.


244. See id.; Rahman, supra note 242, at 156. ("Courts are likely to use established royalties, when they exist, as the best measure of compensation for the injured party.").
may be the "best measure of a reasonable royalty." This factor does not exist in the context of a non-utilizing inventor because there have been no licenses. Absent this factor in the reasonable royalty analysis, a court would find a low reasonable royalty. Because the harm to the patentee is de minimis, however, even this award could be viewed as a windfall to the patentee. As such, although the harm to non-practicing infringers is negligible, the award of reasonable royalty damages and the possible signaling effect of such infringing offers provide a pecuniary reward to the inventor.

b. Patentees in Markets Without Non-Infringing Substitutes

If a patent holder enters a market with no non-infringing substitutes for the patented good, then she possesses the only rights to the good in the market and is the sole source of the good. Traditionally, the patentee would be awarded lost profits as damages in this situation. With "offer to sell" infringement, however, there are no lost profits—no sale was completed, so the patentee did not lose a sale to the infringer. What, then, is the harm to the patentee from the infringing offer for sale?

The answer is price erosion. The patentee may be forced to lower prices to compete due to the infringer's entry into the market. Price erosion has long been recognized as a type of patent infringement damage. In *Yale Lock Manufacturing Co. v.*

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245. See Frank, supra note 242, at 291.

246. See Harold R. Brown, *Proof of Lost Profits Damages Following Rite-Hite v. Kelley*, 23 AM. INTELL. PROP. L. ASS'N Q.J. 577, 594 (1995) ("The purpose behind showing no acceptable, non-infringing alternatives is to establish that there is, in effect, a two-supplier market consisting of the patent owner and the infringer (because other infringers are excluded from consideration) so that the patent owner would probably have made the infringer's sales but for the infringement.").

247. To be awarded lost profits, the patentee generally must prove (1) demand for the patented product; (2) absence of acceptable non-infringing substitutes; (3) manufacturing and marketing capability to exploit the demand; and (4) the amount of the profits the patentee would have made. See Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1156 (6th Cir. 1978). The patentee is entitled to lost profits for the lost sales of not only goods covered by the patent but also goods not covered by the patent that compete in the same market. See Rite-Hite Corp. v. Kelley Co., Inc., 56 F.3d 1538, 1550 (Fed. Cir. 1995) (en banc).

Sargent\textsuperscript{249} in 1886, the Supreme Court recognized this potential consequence:

[The district court] confined [the] award [of damages] to the enforced reduction of price on the locks which the plaintiff sold, caused by the infringement. That this is a proper item of damages, if proved, is clear. It is a pecuniary injury caused by the infringement, and is the subject of an award of damages, although the defendant may have made no profits and the plaintiff may have had no established license fee.\textsuperscript{250}

The Yale Court dealt with price reductions due to competition via \textit{actual} sales by an infringer, not simply offers to sell.\textsuperscript{251}

An offer to sell alone, however, could cause price erosion. A patent may provide the patentee with market power sufficient to allow the patentee to charge a price higher than the competitive price,\textsuperscript{252} particularly if there are not any non-infringing substitutes that compete with the patentee’s product are on the market. Forced price reduction can occur before the infringer has made a sale, for example, by simply announcing future market entry.\textsuperscript{253} A patentee may also have to forgo any future price increase due to the infringer’s entry into the market, which would also be a compensable form of price erosion.\textsuperscript{254} A completed sale, however, would not be required for the depressive effect on price to occur.

The Federal Circuit, unknowingly foreshadowing the change in the law to include “offers to sell” as infringement, recognized that price erosion may occur before a sale is completed. A patentee may be injured prior to an infringing sale: “[w]here the infringer announces a future product and the announcement actually affects the patentee’s profits prior to the first sale of the infringing product, the patentee may be entitled to recover for those lost sales.”\textsuperscript{255} In \textit{Brooktree Corporation v. Advanced Micro Devices, Inc.},\textsuperscript{256} the patent holder argued that the infringer’s mere \textit{announcement} that it would enter the semiconductor chip market at a lower price forced a price

\begin{thebibliography}{99}
\bibitem{249} 117 U.S. 536 (1886).
\bibitem{250} \textit{Id.} at 552.
\bibitem{251} \textit{See id.} at 551-52.
\bibitem{252} \textit{See} \textit{Shehadeh and Stewart, supra} note 252, at 346.
\bibitem{253} \textit{Brown, supra} note 246, at 609-10.
\bibitem{254} \textit{See} \textit{Frank, supra} note 242, at 287-88.
\bibitem{255} \textit{See id.} at 288.
\bibitem{256} 977 F.2d 1555 (Fed. Cir. 1992).
\end{thebibliography}
The infringer objected to the award of damages for any price erosion that occurred before any infringing sales were made because the sales themselves did not cause the earlier price reduction. The Federal Circuit rejected the infringer's contention, noting that the key factor in damages is but-for causation—“losses incurred upon announcement by [the infringer] of the infringing activity may be included, when the losses are found to be reasonably related to the infringing activity.” The Federal Circuit, therefore, allowed an award of price erosion damages based on pre-sale activity.

Prior to the amendment of the patent laws to include infringement for offers to sell, recovery for pre-sale price erosion was contingent upon a subsequently completed sale, even though the patentee was pecuniarily harmed by the mere announcement of entry into the market by a competitor. In *Brooktree*, if the infringer had never completed any sales, the patentee would not have been able to recover the damages for price erosion because there never would have been an act of infringement. Infringement for offers to sell an invention eliminates this discrepancy in the patent law by affording recovery for this harm in the absence of a completed sale.

Price erosion claims may become more frequent in patent litigation. Although price erosion claims should be “endemic” to patent litigation and damage awards for price erosion should be fairly routine, its attractiveness to patentees under the prior

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257. See id. at 1578.
258. See id.
259. Id. at 1579 (emphasis added). The court concluded that there was a sufficient nexus between the pre-sale marketing activities and the infringing sales by stating:

We conclude that there was a legally sufficient evidentiary basis in the record from which a reasonable jury could have concluded that Brooktree’s price reductions were made as a result of AMD’s actual and announced marketing of the infringing chips, and, accordingly included these price reductions in the calculation of damages.

Id. at 1580-81.
260. See id. at 1580-81.
261. Cf. id. at 1578 (“AMD argues that it was improper to permit the jury to decide whether the Brooktree price reductions were ‘a result of the infringement’, and that the district court should have held as a matter of law that Brooktree’s price reductions, made before there were infringing sales, should not be included.”).
law was lessened because price erosion mitigates lost profits. The reasoning is simple—if the patentee charged a higher price, then the quantity demanded for the good would be less. In other words, the total units sold in the market would be less, and there would not be a one-for-one correlation between the sales of the infringer and the lost sales of the patentee. The lost profits awarded to the infringer would have to be reduced to reflect the decreased quantity of goods that would have been sold. As such, formerly it was “conceptually difficult for a plaintiff to pursue lost profits on lost sales and a price erosion theory in the same case.” The competing effect of price erosion on lost profits may explain the conspicuous absence of claims for price erosion damages.

The mitigating effect of price erosion vis-à-vis lost profits, however, is not present in assessing infringement liability based solely upon an offer to sell. No sale has been completed, and the infringer could not have “stolen” a sale by the patentee. The only harm to the patentee would be the reduction in the patentee’s price. Patentees, therefore, could assert claims for price erosion in the absence of a completed sale. Consequently, the attractiveness of price erosion as a form of damages may increase in the future, hopefully eliminating the dearth of legal discourse on this subject. The use of price erosion damages may remain infrequent, however, because of the availability of injunctive relief. The patentee can seek an injunction of the offer

264. See id. at 480 (“[A] lower price necessarily implies a higher quantity, other things being equal, so a necessary consequence of price erosion is ‘quantity accretion.’”); Christopher S. Marchese, Patent Infringement and Future Lost Profits Damages, ARIZ. ST. L.J. 747, 759 (1994) (“In analyzing a claim of price erosion, a court should consider that a patentee who raises prices in the absence of infringement will almost certainly experience a decrease in demand for the patented product.”).

265. See Frank, supra note 242, at 288; Shehadeh and Stewart, supra note 248, at 348 (noting that quantity demanded in competitive market would differ from a duopoly or monopolistic market).

