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Fall October 28, 2008

Hiding Behind Reciprocity: The Temporary Presence Exception and Patent Infringement Avoidance

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HIDING BEHIND NATIONALITY: THE TEMPORARY PRESENCE EXCEPTION AND PATENT INFRINGEMENT AVOIDANCE

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Cite as: J. Jonas Anderson,
Hiding Behind Nationality: The Temporary Presence Exception and Patent Infringement Avoidance
15 MICH. TELECOMM. TECH. L. REV. 1 (2008),
available at http://www.mttlr.org/volfifteen/anderson.pdf

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INTRODUCTION

Patent law is territorially confined within national borders. Generally, a patentee can exclude anyone from using, making, selling, or offering to sell his invention, but only when that infringing act occurs in the same country in which the invention is patented. U.S. patents, for example, do not confer rights of action against those who infringe outside the borders of the United States. Similar territoriality principles govern the patent laws of other nations as well. In this sense, patent law is national in character; to enforce patent rights in a specific country, an invention must be patented in that country.

While patents and patent law are limited territorially, modern technology is becoming increasingly transnational. As a result, judicial and legislative bodies across the world have grappled with the extent to which the territoriality of patent law should be extended in order to properly protect investments in patented technology. The expansion of patent territoriality has caused concern among numerous commentators. Many commentators have objected to this expansion on comity grounds and have taken the extraterritorial extension of domestic patent jurisdiction in various countries as an opportunity to renew calls for international patent law harmonization.

The existence of and increase in transnational technologies does not, however, necessitate an expansion of traditional territorial patent limits. In fact, when faced with the rise of international transportation in the early twentieth century, the international community responded by reducing, not increasing, the scope of domestic patent rights: an exception from patent infringement was created for conveyances involved in international trade entering another country "temporarily or accidentally." The "temporary presence exception," as it has come to be known, finds its intellectual origins in nineteenth century English law. The exception was later adopted by the Supreme Court of the United States and thereafter adopted internationally in the Paris Convention for the Protection of Intellectual Property. Throughout the exception's history, there have been two primary policy objectives that have informed the exception's use, namely, (1) to eliminate the ability of private citizens to detain conveyances of international commerce in foreign ports by bringing patent infringement actions, and (2) to place international conveyances outside of the reach of every domestic patent system except for the conveyance's home patent system.

In essence, the temporary presence exception cedes a small portion of the rights usually conferred to individual patentees (namely, the right to enforce a patent against foreign conveyances) in exchange for reduced patent adherence costs for international conveyances (in the form of re-

duced patent informational costs and reduced international patent liability). The exception effectively reduces the territorial scope of a patent in such a way that the unauthorized use of a patented technology in a conveyance engaged in international trade is not actionable, even if the use occurs within the country in which the patent issued.

To avoid liability under the temporary presence exception, foreign conveyances must meet certain conditions. First, they must be vessels, aircraft, or land vehicles. Second, they must enter another Paris Convention country on a temporary or accidental basis. Lastly, the patented device must be used exclusively for the needs of the conveyance. Every court that has interpreted the exception has determined that regular, extended entrances into a foreign country are "temporary" for purposes of the exception. For example, in *National Steel Car*,[1] the United States Court of Appeals for the Federal Circuit held that "temporarily" meant "entering for a period of time of finite duration with the sole purpose of engaging in international commerce."[2] Courts in England and Germany have reached similar conclusions. This interpretation of "temporarily" means that conveyances employing patented devices are immune from charges of patent infringement, as long as the conveyance is engaged in international commerce in a foreign, Paris Convention country. For example, foreign conveyances are not subject to French patent law while in France temporarily, nor are French conveyances subject to foreign patent laws while in foreign countries temporarily. However, conveyances are still subject to the patent laws of their home country when they are in that country.

Inherent in the reciprocity requirement of the temporary presence exception is a condition that all conveyances have a particular nationality. However, the exception itself does not prescribe how a conveyance's nationality is determined. In the absence of an explicit statutory definition, courts must look to international law to determine a conveyance's nationality. For some types of conveyances, international law permits the selection of conveyance nationality. Since conveyance owners can select their conveyance's nationality, they can effectively opt-in to a national patent system, thus opting-out of every other domestic patent system worldwide.