266. See Frank, supra note 242, at 288; Bagby, supra note 242, at 455.

267. Frank, supra note 242, at 288.

268. See Epstein, supra note 262, at 368. Also, while price erosion should occur fairly routinely in patent cases, the extent of erosion may be so slight that patentees may reasonably decide not to pursue recovery. See Werden et al., supra note 263, at 482. The extent of price erosion is largely dependent on the elasticity of demand for the patented product, with more elastic demand creating more price erosion. See Marchese, supra note 264, at 759-60.

269. See supra notes 246-54 and accompanying text.

270. See Epstein, supra note 262, at 368 (noting that “[f]ew legal analyses even discuss price erosion in any detail, although this may simply reflect the lack of decided cases.”).
itself, precluding both the completion of the sale and the necessity for the patentee to lower prices. In this scenario, price erosion damages clearly would not be available and the patentee would be limited to a reasonable royalty for the infringing offer to sell.

271. See 35 U.S.C. § 283 (2003) ("The several courts having jurisdiction of cases under this title may grant injunctions in accordance with the principles of equity to prevent the violation of any right secured by patent, on such terms as the court deems reasonable.").


273. A possible harm could be a "bait and switch" technique, in which an infringer offers to sell an embodiment of the invention, then switches to a lower priced, non-infringing substitute later. See Natore Corp. v. Aquatic Renovation Sys., Inc., 99 F. Supp. 2d. 986, 990-91 (S.D. Ind. 2000); Beloit Corp. v. Valmet Corp., 44 U.S.P.Q.2d 1792, 1795-96 (W.D. Wis. 1997). To make such a switch, however, there necessarily is available a non-infringing substitute, which should be reflected in the market price, i.e., there should be a competitive market. Cf. Grain Processing Corp. v. American Maize-Pros. Co., 185 F.3d 1341, 1356 (Fed. Cir. 1999) ("[A]n acceptable substitute not on the market during the infringement may nonetheless become part of the lost profits calculus and therefore limit or preclude those damages."); Micro Chem., Inc. v. Lextron, Inc., 161 F. Supp. 2d 1187 (D. Colo. Sept. 14, 2001) (finding non-infringing substitutes when the infringer switched to a non-infringing machine after an infringement determination). The patentee in theory has lost a sale due to the infringing offer, while what eventually is sold would not infringe. See id.

It would seem odd, however, to first offer the infringing device or process only to later substitute a non-infringing device or process that is cheaper after supposedly winning the contract. The more logical approach would be to offer the non-infringing substitute first in order to bid at a lower price. Thus, the bait-and-switch risk seems low. The one exception may be if the offer was prior to the issuance of the patent. Upon discovering that the process or device infringes, the infringer would then change to a non-infringing substitute. Infringement as an
The relevant concern, however, is the effect of price erosion. As the previous subsection explained, if the patentee holds market power and there is sufficient price elasticity, then the effects of price erosion can be significant. With available non-infringing substitutes, the market power of the patentee is reduced. Price erosion in this scenario will likely be de minimis because the act of one offer to sell will not be sufficient to suppress the market price. Conceivably there could be some reduction in market price if the market is not truly competitive or more closely resembles a duopoly, but price erosion in a market with non-infringing substitutes would be slight.

In this context, then, the pecuniary harm to the patentee seems to be minimal, just as it was for the situation in which the 

"offer to sell" under this scenario, however, has been rejected. See Beloit, 44 U.S.P.Q.2d at 1796. Instead of viewing this situation as infringing, the court characterized it as laudable "designing around." Id. at 1796. As the offer preceded issuance, that initial offer could not be viewed as infringing. See id.

Another potential problem with a bidding-type process is if the bid contains technical specifications that only the patented device satisfies. Thus, everyone submitting a bid would be infringing. Seemingly, this could greatly expand the risk of infringement to all potential bidders. An interesting question would be whether courts would enforce this form of infringement if the patentee had in some way coerced or convinced the biddee to adopt the patented device as the specification. See Natare Corp., 99 F. Supp. 2d. at 986.

In this case, Natare's actions would have led to the infringement of its own patent because it induced a potential buyer to require other bidders unfamiliar with the patent to unwittingly offer to install a pool liner using the patented method. Natare's practice of persuading entities to use its specification in their bid solicitations in effect prevents anyone except Natare or its licensees from bidding on the entities' projects. We caution Natare that courts will not allow a patent holder to misuse its patent by expanding its monopoly rights beyond the lawful scope.

Id. at 993-94. It would seem questionable whether this is in fact an inappropriate expansion of the monopoly rights—the patent covers the process for which parties were bidding. The court suggested that equitable defenses—such as equitable estoppel, laches, or an implied license—may prevent a party in this situation from obtaining relief, see id. at 994, but it is unclear whether any of these doctrines would actually limit liability in this context. Laches arises when there is an unreasonable delay in bringing suit, which may or may not be the case. See A.C. Aukerman Co. v. R.L. Chaides Const. Co., 960 F.2d 1020, 1028 (Fed. Cir. 1992) (en banc). Equitable estoppel is concerned with representations made by the patentee that she does not intend to sue an infringer, upon which the infringer detrimentally relies. See id. at 1028. No such representations may be made by the patentee, which would preclude the use of the defense. It also is not clear, aside from the arguably unclean hands of the patentee, why a license should be implied by the bidding process. See id.

274. See Epstein, supra note 265, at 368; Marchese, supra note 267, at 759-60; Werden et al., supra note 263, at 482.
patentee was not practicing the invention.\textsuperscript{275} Just as in the "non-practicing" scenario, the proper damage award is a reasonable royalty.\textsuperscript{276} Unlike the situation in which the patentee is not competing in the market, here the patentee is engaged in commercial activity and may have licensed the patent. If so, then the reasonable royalty calculus would be facilitated by the actual royalties paid to the patentee by others.\textsuperscript{277} The reasonable royalty, however, would provide overcompensation because there is no true pecuniary harm from a mere offer to sell. As such, the patentee is in effect getting a windfall for his patent.

2. Implications of the Economic Analysis of Infringement through Offers to Sell

The above analysis shows that there is potential and significant pecuniary harm to patentees when a competitor offers to sell an invention, regardless of whether that sale is actually completed. Claims for price erosion damage may become more frequent over time, particularly for the period between the offer for sale and the actual sale, if it occurs. This harm, however, arises only in the situation in which the patentee has sufficient market power to set the price above the competitive level. In the context of the non-practicing patentee or in a market with non-infringing substitutes, the effects of price erosion will be greatly reduced, if not eliminated entirely.

This analysis has significant implications for the appropriate standard for an "offer" under § 271(a). Limiting this form of infringement to formal "commercial offers" does not adequately protect a patentee from price erosion. A competitor can put downward pressure on market price by simply threatening to enter the market or through a significant advertising campaign. Aside from market pressure, the presence of another competitor in the market also can eliminate information gaps between the customers and the patentee—gaps that the patentee may want to preserve in order to charge a higher price. A formal commercial offer is not required for a depressive effect on price. In order to

\textsuperscript{275} One potential injury is the cost of advertising, an issue that has arisen in the context of insurance litigation. \textit{See}, e.g., Title Homedics, Inc. v. Valley Gorge Ins. Co., No. SA CV 99-928 DOC (AN.), 1999 WL 33301457, at *2 (C.D. Cal. Oct. 29, 1999); Everett Assocs., Inc. v. Transcontinental Ins. Co., 57 F. Supp. 2d 874, 881-84 (N.D. Cal. 1999).

\textsuperscript{276} \textit{See supra} note 242 and accompanying text.

\textsuperscript{277} \textit{See supra} note 243.
effectively close the loophole in the patent laws identified by the Federal Circuit in *Brooktree*,278 limiting offers to sell to strictly commercial offers is inappropriate. That definition is underinclusive—it does not include the entire class of activity that will harm the patentee through price erosion, such as a competitor merely advertising or announcing its intent to enter the market.

E. Conclusion: “Offer” Should Be Broadly Concluded for Both Infringement and Invalidity

The above analysis is a mixed bag with regards to the proper standard for an “offer” under § 271(a) and § 102(b). This section analyzes the pros and cons of an expansive versus a narrow interpretation of both § 271(a) and § 102(b), as well as any possible benefit to treating the two provisions the same, regardless of the standard adopted.

1. “Offers to Sell”—Expansive vs. Narrow Treatment

The first question is whether “offers to sell” under § 271(a) should be interpreted to require a formal commercial offer or merely a more general form of “commercialization” that would include activity such as advertisements. Because “offer to sell” was added to § 271 to harmonize United States law with international standards,279 interpreting that statutory provision consistent with the international norms is appropriate. Although the Canadian law suggests the use of the narrower, “formal commercial offer” definition,280 the more appropriate analogy is the United Kingdom’s interpretation of “offers to dispose,” which is broad enough to cover more than just formal commercial offers.281 This approach also would appropriately tailor the scope of infringing activity to the harm involved—preventing price erosion. Price erosion can result from competitor activity that falls short of a formal commercial offer.282 An expansive view of “offers to sell” would more appropriately protect the patentee’s interests. Finally, an expansive view of “offer to sell” infringement would be consistent with Congress’ apparent interest in expanding the

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278. See supra notes 255-68 and accompanying text.
279. See supra notes 80-81 and accompanying text.
280. See supra notes 225-33 and accompanying text.
281. See supra notes 211-24 and accompanying text.
282. See supra notes 246-72 and accompanying text.
scope of patent protection, as demonstrated by its numerous additions to the exclusive rights provided by § 271.\textsuperscript{283}

Arguments for a narrow, formal commercial offer can also be made. The narrower interpretation is arguably consistent with the statutory language requiring an "offer," in contrast to the broader "on sale" language of § 102(b). A narrow interpretation of infringement would avoid the potential chilling effect that a broad definition might have on competitors' attempts at designing around the patent. Narrowly tailoring this new form of infringement would also be consistent with the courts' historical antipathy towards patents, although arguably this antipathy is antiquated and contrary to Congress' interest in expanding the scope of patent protection.

2. On-Sale Bar—Expansive vs. Narrow Treatment.

Given the intricate relationship between § 271(a) and § 102(b), consideration of the appropriate "on-sale bar" standard is warranted. Interpreting § 102(b) expansively under the RCA approach properly reflects that the "on-sale bar" is a prior art provision.\textsuperscript{284} The focus should be on what was in the public domain, as opposed to the exact nature of the transaction between the two parties. The broader definition of § 102(b) would also provide greater notice to prospective patent applicants so that they know when to file. The Federal Circuit contends that requiring "commercial offers" promotes certainty under the "on-sale bar,"\textsuperscript{285} but this conclusion is illusory. The legal standard for what constitutes a "commercial offer" is ambiguous, and a technologist likely would be unable to discern at what point her commercialization has become a formal offer.\textsuperscript{286} Little is gained with the adoption of a requirement for a formal commercial offer to sell in order to invalidate a patent.

3. Should the Standard for These Provisions Be the Same?

Another consideration in evaluating the proper standard for the "on-sale bar" and "offer to sell" infringement standards is the potential interaction between them. Regardless of the standard adopted, there may be benefits to treating the provisions similarly—or differently—that merit discussion.

\textsuperscript{283} See supra notes 33-81 and accompanying text.
\textsuperscript{284} See supra notes 152-53, 188-208 and accompanying text.
\textsuperscript{285} See supra notes 146-55 and accompanying text.
\textsuperscript{286} See supra notes 203-08 and accompanying text.
Making the two doctrines identical can simplify patent law to a certain extent. Under this model, the development of the "on-sale bar" and offer to sell infringement can develop in parallel and inform each other. In this way, practitioners could rely on the evolution of these two doctrines to help understand both, particularly if the development of one is slower than the other. Treating the two identically also would lessen any diversity and add certainty to the patent laws.

Treating the two doctrines as coextensive, however, ignores the apparent difference in the statutory language of §§ 271 and 102(b). The two provisions are not identical, suggesting they should be interpreted differently. The "on sale" language is broader than "offer to sell." From the perspective of statutory construction, treating the provisions differently may be appropriate.

4. Adopting a Broad "Commercialization" Standard for Both § 271(a) and § 102(b) Is Most Appropriate

Although there is no perfect answer to what the appropriate standards should be under § 102(b)'s "on-sale bar" and § 271(a)'s infringement for offers to sell, all of the various considerations most strongly suggest that the two provisions should be interpreted identically and should require something less than a formal commercial offer. Any attempt to commercialize the invention more than one year prior to filing a patent application would invalidate the relevant patent claims, and any commercialization during the patent term by a non-patentee would be infringing. In this manner, the two doctrines can evolve side-by-side. United States law would remain harmonized with that of the rest of the world, and patentees would be adequately protected against potential price erosion from competitors improperly entering the market. The negatives of this approach are rather minimal in contrast to the gains afforded, merely implicating interpretive canons that should be trumped in the presence of strong countervailing policy considerations. Such is the case here—the need for harmonization and for affording protection to the patentee commensurate with inflicted harm are serious policy considerations that counsel against adhering blindly to rules of

287. See supra notes 211-37 and accompanying text.
288. See supra notes 246-72 and accompanying text.
statutory interpretation. Similarly, under this standard, § 102(b)'s role as a prior art provision would be preserved, and inventors would have greater certainty as to when a patent application must be filed, if the Federal Circuit afforded a broader "commercialization" definition to the "on-sale bar."

IV. HOW COMPLETE MUST THE INVENTION BE TO FIND INFRINGEMENT?—INFRINGEMENT AS APPROPRIATION

Having concluded that an "offer" under § 271(a)—and § 102(b)—should be broadly interpreted as covering attempts to commercialize the invention, this section addresses the other side of the infringement equation. The patent must cover what is offered for sale. In the context of offers to sell, however, the question as to how one should make this assessment remains. In the past, the law required a physical embodiment of the invention for there to be infringement, making the comparison of the device to the claims rather direct. In the context of an offer, however, the question whether the infringing device must be in complete, physical form, or whether diagrams will suffice remains.

A. Judicial Interpretation of § 271(a) Requires the Physical Embodiment of an Invention for Infringement

The Federal Circuit has tried to define the metes and bounds of § 271, in assessing how complete an invention must be for there to be infringement. In analyzing this issue, the Federal Circuit has assailed the continued viability of Deepsouth Packing, Co. v. Laitram. Specifically, in Paper Converting Machine Co. v. Magna-Graphics Corp., the accused infringer had never assembled an infringing device, nor did it ever sell a completely assembled device. Instead, the accused infringer sequentially tested various parts of the "rewind" machine at issue, but never all the parts at once. The accused infringer then shipped the unassembled device to the customer with instructions not to construct the machine until two days after the patent expired.

Notwithstanding that a completely assembled device had

290. 745 F.2d 11 (Fed. Cir. 1984).
291. See id. at 14-15.
292. See id. at 15.
293. See id. at 15.
never been created during the patent term, the Federal Circuit concluded that these acts constituted infringement under § 271(a).

The Federal Circuit limited *Deepsouth* to the issue of extraterritoriality and held that only an "operable assembly" is required for infringement:

> It does seem as if the concept of an "operable assembly" put forward by Justice White in his majority opinion [in *Deepsouth*] is probably something short of a full and complete assembly; thus, if the infringer makes an "operable assembly" of the components of the patented invention, sufficient for testing, it need not be the same thing as the complete and entire invention.

The court concluded that the acts of the accused infringer constituted infringement:

> Where, as here, significant, unpatented assemblies of elements are tested during the patent term, enabling the infringer to deliver the patented combination in parts to the buyer, without testing the entire combination together as was the infringer's usual practice, testing the assemblies can be held to be in essence testing the patented combination and, hence, infringement.

The Federal Circuit thereby attempted to limit the scope of *Deepsouth* and its language regarding what constitutes direct infringement.