This Article argues that the temporary presence exception was not designed to allow conveyance owners the ability to select the most optimal patent system under which to be subject. It also examines the ramifications of the temporary presence exception on international

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1. Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 357 F.3d 1319, 1331 (Fed. Cir. 2004).
2. *Id.*

commerce and concludes that increased use of the exception may result in reduced values for patents relating to international conveyances, reduced incentives to invest in and develop technologies in international conveyances, and a decrease in the quality of various domestic patent systems worldwide. Finally, this Article proposes a solution to these problems.

The temporary presence exception has received some attention in academic literature, which has focused on the interpretation of "temporarily." This Article will examine the exception from a different angle, focusing on the impact that the increased use of the exception may have for users of international conveyances and innovators in the field of international transport. Part I begins with an overview of patent law with a particular focus on territoriality and nationality, before detailing the history and purpose of the temporary presence exception. The treatment and interpretation of the exception by various domestic courts is also examined. Part II provides an overview of the international system of conveyance nationality and registration as it applies to conveyances involved in international trade. Part III argues that the confluence of international registration regimes with the temporary presence exception can effectively insulate conveyances from the reach of patent laws globally and demonstrates how such infringement avoidance is possible. Part IV proposes a solution to the over-breadth of the exception that retains the primary objectives of the exception. This solution involves the creation of an international registry of patents that would overcome a temporary presence exception defense of patent infringement. The proposal also outlines a method for domestic courts to determine foreign vehicle nationality that would limit the ability of vehicle owners to game the global patent system via the exception.

I. Patent Law: The Temporary Presence Exception

A. *Patent Law Overview*

Although patent law varies in many respects from country to country, there are certain features that are common to all domestic patent systems.[3] In order to provide a background for examining the temporary presence exception, this section will briefly describe the international patent system, and then, as an example of a domestic patent system, outline the basics of patent law in the United States.

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3. It is beyond the scope of this Article to discuss the variations among national patent systems.

A patent is a government-issued property right that grants an inventor the right to exclude others from making use of the invention for a limited time, in return for the public disclosure of the invention. Patents are enforceable only within the country from which they issue. This territoriality limits the ability to globally enforce a patent. Various multinational treaties have sought to standardize the domestic processes required to obtain a patent. The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS),[4] which has been adopted by all member-states of the World Trade Organization, created a global baseline for patentability requirements. TRIPS established that any invention may be patented in any technological field as long as that invention meets three basic criteria: the invention must be new, involve an inventive step, and be capable of industrial application.[5] TRIPS also established the types of subject matter that individual countries may exclude from patentability.[6]

The patent system, particularly the exclusive right to practice an invention, is designed to encourage inventors to create, patent, and commercialize new inventions.[7] The right to exclude others from practicing a patented invention is particularly valuable for inventions that would otherwise be readily copied and sold by competitors.[8] In exchange for the exclusive right to practice his invention, an inventor is required to publicize the manner in which the invention is made and used. This information is disclosed in the patent's specification. The disclosure requirement allows others skilled in a patent's field of art to make use of an invention.[9] Most nations have specific requirements for what must be contained within the specification.[10] Generally, patent infringement occurs when anyone other than the patentee or a licensee makes unauthorized use of subject matter that is within the scope of a patent's claims.[11]

In the United States, the authority to grant patents rests in the Constitution, which empowers the federal government to create a system

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4. Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, Legal Instruments—Results of the Uruguay Round, 33 I.L.M. 81 [hereinafter TRIPS].

5. *Id.* art. 27.1.

6. *Id.* art. 27.2 (inventions in contravention of public decency or morality), art. 27.3 (plants and animals, and medical procedures).

7. JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE 6 (2008).

8. *See, e.g.*, WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 294 (2003).

9. *See, e.g.*, United States v. Dubilier Condenser Corp., 289 U.S. 178, 186–87 (1933).

10. World Intell. Prop. Org., *Fields of Intellectual Property Protection*, *in* WIPO INTELLECTUAL PROPERTY HANDBOOK: POLICY, LAW, AND USE 17 (WIPO Publ'n No. 489, 2d ed. 2004), *available at* http://www.wipo.int/about-ip/en/iprm/.