> This effort by the Federal Circuit, however, was short lived. Subsequently, courts have considered *Paper Converting* to be a narrow exception to the general rule that "until a device covered by a patent is actually assembled, the device has not been 'manufactured.'" The Federal Circuit itself has shied away from the broad statements in *Paper Converting*, either

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294. See id. at 19-20.
295. See id. at 17 ("Although in *Deepsouth* the Court at times used broad language in reaching its decision, it is clear that *Deepsouth* was intended to be narrowly construed as applicable only to the issue of the extraterritorial effect of the American patent law."). But see *Paper Converting*, 745 F.2d at 26 (Nies, J., dissenting in part) (dissenting vigorously from the view that *Deepsouth* was not controlling and indicating that "[t]he majority opinion is no less than a reversal of *Deepsouth*.")
296. Id. at 18 (emphasis added).
297. Id. at 19-20.
distinguishing it on narrow grounds or noting that *Deepsouth* remains the controlling authority on § 271(a). A device therefore must be in a completed, physical state in order to infringe a patent.

The Federal Circuit has yet to address the specific issue of whether a physical embodiment is required for offers to sell a patented invention. Nor has the court articulated a standard for actual, completed sales. With respect to actual sales, the district courts have had to decide cases without significant guidance from the Federal Circuit. The lower courts have generally concluded that an infringing sale requires delivery of the item—therefore a physical embodiment—for the sale to be complete. This approach is consistent with the common law definition of "sale," which required delivery. No cases have reached a contrary result, although one court has questioned the continued viability of this line of cases in light of the addition of "offers to sell" to § 271(a).

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299. See Joy Techs., Inc. v. Flakt, Inc., 6 F.3d 770, 775-76 (Fed. Cir. 1993) (concluding that *Paper Converting* is inapplicable to method claims).

300. See Murphy, supra note 66.


Given the lack of dispositive precedent on the issue, the prudent course is to engage in specific factfinding to determine when the IDE/DPR contract became enforceable and when the contemplated system was installed, and to resolve the question of whether a sale was completed, for purposes of 35 U.S.C. § 271(a), on the basis of the full transactional picture that emerges.

Id.

302. See Quality Tubing, Inc. v. Precision Tube Holdings Corp., 75 F. Supp. 2d 613, 621 (S.D. Tex. 1999) ("The negotiation and execution of a contract to sell is not, standing alone, a sale that is an act of infringement under section 271(a) and (g). The cases also require performance."); B.F. Goodrich Co. v. Aircraft Braking Sys., C.A. Nos. 91-48/91-515-SLR (Consolidated), 1994 U.S. Dist. LEXIS 21547, at *15-*18 (D. Del. Nov. 10, 1994) ("Here, defendant Allied-Signal actually entered into sales contracts for such a product. Allied-Signal has not, however, delivered any Multi-Tour brakes to any purchaser. . . . For the purposes of Section 271(a), a 'sale' is not complete until the infringing product is actually delivered to a purchaser."); Ecodyne Corp. v. Croll-Reynolds Eng'g Co., 491 F. Supp. 194, 197 (D. Conn. 1979) ("[I]n order for there to have been a sale within the meaning of 35 U.S.C. § 271(a), the entire apparatus must have been constructed and ready for use. Until the apparatus is constructed and ready for use, it cannot be clear whether infringement has taken place.").

303. See Ecodyne, 491 F. Supp. at 197. See also Leavitt, supra note 54, at 1916-18 (noting that common law and the UCC generally require delivery for a sale).

304. See Technical Mfg., 183 F. Supp. 2d at 342-43 ("Compounding the conceptual difficulty is the fact that both *Joy Technologies* and *Ecodyne* arose during an earlier period when United States patent law did not include liability for *offers to sell* infringing products . . . . ").
The Federal Circuit also has yet to establish a standard for infringing offers to sell. Some commentators have suggested that a tangible embodiment would be required for there to be infringement for an offer to sell.\textsuperscript{305} In contrast, the Federal Circuit has intimated that a physical embodiment is not necessary. The court in \textit{3D Systems} only required "a description of the allegedly infringing merchandise and the price at which it can be purchased."\textsuperscript{306} The court has never indicated that the device must be in some sort of physical form. The extent to which \textit{3D Systems} is controlling is uncertain, however, because the Federal Circuit only addressed personal jurisdiction in the case and not the actual merits of the infringement claim.\textsuperscript{307}

A second case also suggests that a physical embodiment may not be required. In \textit{Shockley v. Arcan, Inc.},\textsuperscript{308} the issue was the defense of intervening rights.\textsuperscript{309} The court rejected a defense of absolute intervening rights, which requires a "tangible article"\textsuperscript{310} regardless of whether there was an infringing offer to sell because there was no such tangible item.\textsuperscript{311} In that case, although an infringing offer to sell may have been made prior to the reissuance of the patent, the accused devices were not manufactured prior to the date of reissuance, precluding absolute intervening rights.\textsuperscript{312} By recognizing that the infringer could have infringed by offering to sell devices before they were manufactured, however, the court implicitly suggested that manufacturing of the infringing device is not a necessary precursor to infringement.\textsuperscript{313} Again, however, the court did not squarely address this issue, so this opinion merely offers insight and not binding precedent. The case does suggest that the court is heading in the direction of not requiring a physical embodiment for infringement by an offer to sell, which would be a dramatic departure from precedent.

\textsuperscript{305} Irving and Lewis, \textit{supra} note 1919, at 352 ("As under the former law, it appears that actual production of the completed infringing article is required under the new infringement provisions.").

\textsuperscript{306} See \textit{3D Sys., Inc. v. Aarotech Labs., Inc.}, 160 F.3d 1373 (Fed. Cir. 1998).

\textsuperscript{307} See \textit{id}.

\textsuperscript{308} 248 F.3d 1349 (Fed. Cir. 2001).

\textsuperscript{309} See \textit{id}. See also \textit{supra} notes 121-34 and accompanying text.

\textsuperscript{310} See \textit{Shockley}, 248 F.3d at 1360.

\textsuperscript{311} See \textit{id}. at 1360.

\textsuperscript{312} See \textit{id}.

\textsuperscript{313} See \textit{id}.
B. A Bifurcated Approach to Infringement—Eliminating the Requirement for a Physical Embodiment of the Invention for “Offers to Sell” and “Sales”

At present, case law suggests that a physical embodiment is required for there to be infringement under the three original forms of infringement listed in §271(a)—making, using, or selling. The Federal Circuit has suggested that such a requirement may not apply to infringing offers to sell the patented invention, but has yet to articulate a definitive standard. The addition of this new form of infringement creates an opportunity to reconsider how complete an invention must be for there to be infringement.

Infringement should be viewed as an appropriation of the patented invention. When infringement occurs, a third party is taking the invention from the patentee in some form without compensating her. The nature of the appropriation varies according to the infringing act. In the context of offers to sell the invention and actual sales of the invention, the appropriation is commercial. In this context, the infringer has utilized the invention for commercial gain without compensating the patentee. In the context of "making," "using," or "importing" the invention, however, the appropriation is physical use of the invention without compensation. To properly analyze infringement as appropriation, the courts should take a bifurcated approach, analyzing offers to sell and sales distinctly from the infringement analysis for making, using, or importing the invention.

1. Infringement via Offers to Sell or Sales Should Require Only an Enabling Disclosure—More Lessons from the “On-Sale Bar”

a. Appropriation of the Invention Can Occur via Offers to Sell and Actual Sales Prior to Creation of a Physical

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315. See supra notes 305-13 and accompanying text.
316. Cf. Ned A. Israelsen, Making, Using, and Selling Without Infringing: An Examination of 35 U.S.C. § 271(e) and the Experimental Use Exception to Patent Infringement, 16 AM. INTELL. PROP. L. ASS‘N Q.J. 457, 476 (1989) (“Accordingly, it is suggested that making, using, or selling under the infringement statute should be considered to occur only if the invention is practice primarily to secure the benefits thereof. When it is not, there is no infringement.”).
Embodiment

Offering to sell a product does not always require that the embodiment of the invention be in physical form. For example, a party may agree to sell an item before it is made, such as purchasing a condominium before construction. Moreover, for many devices, offers are made via specifications and requirements prior to constructing any device, particularly in situations in which the device is complicated and expensive to construct without the assurance of purchase. The economic analysis of the offer to sell form of infringement previously discussed supports the proposition that courts should consider an offer to sell infringing, even if there is no physical embodiment of the device. The primary pecuniary harm to the patentee in this context is price erosion. The erosion occurs when the competitor enters the market with advertising activities; thus price erosion is not necessarily contingent on the competitor having the device in hand.