11. *See, e.g.*, 35 U.S.C. § 271 (2000) (defining patent infringement).

designed to "promote the Progress of Science and useful Arts, by securing for limited Times to . . . Inventors the exclusive Right to their . . . Discoveries."[12] Almost immediately after ratification of the Constitution, Congress passed the Patent Act of 1790.[13] Shortly thereafter, Congress passed the Patent Act of 1836, which established the Patent Office and granted it the power to examine patent applications for compliance with the statutory requirements of the act.[14] The Patent Act of 1952 is currently in force and controls the issuance of patents.[15]

For an invention to qualify for patenting in the United States, an inventor must demonstrate that the invention is novel,[16] useful,[17] and non-obvious.[18] These three requirements also meet the standards for patentability established by TRIPS.[19] Along with a specification describing the invention, U.S. patent applications must contain one or more claims, which are descriptions of the precise limits of a patent's scope. Claims are the metes and bounds of the patent property right and determine the extent of a patentee's right to exclude.[20]

Importantly, for infringement to be actionable, the infringing activity must occur within the United States;[21] U.S patents do not confer any right of action against activities occurring outside of the United States.[22] Moreover, patents issued in foreign jurisdictions cannot form the basis for an infringement action in the United States.[23]

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12. U.S. CONST. art. I, § 8, cl. 8.
13. Act of Apr. 10. 1790, ch. 7, 1 Stat. 109 (repealed 1793).
14. Act of July 4, 1836, ch. 357, § 1, 5 Stat. 117 (repealed 1870).
15. 35 U.S.C. §§ 1–376 (2000).
16. *Id.* § 102.
17. *Id.* § 101.
18. *Id.* § 103.
19. The U.S. novelty and non-obviousness requirements are equivalent to the TRIPS requirements that an invention be new and inventive, and the U.S. usefulness requirement meets TRIPS industrial application requirement. *See* TRIPS, *supra* note 4, at 17; *see also,* World Intell. Prop. Org., *supra* note 10, at 14.
20. ROBERT P. MERGES & JOHN F. DUFFY, PATENT LAW AND POLICY 25 (3d ed. 2002).
21. *See, e.g.*, EEOC v. Abraham Am. Oil Co., 499 U.S. 244, 248 (1991); Microsoft Corp. v. AT&T Corp., 127 S. Ct. 1746, 1755, (2007); Smith v. United States, 507 U.S. 197, 203 (1993); *but see* NTP, Inc. v. Research in Motion, Ltd., 418 F.3d 1282 (Fed. Cir. 2005) (granting extraterritorial reach to a system claim). For more on the extraterritorial reach of patent law, see Timothy R. Holbrook, *Extraterritoriality in U.S. Patent Law*, 49 WM. & MARY L. REV. 2119 (2008); Melissa F. Wasserman, Note, *Divided Infringement: Expanding the Extraterritorial Scope of Patent Law*, 82 N.Y.U. L. REV. 281 (2007).
22. However, recently the Court of Appeals for the Federal Circuit held that U.S. patent law had some extraterritorial reach with regards to patent claims covering systems. *See NTP, Inc.* 418 F.3d at 1316–17 (holding that the Blackberry system can be "used" wholly within the United States when, even though messages are routed through controllers in Canada).
23. While foreign activity cannot, in most cases, constitute infringement due to territoriality principles, it can play a significant role in assessing whether or not an inventor should receive a patent in the first place. *See* 35 U.S.C. § 102(b) (2000) (precluding a patent grant if "the invention was patented or described in a printed publication in this or a foreign country").

B. *The History of the Temporary Presence Exception*

In 1851, the Chancery Court of England heard the case of *Caldwell v. Vanvlissengen*.[24] The case involved a Dutch ship that made regular stops in England and employed a screw propeller patented in England. Vanvlissengen, the ship's owner, argued that his ship should not be subject to English patents because it had been made in Holland, was owned by Dutch citizens, and was manned by Dutch nationals.[25] The chancery court disagreed and granted an injunction against the Dutch vessel.[26]

In direct response to the court's ruling, the English Parliament amended the patent law to provide foreign ships with an exception to infringement liability when in English ports or waters.[27] The exception created by Parliament was much broader than that requested by the Dutch ship owner in *Caldwell*. Much of the owner's argument for an exception concerned situations in which a ship was "accidentally" forced into an English port by a storm.[28] Apparently, the Dutch ship owner's concern over the application of English patent laws against the accidental entrance of a foreign vessel was not shared by the English Parliament, as it did not include the accidental language in the statute. Indeed, it appears that Parliament was more concerned with English ships being subject to unfamiliar foreign patent systems, rather than the accidental landing of ships in a foreign harbor. Thus, it appears that Parliament sought to reduce the liability and accompanying information costs on English shippers.