Similarly, selling an invention should not require a physical embodiment, despite the holding in Deepsouth. Under the current interpretation of Deepsouth, which requires a physical embodiment, “sale” has been subsumed into the “making” language of § 271, an interpretation that is disfavored as a matter of statutory construction. Moreover, the Deepsouth approach

317. The same would be true for contributory infringement by an offer to sell. A person could design the part that has no non-infringing use and sell it prior to building it, thus satisfying the requirement for contributory infringement. See 35 U.S.C. § 271(c) (2003). In fact, for a non-staple item, a party likely would only have designs; if it has no non-infringing use, there likely is no market for the component in the absence of the particular contract. The producer will not make the invention or component until it has a contract to sell in hand.

318. Potential infringers could offer to sell their products nationwide, and remain immune from suit in many forums simply by arguing that the accused product was not in current inventory stock, or that they had not yet inked a supply contract for the last bold needed to make the accused product. This high-level generation of commercial interest culminating in all but a final sale of the accused product would contravene the established purposes of amending § 271(a) to include offers to sell.


320. See Rotec Indus., Inc. v. Mitsubishi Corp., 215 F.3d 1246, 1259 (Fed. Cir. 2000) (Newman, J., concurring) (“A statute is construed ... in a manner that does not render any of its provisions superfluous, contradictory, or illogical.”). See also Mackey v. Lanier Collection Agency & Serv., Inc., 486 U.S. 825, 837 (1988) (“[W]e are hesitant to adopt an interpretation of a congressional enactment which renders
is outdated. Some devices may be so complex that the sale of the invention might take place over time and not in an "instant," such as for a large plant or a satellite. It would seem that the economic appropriation of the invention via a "sale" could be realized well before actual creation of the good, suggesting that the adherence to the requirement of a physical embodiment for a finding of infringement is now antiquated. Interpreting a "sale" as infringing before there is a completed device gives independent meaning to "sale" under § 271. Courts therefore should interpret § 271(a) to include sales where the device has not actually been completed.

The strict reading of what constitutes infringement as pronounced by the Supreme Court is admittedly rooted in the historical antipathy towards patents (and the supposed monopoly afforded thereunder) by the courts. This view seems inappropriate in modern times. As the economic analysis in Part III.D. demonstrates, mere possession of a patent does not ensure a monopoly in a given market. Monopoly power instead depends on the availability of competitive substitutes for the patented good. Congress has recognized that possession of a patent does not per se guarantee monopoly power in any given market.

Consequently, the Supreme Court's antipathy towards

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321. See, e.g., Joy Techs., Inc. v. Flakt, Inc., 6 F.3d 770, 776 (Fed. Cir. 1993) (noting that the patented method required an entire plant and thus "[t]his is not a case involving assembly line production and sale of a machine designed to practice a patented method which a purchaser can be expected to put to immediate use.").

322. See, e.g., Space Systems/Loral, Inc. v. Lockheed Martin Corp., No. C 96-3418 SL 1999 WL 1278382, at *1-*2 (N.D. Cal. Dec. 21, 1999), rev'd 271 F.3d 1076 (Fed. Cir. 2001) (discussing, for on-sale bar purposes, the development of the patented satellite technology over time).

323. Accord Leavitt, supra note 54, at 1929 (rejecting UCC definition requiring delivery and concluding "[t]he best indicia of when 'selling' has already occurred is the formation of a binding contract requiring delivery of the goods.").

324. Deepsouth, 406 U.S. at 530.

325. See supra notes 238-77 and accompanying text.

326. See generally Richard Calkins, Patent Law: The Impact of the 1988 Patent Misuse Reform Act and Noerr-Pennington Doctrine on Misuse Defenses and Antitrust Counterclaims, 38 DRAKE L. REV. 175, 196-200 (1989). Congress added 35 U.S.C. § 271(d)(5) to allow a patentee to condition the sale of a patented good on the requirement that the purchaser buy a separate product, "unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned." See id. Congress accordingly allows tying arrangements where the patentee lacks market power, recognizing that a patent does not grant a per se monopoly.
patents based on its bias against monopolies\textsuperscript{327} is unfounded. The doctrine of narrowly construing the patent statutes with respect to infringement, therefore, warrants reconsideration. Congress has a different perspective, as demonstrated by its continuing expansion of the exclusive rights provided in § 271.\textsuperscript{328} In an age of computer design and modeling, requiring that an actual embodiment be sold or offered for sale is antiquated.\textsuperscript{329}

Affording patent protection for sales in which a device has not been made could create problems. For instance, until there is delivery, whether the device or good sold infringes is uncertain because the seller could change the item to make it non-infringing.\textsuperscript{330} This concern is minimal and its reasoning is circular—changing the device after the contract is formed is only "non-infringing" if the infringing activity requires a physical embodiment. If a physical embodiment is not required, then there already has been infringement. Moreover, the concerns raised by this issue can be properly addressed through the remedy in a given case. For example, for an "offer to sell," the primary harm would be price erosion, but this harm only arises if there are no non-infringing substitutes for the patented good.\textsuperscript{331} To be able to deviate from the contract specification would require the existence of non-infringing substitutes. As noted above, the harm to the patentee in the presence of non-infringing substitutes would then be de minimis: a court would issue an injunction, but the infringer could simply shift to a non-infringing alternative. Similarly, in the case of a sale, if there are non-infringing substitutes, the infringer could make the substitution, and the harm would be de minimis to the patentee; she would still be entitled to an injunction, but the court could

\textsuperscript{327} See supra notes 49-51 and accompanying text.
\textsuperscript{328} See supra notes 56-81 and accompanying text.
\textsuperscript{329} Cf. Holbrook, supra note 139, at 971-72 ("Computer-assisted design software permits extensive and complicated modeling of various apparatuses, processes and combinations. It would indeed seem bizarre in this modern setting to require that every invention, regardless of the nature of the technology involved in the invention, be physically constructed before it would be considered patentable.").
\textsuperscript{330} See, e.g., Joy Techs., Inc. v. Flakt, Inc., 6 F.3d 770, 776 (Fed. Cir. 1993) ("Further, it is possible that in the interim between contracting for the construction of a plant and actually building the new plant, a new development will lead to a change in design and Flakt will never actually build a plant capable of performing the patented process."); Ecodyne, 491 F. Supp. at 197 ("[D]efendant may breach its contract and produce something entirely different or nothing at all. In that event, infringement will never have taken place.").
\textsuperscript{331} See supra notes 246-70 and accompanying text.
allow the switch if equity so warrants. Regardless, in a market with non-infringing substitutes, the infringer simply should have offered a non-infringing substitute.

b. Requiring an Enabling Disclosure for Infringement—Incorporation of the "Ready for Patenting Test" from the "On-Sale Bar" Doctrine

The reality that an invention can be economically appropriated before the creation of a physical embodiment warrants reconsideration of infringement for offers to sell and actual sales. Infringement still requires the claims to read on the infringing device. There still must be some metric against which infringement is measured in the absence of the physical object itself. The "on-sale bar" offers some guidance and an appropriate standard for measuring infringement without a physical embodiment.

The Supreme Court has recognized the reality that an invention can "exist" before it is physically constructed in the context of the "on-sale bar" of § 102(b). For the "on-sale bar" to apply, two conditions must be met: there must be a commercial offer for sale and the invention must be ready for patenting. The second condition is relevant in assessing the proper standard for "paper infringement" under § 271(a) for a sale or an offer to sell.