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24. Caldwell v. Vanvlissengen, (1851) 68 Eng. Rep. 571 (Ch.).

25. *Id.*

26. *Id.*

27. Patent Law Amendment Act, 1852, 15 & 16 Vict., c. 83, 26 (Eng.). The statute states:

> [N]o letters patent for any invention (granted after the passing of this Act) shall extend to prevent use of such invention in any foreign ship or vessel, or for the navigation of any foreign ship or vessel, which may be in any port of Her Majesty's dominions, or in any waters within the jurisdiction of any of Her Majesty's Courts, where such invention is not so used for the manufacture of any goods or commodities to be vended within or exported from Her Majesty's dominions: provided always, that this enactment shall not extend to ships or vessels of any foreign state of which the laws authorize subjects of such foreign state, having patents or like privileges for the exclusive use or exercise of inventions within its territories, to prevent or interfere with the use of such inventions in British ships or vessels, or in or about the navigation of British ships or vessels, while in the ports of such foreign state, or in the waters within the jurisdiction of its courts, where such inventions are not so used for the manufacture of goods or commodities to be vended within or exported from the territories of such foreign state.

Id.

28. *Caldwell*, 68 Eng. Rep. at 574.

Further demonstrating Parliament's concern with fair treatment of English ships in foreign ports, the statutory exception contained a reciprocal requirement: to be eligible, a foreign ship must hail from a country that allowed English ships to enter its ports without fear of patent liability.[29] The law did not, however, define how the nationality of foreign ships was to be determined.

Four years after Parliament amended the English patent laws, the Supreme Court of the United States for the first time addressed the application of U.S. patents against foreign ships temporarily located in U.S. territorial waters in *Brown v. Duchesne*.[30] *Brown* involved a ship making a journey between Boston and Miquelon, a French colony off the coast of Newfoundland, Canada.[31] The owner of a patent for an improved means of constructing a "gaff"—a pole attached to the mast of a sailing ship that allowed use of a four-sided, rather than triangular, sail—accused the ship's owner of patent infringement.[32] The ship was owned by a French citizen and had been fitted with the gaff in France where no corresponding French patent covered the invention.[33]

The Supreme Court framed the question before it as "whether any improvement in the construction or equipment of a foreign vessel, for which a patent has been obtained in the United States, can be used by such vessel within the jurisdiction of the United States, while she is temporarily there for the purposes of commerce, without the consent of the patentee[.]"[34] The Court noted at the outset that a strict reading of the patent statute "would seem to sanction the claim" of the patentee.[35] However, relying on the perceived intent of Congress in enacting the Patent Act, the Court found that U.S. patents were not enforceable against foreign vessels lawfully harbored in U.S. ports.[36] Therefore, the *Brown* Court held that the use of a patented device in the "construction, fitting out, or equipment" of foreign vessels coming into or leaving U.S. ports, did not constitute infringement provided that the device had been placed upon the vessel in another country and such placement was "authorized by the laws of the country to which she belongs."[37]

The Court gave two principal reasons for its holding: first, the Court found that the use of the patented invention aboard the French vessel

29. *Id.*
30. Brown v. Duchesne, 60 U.S. (19 How.) 183 (1856).
31. *Id.* at 187–88.
32. *Id.* at 193.
33. *Id.* at 193–94.
34. *Id.* at 194.
35. *Id.*
36. *Id.* at 198.
37. *Id.* at 198–99.