To prove that an invention is "ready for patenting" under the "on-sale bar," an accused infringer must demonstrate that, before the critical date, either the invention was reduced to practice or that the inventor had prepared drawings or other descriptions of the invention that were sufficient to enable a person skilled in the relevant technological field to practice the invention. The Court thus recognized, in the "on-sale bar" context, that requiring a physical embodiment was not necessary

332. The patentee in either of these scenarios would be entitled to a reasonable royalty under § 284. See Bagby, supra note 242; Frank, supra note 242; Rahan, supra note 242. The reasonable royalty referred to here would be practically nothing, however, given that there has been no real use of the invention if there has simply been an offer to sell or a sales contract without delivery.
334. See id.
335. Reduction to practice requires a physical embodiment of the invention. See supra note 144 and accompanying text.
336. See Pfaff, 525 U.S. at 67-68.
for there to have been an “invention” under § 102(b).337

The analogies to “offer to sell” infringement become clear. If an embodiment of an invention can be considered “on sale,” i.e., offered for sale, in the context of § 102(b) when it exists only on paper, there is no reason that an embodiment of an invention should not be considered as having been “offered for sale” under § 271(a).338 One of the policy concerns of the “on-sale bar,” allowing a patentee effectively to extend the term of the patent by commercially exploiting the patent pre-term, is identical to the commercial benefit gained by a would-be infringer by offering to sell the invention. That which the patentee cannot do before the critical date, an infringer should not be able to do during the patent term.

Similarly, there is no reason to distinguish between offers to sell and actual sales. Given the requirement of § 271(i) that an “offer to sell” is only infringing if the contemplated sale will occur during the patent term,339 defining when there is a “sale” of the patent becomes crucial. The important harm is the economic appropriation of the invention. The invention in either context can be appropriated even if the device has yet to be constructed. Accordingly, infringement via actual sales should be treated in the same fashion as offers to sell, and any requirement for an embodiment of the device should be rejected.340

Given the clear analogies to “on-sale bar” law, the Federal Circuit should use that law in evaluating whether there has been infringement via an offer to sell or a sale of an invention. Further, the court should require an enabling disclosure-

337. See id.
338. See 5 CHISUM ON PATENTS § 16.02[3][g], at 29 (Cumulative Supp. 2001) (“One can transfer this test [i.e., the Pfaff test] directly to ‘offer to sell.’”).
339. See 35 U.S.C. § 271(i) (2003) (“As used in this section, an ‘offer for sale’ or an ‘offer to sell’ by a person other than the patentee, or any designee of the patentee, is that in which the sale will occur before the expiration of the term of the patent.”). The statute offers no definition of “sale.” See id. at § 271.
340. Admittedly, this change in the law could afford patentees significant benefits towards the end of the patent term. See Leavitt, supra note 54, at 1904-05 (“As a result, patent holders lose profits from sales that otherwise would accrue to them near the end of the patent life.”). In conjunction with “offer to sell,” if the offer is accepted, completing the sale, but no delivery is scheduled until after the patent expiration, there would be infringement under the approached articulated in this article. In the past, such activities would not have constituted infringement, and the patentee would have lost compensation for an appropriation of her invention that took place during the patent term.
diagrams and evidence surrounding the offer that would allow one of ordinary skill in the art to practice the invention pursuant to 35 U.S.C. § 112, ¶ 1—for there to be infringement via offers to sell or actual sales.

The present “operable assembly” standard of Paper Converting has added an element of uncertainty to this area of the law. The definition of “operable assembly” as “something short of a full and complete assembly” seems strikingly similar to the standard formerly applied by the Federal Circuit for the “on-sale bar”—the “substantially complete” standard. Prior to the Supreme Court’s decision in Pfaff, the Federal Circuit required that an invention be “substantially completed ... with reason to expect that it would work for its intended purpose upon completion.” Like the “operable assembly” language of Paper Converting, an invention could be considered “on sale” for purposes of the statutory bar of § 102(b) even if the invention was not reduced to practice. So long as there was a fair amount of confidence that it would work, i.e., by testing various unassembled components, then the bar would apply. The Supreme Court criticized this standard as “seriously undermin[ing] the interest in certainty.” The same argument can be made with respect to the “operable assembly” standard of Paper Converting—it would be difficult for infringers and patentees alike to ascertain when a device should be considered “complete enough” to constitute infringement. Adoption of an enablement standard would add more precision to this inquiry. If the disassembled components were in a state so as to enable one of ordinary skill in the art to construct the invention readily, perhaps if accompanied by assembly instructions, then there should be infringement. By requiring an enabling disclosure of the accused device, courts should be able to assess

343. Id.
344. See id.
346. See Stuart Watt, Patent Infringement: Redefining the 'Making' Standard to Include Partial Assemblies: Paper Converting Machine Co. v. Magna-Graphics Corp., 745 F.2d 11 (Fed. Cir. 1984), 60 WASH. L. REV. 889, 908 (1985) (“Paper Converting's standard is uncertain and leads to a more subjective test for judging infringing activity. Substantial manufacture requires a guess by the court that the object as assembled will infringe in final form.”).
whether the limitations of the claims at issue have been literally satisfied.

A potential problem of finding infringement without a physical embodiment arises in the context of the doctrine of equivalents. A patent can be infringed even when the limitations of the patent’s claims are not met exactly. When the infringing item is not identical to what is claimed, but is only insubstantially different, the device is said to infringe under the doctrine of equivalents. 347 It would be a challenge to assess whether a difference is substantial or not based on a paper record. On its face, the analogy between offers for sale to the “on-sale bar” seems to break down.

The “on-sale bar” applies not only in the context in which what is offered for sale is exactly what is claimed in the patent; it also applies if what is offered for sale renders the claimed invention obvious, through the conjunctive use of §§ 102(b) and 103. 348 In order to obtain a patent, an invention cannot be obvious to one of ordinary skill in the relevant technological field. 349 Even if what is claimed in the patent is not identical to what is in the public domain, the inventor cannot obtain a patent on the invention if it is a trivial or simple advance over the current state of the art. This doctrine applies to the “on-sale bar” as well, which precludes patentability “if one of ordinary skill in the technological area, looking at what was offered for sale, would readily come up with the claimed invention.” 350

One could approach infringement under the doctrine of equivalents by drawing a comparison to the use of obviousness in the “on-sale bar.” If the change made to the device accused of

347. See, e.g., Dawn Equip. Co. v. Kentucky Farms Inc., 140 F.3d 1009, 1016 (Fed. Cir. 1998). A simplistic way of thinking of the doctrine of equivalents is that, although the accused device is not identical to what is claimed in the patent, the variation between the device and the claim limitations are “close enough” for the court to view the device as infringing. See id. One way to assess whether the difference between the patent claim and the allegedly infringing device is insubstantial is to assess whether the element in the accused device component performs substantially the same function in substantially the same way to yield substantially the same result as the claim limitation. See Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 39-40 (1997).


350. Holbrook, supra note 139, at 938.
infringing would be viewed as "obvious," then it would be considered an insubstantial difference, infringing under the doctrine of equivalents. This analogy between obviousness and the doctrine of equivalents has been drawn in the past.\textsuperscript{351} It is undisputed, however, that the obviousness test and the test for equivalency are separate and distinct.\textsuperscript{352} This factor is not really a problem, however, because the traditional equivalency analysis could be applied. If the disclosure is enabling, then there should be sufficient information to determine how the accused device works, and whether any given element of the allegedly infringing device performs substantially the same function in substantially the same way to yield substantially the same result as the relevant claim limitation.\textsuperscript{353} Accordingly, an assessment of infringement in the context of "paper infringement" should not be difficult if infringement requires an enabling disclosure.\textsuperscript{354}

2. "Making," "Using," or "Importing" an Invention Under § 271(a) Should Require a Complete Physical Embodiment

In contrast to the situation of "offers to sell" and "actual sales," infringement for "making," "using," or "importing" an invention under § 271(a) should retain the requirement for a physical embodiment of the patented invention. The plain meaning of the words suggest that, as a matter of statutory construction, there needs to be a tangible form of the device.\textsuperscript{355}

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{351} See Roston Barrier, Inc. v. Stanley Works, 79 F.3d 1112, 1128 (Fed. Cir. 1996) (Nies, J., additional views) ("A substitution in a patented invention cannot be both nonobvious and insubstantial. I would apply nonobviousness as the test for the 'insubstantial change' requirement of Hilton Davis.").
\item \textsuperscript{352} See National Presto Indus., Inc. v. West Bend Co., 76 F.3d 1185, 1191 (Fed. Cir. 1996) ("The grant of a separate patent on the accused device does not automatically avoid infringement, either literal or by equivalency.").
\item \textsuperscript{354} See Holbrook, \textit{supra} note 139, at 967-74 (arguing that the enablement standard of § 112, ¶ 1 should be used for the on-sale bar analysis). The incorporation of enablement into the on-sale bar has subsequently been adopted by the courts. \textit{See} Space Systems/Loral, Inc. v. Lockheed Martin Corp., 271 F.3d 1076, 1080 (Fed. Cir. 2001) ("[W]hen development and verification are needed in order to prepare a patent application that complies with § 112, the invention is not yet ready for patenting."). The enabling standard for infringement would be the same as § 112, ¶ 1 as well.
\item \textsuperscript{355} See 35 U.S.C. § 271(a) (2003). Whether that device needs to be completely assembled is a different question. \textit{See infra} notes 341-45 and accompanying text (arguing that infringement should be determined by an enablement standard and not be a "completeness" standard).
\end{enumerate}
\end{footnotesize}
"Making" would mean to create the invention in physical form. Webster's Dictionary defines "to make" as "to cause to exist, occur, or appear" or "to put together from components." Webster's Dictionary defines "to use" as "the act or practice of employing something." Webster's Dictionary defines "importing" as a recent addition to the law. Generally, a complete embodiment should be required for the invention to be appropriated in this context as well. "Importation" of a design should not constitute infringement because no pecuniary loss has occurred. The importation harm accrues only if there is an embodiment of the invention. Moreover, the importation of unassembled parts should not constitute infringement, as the device has yet to be appropriated. If the parts are later assembled in the United States, then there would be infringement for making the device. If the importation is pursuant to a sale in the United States, then there would be an infringing sale subject to the proposed enablement standard. Importation of the invention, therefore, should require a complete embodiment; other possible variations would be covered by the other infringement provisions.

In order to infringe by "making," "using," or "importing" the patented device, a physical embodiment should still be required. Only in this sense could there be an appropriation of the invention. The creation of enabling diagrams does not mean that the infringer has made, used, or imported the invention because nothing of the inventor's has been appropriated. To the contrary, finding an infringing use absent a physical embodiment would undermine another important policy component of the patent system—designing around patents. A competitor would be greatly inhibited from designing around a patent if the mere generation of design diagrams could constitute infringement for "making," "using," or "importing."

357. Id. at 1279.
358. The language regarding imports was added at the same time as "offer to sell." See URAA, supra note 2, at 4815.
359. See Read Corp. v. Portec, Inc., 970 F.2d 816, 828 (Fed. Cir. 1992) ("We have often noted that one of the benefits of the patent system is the incentive it provides for 'designing around' patented inventions, thus creating new innovations.").
How else could the competitor evaluate the invention and potential alternatives? Given the nature of the terms "make," "use," and "import" and significant design-around considerations, the concept of appropriating the invention through these forms of infringement necessarily requires a physical embodiment of the invention for a finding of infringement. Otherwise the uncertainty that attends the odd standard of *Paper Converting* would persist.

C. Examples in Which the Patent Law is Already Diverging from the Strict Deepsouth Requirement of a Physical Embodiment

The departure from requiring a tangible embodiment of a device in order for there to be infringement for an offer to sell a sale may seem radical to some. As a practical matter, proving infringement in court would be difficult. Infringement would amount to "paper" infringement or a mere comparison of the patent claims to a writing or diagram rather than an actual device. The reality is, however, that the patent system already has examples of infringement in which the completed embodiment has yet to be created. As a result, it is clear that our patent system could handle this new approach to infringement.

1. ANDA Litigation

Paper infringement already exists in U.S. patent law, in pharmaceutical litigation over abbreviated new drug applications (ANDAs) filed with the FDA by generic pharmaceutical manufacturers. To promote a more complete understanding of this process, this subpart offers a brief overview of this extremely complicated statutory mechanism.

360. In the context of pharmaceuticals, one commentator has suggested that computer-aided designs should constitute infringement even if the drug has never been physically made or used, existing only in cyberspace. See Ted L. Field, *Computer-Aided Drug Design Using Patented Compounds: Infringement in Cyberspace?*, 34 J. MARSHALL L. REV. 1001, 1019-23 (2001). This approach gives little weight to the significance that designing around plays in our patent system by fostering even greater innovation. See id. The risk of chilling such design around strongly counsels against allowing the "make" or "use" standard to include non-physical embodiments because competitors would have no ability to weigh the technical merits of the invention, even by making a mere drawing on a napkin. See id.

361. See infra notes 362-87 and accompanying text.

362. See, e.g., Bayer AG v. Schein Pharms., Inc., 301 F.3d 1306, 1311 (Fed. Cir. 2002); Abbott Labs. v. TorPharm, Inc., 300 F.3d 1367, 1373 (Fed. Cir. 2002);
As a result of the Hatch-Waxman Act of 1984, patent holders can sue competing drug companies for infringement prior to actual sales or offers to sell the patented drug. A generic drug company that wants to manufacture and market a generic version of a drug that the FDA has already approved may do so by submitting an ANDA to the FDA instead of having to file a complete, exhaustive new drug application. Often brand-name manufacturers have patents on a given drug. If any of these patents have yet to expire, the generic company must certify either that it will not enter the market until the patents expire or that the relevant patent is invalid, unenforceable, or will not be infringed by the generic company’s drug. If the generic manufacturer certifies that the patent is invalid, unenforceable, or will not be infringed, then the generic manufacturer must notify the patentee as such. The patent owner then has forty-five days to sue for patent infringement based on the filing of the ANDA. Even though there has been no marketing or selling of the drug, merely filing an ANDA constitutes infringement and provides a jurisdictional basis for bringing suit.

The Supreme Court has noted that “[t]he function of the paragraphs in question is to define a new (and somewhat artificial) act of infringement for a very limited and technical purpose that relates only to certain drug applications.” One can easily see why the act of infringement is filing a form with the FDA. The infringement analysis becomes somewhat difficult because “a specific infringing composition has not yet been made, used or sold, and is thus not necessarily available for a

364. See id.
365. See Glaxo, 110 F.3d at 1568.
366. See id. at 1568-69. The Hatch-Waxman Act requires the patent holders to file these patents with the FDA. They are listed in what has come to be known as the “Orange Book.” See id. By consulting the Orange Book, generic manufacturers have notice of what patents cover the approved drug. See id.
368. See Glaxo, 110 F.3d at 1569. See also 35 U.S.C. § 271(e)(2) (noting that mere filing of an application is an act of infringement).
369. See Glaxo, 110 F.3d at 1569.
court to compare to the claims." 371 There is accordingly a "future aspect" 372 to these cases because the supposed infringing drug has yet to be produced. The court must determine "whether, if the drug were approved based upon the ANDA, the manufacture, use, or sale of that drug would infringe the patent in the conventional sense." 373 The materials that can be considered include the ANDA itself and the materials that are submitted to the FDA in support of the ANDA. 374 Generally, the contents of the ANDA, mere paper filings, are sufficient for the infringement analysis. 375 As the Federal Circuit has noted, "[b]ecause drug manufacturers are bound by strict statutory provisions to sell only those products that comport with the ANDA's description of the drug, an ANDA specification defining a proposed generic drug in a manner that directly addresses the issue of infringement will control the inquiry." 376

The similarities between ANDA litigation and infringement for offers to sell and actual sales are apparent. The assessment of whether the accused device infringes would be based on either the papers surrounding the sale or the offer to sell. The courts can readily deal with this "paper infringement" in the context of ANDA litigation. Thus, there is no reason to suspect that they would be unable to do so in the case of a sale or an offer to sell infringement analysis under § 271(a). The test proposed here would cabin any possible concern about the state of development of an infringing device by requiring that these disclosures be enabling to one of ordinary skill in the art. If someone of ordinary skill in the technological field could read the information regarding the device that has been offered for sale or has been sold and could readily build the device, then it would be sufficient for a finding of infringement.