resulted in minimal to no damage to Brown;[38] second, the Court feared that a finding that a patentee had the right to enforce a patent against foreign vessels would be tantamount to granting a private citizen "political power" over the United States government.[39] On this second point, the Court felt that "the right to interfere with foreign intercourse, or with foreign ships visiting [U.S.] ports, was evidently not in the mind of the Legislature, nor intended to be granted to the patentee."[40] The right to enforce patents against foreign vessels temporarily docked in the United States, the Court reasoned, would improperly constrain the treaty-making power of Congress.[41] The Court acknowledged that Congress had the power to regulate the terms and regulations of foreign vessels entering U.S. ports; however, the Court doubted whether Congress had the power to grant individual patent holders the "power to embarrass [United States] commerce and intercourse with foreign nations."[42]

The *Brown* decision is noteworthy as the initial adoption of the temporary presence exception doctrine by an American court. The holding granted foreign vessels a broad exception from patent infringement in the United States. As long as any patented devices were constructed into a vessel outside of the United States and the vessel was lawfully within a U.S. port, no patent infringement actions could be brought against the vessel. Unlike the prior English statute and the subsequent statutory codification of the exception in the United States, *Brown* did not require any sort of reciprocity from the country in which a visiting vessel hailed. *Brown* merely required that a vessel be "foreign" in order to be protected under the exception. As *Brown* only required a "foreign" vessel, the

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38. *Id.* at 196. This is a questionable ground for refusing to enforce a patent. There is no section of the Patent Act that recognizes the right to infringe in cases in which there is minimal or no damage to the patentee. Furthermore, the unauthorized use of the patent in *Brown* does not appear to have been harmless. At a minimum, it appears that the patentee suffered damages in the form of lost licensing royalties from the unauthorized use of the gaff.

39. *Id.* at 198.

40. *Id.*

41. *Id.*

42. *Id.* The Court also stated that:

> Congress may unquestionably, under its power to regulate commerce, prohibit any foreign ship from entering our ports, which, in its construction or equipment, uses any improvement patented in this country, or may prescribe the terms and regulations upon which such vessel shall be allowed to enter. Yet it may perhaps be doubted whether Congress could by law confer on an individuals [sic], or individuals, a right which would in any degree impair the constitutional powers of the legislative or executive departments of the Government, or which might put it in their power to embarrass our commerce and intercourse with foreign nations, or endanger our amicable relations.

Id. But see 5 DONALD CHISUM, CHISUM ON PATENTS § 16.05[4] (2007) (claiming that *Brown* "also acknowledged Congress' power to regulate the matter").

Court did not address the manner of determining a vessel's nationality for purposes of the exception. However, the Court in *Brown* seems to have implicitly adopted, albeit in dicta, the argument of the vessel owner that nationality is determined by the owner's domicile.[43]

After *Brown*, the temporary presence exception gained international acceptance. The exception was adopted internationally in the 1919 Convention Relating to the Regulation of Aerial Navigation.[44] The exception contained in the 1919 Convention was narrower than the exception carved out in *Brown* in two respects. First, the 1919 Convention excepted only aircraft, whereas the exception in *Brown*, while explicitly covering only foreign ships, arguably extends to airplanes and other vessels.[45] Second, unlike *Brown*, which provided a general exception from patent liability, the 1919 Convention's exception merely protected infringing foreign airplanes from seizure in foreign countries. Under the 1919 Convention, a plane was required to post a security deposit in the amount fixed by the local authority, or by prior agreement, in order to avoid seizure on patent infringement grounds.[46]

In 1923, a proposal was submitted to amend the International Convention for the Protection of Industrial Property, known as the Paris

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43. In arguing for non-infringement, the vessel owner in *Brown* argued that an international vessel is governed exclusively by the law of the country to which the vessel belongs, which is the country of domicile of the owner: "What shall or does constitute a vessel must be determined exclusively by the law of the country to which the vessel belongs, i.e., by the law of the owner's domicil." *Brown*, 60 U.S. at 188. While *Brown* did not reach the question of choice of law, nor explicitly state how vessel nationality is determined, the court found that the Alcyon was French, even though it had never traveled to France, but journeyed only between Boston and a French colony near Canada. *Id.* at 193. *Brown* dictates that a vessel need only follow the patent laws of "the country to which she belongs" without providing guidance on how the determination of that country is made. *Id.* at 199.