2. Infringement Under § 271(f)(2)

The Federal Circuit also has adopted a standard that does not require the complete physical embodiment of the invention in order to find infringement in its interpretation of § 271(f). As

371. Glaxo, 110 F.3d at 1569.
372. See id.
373. Id.
374. See id.
376. Id.
previously discussed, § 271(f) was added to the patent statute to overrule part of *Deepsouth*. 377 A party is liable for infringement under § 271(f)(2) if it supplies a part of an invention that is “specially made” for the invention and is not “a staple article or commodity of commerce suitable for substantial noninfringing use.” 378 The component must be “uncombined in whole or in part,” and the accused infringer must know that the device is specially made and “intend[ ] that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States.” 379 The question that arose from the addition of § 271(f) was whether the device actually had to be assembled outside of the United States in order for there to be infringement. 380 If the components were simply sent overseas but never assembled during the patent term, would there be liability for infringement?

In *Waymark Corp. v. Porta Systems Corp.*, 381 the Federal Circuit answered this question in the affirmative in which the accused infringer had sent components overseas to be assembled into an allegedly infringing device. 382 Once the suit was filed, however, the accused infringer ceased all work on the project and never built a working, infringing system. 383 Although the court recognized that “infringement without a completed infringing embodiment is not the norm in patent law,” the court nevertheless rejected the argument that the lack of assembly precluded liability for infringement. 384 All that is necessary under § 271(f) is the intent to make the combination, regardless of whether the components are ever actually assembled. 385 The court compared this scenario to that of offers to sell under § 271(a) in that “shipping components of an invention abroad without combining them is no more an attempt than offering to

377. See *supra* notes 63-66 and accompanying text.
378. 35 U.S.C. § 271(f)(2) (2003). The requirement for a substantial non-infringing use is simple. See *id*. If the component has another use, then there is no reason to presume that it will be used in a device abroad if that device were assembled in the United States. See *id*.
379. *Id*.
380. See *infra* notes 381-87 and accompanying text.
381. 245 F.3d 1364 (Fed. Cir. 2001).
382. See *id*. at 1365.
383. See *id*.
384. *Id*. at 1368-69.
385. See *id*. at 1368.
sell an invention without actually selling it."\textsuperscript{386} The court allowed for infringement even though the completed machine had not been assembled.\textsuperscript{387}

The implications for the expansion of patent infringement articulated in this article are clear. \textit{Waymark} allowed liability for the export of parts of an infringing device, regardless of whether the device was assembled and arguably regardless of whether the other parts needed to assemble the machine had actually been manufactured.\textsuperscript{388} \textit{Waymark} is a vast departure from \textit{Deepsouth}, which focused on the requirement of assembly of a device for which all of the components had been manufactured.\textsuperscript{389} \textit{Waymark} is more akin to \textit{Paper Converting}, but it does differ significantly. All of the components of the machine in \textit{Paper Converting} had been created, but had yet to be assembled.\textsuperscript{390} Under \textit{Waymark}, there could be infringement without the remaining components having been manufactured.\textsuperscript{391} Under this reasoning, the court could allow infringement for a device that does not physically exist in its entirety in either assembled or unassembled form.

Consequently, the Federal Circuit has shown a willingness to expand infringement analysis beyond the traditional limits, which required the existence of an operable embodiment. In light of this willingness, the new standard articulated in this article is not nearly as radical as it may appear on its face. Thus, the court system should be able to assess infringement for a sale

\textsuperscript{386} \textit{Id.} As part of its reasoning, the Federal Circuit feared that requiring overseas assemblage would "pose the appearance of giving extraterritorial effect to United States patent protection." \textit{Id.} (quoting \textit{Paper Converting}, 745 F.2d at 17). This assertion is erroneous. By not requiring assembly, the court has now \textit{broadened} the category of behavior that is viewed as infringing, providing even more extraterritorial consequences as a result of U.S. patent law. \textit{See} Beckner, supra note 19, at 832 ("Nevertheless, the U.S. patent is infringed on a mere showing that the alleged infringer shipped components and had knowledge of the patent. Thus, \textit{Waymark}'s 'no assembly required' rule effectively extends the extraterritorial reach of the U.S. patent law beyond U.S. territorial limits."). There may be infringement even if the components are assembled after the patent expires or if they are never assembled.

\textsuperscript{387} \textit{Waymark}, 245 F.3d at 1368. The appeal was from a summary judgment of non-infringement, so the court remanded the case for further consideration of the infringement question in light of the proper construction of § 271(f). \textit{See} \textit{id.} at 1369.

\textsuperscript{388} \textit{See id.} at 1368-69.

\textsuperscript{389} \textit{See} Deepsouth Packing Co. v. Laitram Corp., 406 U.S. 518, 529 (1972).


\textsuperscript{391} \textit{See Waymark}, 245 F.3d at 1368-69.
or offer to sell a device based on an enabling disclosure of the device.

D. Conclusions as to the Proper Scope of Infringement Under § 271(a)

The addition of infringement for offers to sell a patented invention merits the reconsideration of the present standards of infringement. In viewing infringement as appropriation of the invention, "making," "using," or "importing" the invention still contemplates an actual appropriation of the invention itself, and therefore requiring a complete physical embodiment of a device is appropriate. The severe chilling effect that could attend expanding infringement for making or using the invention to include a mere enabling disclosure strongly warrants against changing the standard.

The situation for offers to sell and sales is different. The appropriation of the invention for these forms of infringement is the economic value of the invention. Economic harm can accrue before the invention is in a physically completed form. Price erosion potentially could occur before the device is built, particularly in a bidding context in which the contract is for construction of the device. Sales can also remove value from the patent before there is a tangible embodiment of the invention. Requiring an enabling disclosure for infringement would better protect the economic value of the patent for the patentee. The Federal Circuit has suggested that an embodiment will not be required for offers to sell, and there is no reason that actual sales should be treated differently. Given the expansive view of infringement by Congress, as shown by the continual expansion of exclusive rights under § 271, and the already demonstrated ability of courts to deal with infringement in the absence of a tangible embodiment, as shown by ANDA litigation and the interpretation afforded § 271(f)(2), little fear should attend in making this step.

V. CONCLUSION

The amendment of § 271(a) to include "offers to sell" a patented device as a form of infringement occurred with little

392. See supra notes 246-72 and accompanying text.
393. See supra notes 305-13 and accompanying text.
This article corrects some of the legislative oversights from that amendment and demonstrates that the impact of this new form of infringement could be extremely significant. The opportunity for parties to claim price erosion as a form of damages has the potential to alleviate the dearth of case law and literature on the subject. In order to protect the patentee adequately, this form of infringement should cover a wide variety of commercial activities and not just formal commercial offers. This form of infringement also provides the opportunity to re-think perspectives on infringement. There is no reason to continue to adhere to the antiquated notion that there can be infringement only when there is a physical embodiment of the patented device.

The lessons learned from the analysis of the "offer to sell" have implications well beyond this provision itself. Its juxtaposition to the "on-sale bar" sheds light on the fact that, as presently interpreted, the "on-sale bar" doctrine is erroneous. A standard of general commercialization, instead of requiring a formal commercial offer, would better effectuate the policies underlying both doctrines. From the perspective of "offers to sell" under § 271(a), the broader interpretation would ensure that United States laws are harmonized with the international community and that the scope of infringement is sufficient to redress the economic harm inflicted upon the patentee by the infringing offer. For the "on-sale bar," predictability for inventors would be enhanced by the use of the RCA commercialization standard instead of the present requirement of a commercial offer.

Finally, and perhaps most profoundly, the analysis of "offer to sell" infringement via an infringing good should eliminate the vestigies of requiring tangible, working embodiments of an invention for there to be infringement through commercial appropriation of an invention. So long as there is an enabling disclosure surrounding the offer to sell or the actual sale of the invention, then the proper infringement analysis can be performed. The law has already stepped significantly away

394. See supra notes 80-81 and accompanying text.
395. See supra notes 287-88 and accompanying text.
396. See supra notes 209-37, 287 and accompanying text.
397. See supra notes 246-72, 288 and accompanying text.
398. See supra notes 284-88 and accompanying text.
399. See supra notes 317-54 and accompanying text.
from the aging standard articulated in *Deepsouth*, as evidenced by ANDA litigation and the Federal Circuit’s interpretation of § 271(f)(2). Consequently, there is no reason to continue to adhere to an anachronistic standard predicated on the false belief that patents afford monopoly power to the patentee and that belies modern technology. It is time to bring patent infringement into the modern era.

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400. *See supra* notes 361-91 and accompanying text.