44. Convention Relating to the Regulation of Aerial Navigation, Oct. 13, 1919, 11 L.N.T.S. 173 [hereinafter 1919 Convention]. *See* STEPHEN P. LADAS, THE INTERNATIONAL PROTECTION OF INDUSTRIAL PROPERTY 246–47 (Manley O. Hudson ed., Harvard Univ. Press 1930); Rajita Sharma & Heather Forrest, *A Lifeline for Infringing Ships*, 25 EUR. INTELL. PROP. REV. 430, 434 (2003).

45. Because *Brown* was decided in 1856, and the Wright Brothers did not conduct their famous flight until 1903, *Brown*'s holding obviously does not place aircraft within its exception for temporarily present vessels; the holding refers only to "ships." However, the Court's reasoning would include airplanes within the contours of the exception. The *Brown* court was principally concerned with impediments to international commerce posed by private patent rights. *Brown*, 60 U.S. at 197. Also, *Brown* references "vessels" and "ports," terms that would likely encompass more "modern" modes of commerce, such as airplanes and airports, as well.

46. 1919 Convention, *supra* note 44, art. 18. ("Every aircraft passing through the territory of a contracting state, including landing and stoppages reasonably necessary for the purpose of such transit, shall be exempt from any seizure on the ground of infringement of patents, design or model, subject to the deposit of security the amount of which is default of amicable agreement shall be fixed with the least delay by the competent authority of the place of seizure.").

Convention.[47] The Paris Convention was the first major international treaty designed to harmonize international intellectual property rights.[48] As of December 2008, the Paris Convention had 172 signatory nations, including nearly every major industrial nation.[49] The proposed change to the Paris Convention contained a version of the temporary presence exception that was much broader than the exception contained in the 1919 Convention and much more closely aligned with the policy considerations at work in the *Brown* exception. The Paris Convention exception explicitly applied to all forms of transport and completely eliminated liability for conveyances under certain circumstances.[50] The 1925 Hague Revision to the Paris Convention Article 5ter provides:

> In any country of the Union the following shall not be considered as infringements of the rights of the patentee:
>
> 1. the use on board vessels of other countries of the Union of devices forming the subject of his patent in the body of the vessel, in the machinery, tackle, gear and other accessories, when such vessels temporarily or accidentally enter the waters of the said country, provided that such devices are used there exclusively for the needs of the vessel;
>
> 2. the use of devices forming the subject of the patent in the construction or operation of aircraft or land vehicles of other countries of the Union, or of accessories of such aircraft or land vehicles, when those aircraft or land vehicles temporarily or accidentally enter the said country.[51]

Article 5ter broadened the scope of the temporary presence exception adopted in *Brown* by explicitly including "aircraft" and "land

47. Paris Convention for the Protection of Industrial Property, *opened for signature* Mar. 20, 1883, 25 Stat. 1372, *as revised at* Stockholm July 14, 1967, 21 U.S.T. 1583, 828 U.N.T.S. 305 [hereinafter Paris Convention].

48. World Intell. Prop. Org., Treaties and Contracting Parties: General Information, http://www.wipo.int/treaties/en/general (last visited on Sept. 14, 2008).

49. For a complete list of signatory nations, see World Intell. Prop. Org., Contracting Parties to the Paris Convention, May 2, 2008, http://www.wipo.int/export/sites/www/treaties/en/documents/pdf/paris.pdf. Two notable countries which have yet to join the Paris Convention are Taiwan and Iran. *Id.*

50. *See* Sharma & Forrest, *supra* note 44, at 435.

51. Paris Convention, *supra* note 47, art. 5ter. The Hague revision entered into force in the United States in 1931. Paris Convention, signed at Hague Nov. 6, 1925, entered into force Mar. 6, 1931,47 Stat. 1789, T.S. No. 834 (advice and consent of the Senate, Dec. 16, 1930; entered into force Mar. 6, 1931).

vehicles," along with ships, as conveyances eligible for protection.[52] Also, unlike the exception in *Brown*, the Paris Convention exception included a reciprocity requirement. As treaties apply only between member countries, the exception can only be invoked by a member nation's conveyances when entering into other member nations. Conveyances from non-member nations do not enjoy protection under the exception, nor are conveyances from member nations protected when entering into non-member countries. The Paris Convention amendment thus implicitly requires that all conveyances seeking protection under the temporary presence exception have a particular nationality. The nationality of a conveyance is therefore of great importance when evaluating the applicability of the exception. The Paris Convention, unfortunately, does not articulate the manner for determining conveyance nationality for purposes of the exception.

C. *After the Paris Convention: Domestic Statutes and Case Law*

1. The Requirements of the Exception: Domestic Statutes

Since the international adoption of the temporary presence exception in the Paris Convention, member nations have gradually amended their domestic statutes to reflect that international obligation. While all of the domestic statutes stem from Article 5ter of the Paris Convention, the statutes are not identical. Indeed, the statutes that have resulted from the adoption of the temporary presence exception can be grouped into two categories: a larger group of domestic statutes that grants different rights for different types of foreign conveyances (differentiating sea vessels from land vehicles and aircraft), and a smaller group of statutes which does not differentiate between conveyance types.[53]

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52. It should be noted that there is some confusion as to whether regular, periodic entries were intended to be covered under Article 5ter. The original French draft of Article 5ter used the word "pénétrer," a word that suggests a less than continual relationship. The delegates from Czechoslovakia suggested clarification as to whether regular entries into a country were covered under the exception and, if so, that "pénétrer" be changed to "entrer." The English version of Article 5ter contains the word "enter," i.e., "entrer," while the French version retains "pénétrer," and clarification as to the applicability of continual entries was not given. Sharma & Forrest, *supra* note 44, at 435. Regardless, as described more fully in this section, numerous international court decisions have found that continual entries are covered by the exception, thereby mooting the issue.

53. Some countries have adopted Article 5ter by reference. *See, e.g.*, Ley No. 354, Sept. 19, 2000, Ley de Patentes de Invencion, Modelo de Utilidad y Disenos Industriales [Law of Patents, Utility Models, and Industrial Designs], sec. 46(b), 19 Sept. 2000 (Nicar.); Decreto Numero 57, Sept. 18, 2000, Propiedad Industrial, sec. IV, para. 130(d) (Guat.). These countries implicitly fall within the group of countries adopting the "construction" language, which is contained in Article 5ter.

The vast majority of countries that have codified the temporary presence exception have adopted language that mirrors the language of the Paris Convention.[54] These countries grant exceptions to patent infringement for inventions used in the "construction or operation" of aircraft and land vehicles of foreign nations. This "construction" language stems from the Chicago Convention.[55] The Chicago Convention excepted from infringement liability the use and installation of patented repair parts on aircraft in a foreign nation.[56] However, Article 5ter of the Paris

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54. *See, e.g.*, Patents Act, 1990, § 118 (Austl.); Patenttilaki [Patents Act], No. 550 of Dec. 15, 1967, *as amended by* Act No. 243 of Mar. 21, 1997, ch. 1, § 5 (Fin.); The Patents Act, No. 39 of 1970; India Code (1999), § 49; Patents Act, 1992 (Act No. 42/1992) (Ir.); Rijksoctrooiwet 1995 [Patent Act 1995], art. 54, Stb. 1995, 51 (Neth.); The Patents Act, 1953, § 79 (N.Z.); Patents Act 57 of 1978 s. 71 (S. Afr.); Estatuto de la Propiedad Industrial [Industrial Property Code] (R.D.-Ley of July 16, 1929), *as last amended by* Law No. 17/1975 of May 2, 1975, § 52 (Spain); Patents Act of 1971 [Ch. 26:03], *as last amended by* Act 20/1994 (s.7), § 81 (Zimb.).

55. Convention on Int'l Civil Aviation, Dec. 7, 1944, 61 Stat. 1180, TIAS No. 1591, 15 UNTS 295.

56. *Id.* art. 27 reads:

> (a) While engaged in international air navigation, any authorized entry of aircraft of a contracting State into the territory of another contracting State or authorized transit across the territory of such State with or without landings shall not entail any seizure or detention of the aircraft or any claim against the owner or operator thereof or any other interference therewith by or on behalf of such State or any person therein, on the ground that the construction, mechanism, parts, accessories or operation of the aircraft is an infringement of any patent, design, or model duly granted or registered in the State whose territory is entered by the aircraft, it being agreed that no deposit of security in connection with the foregoing exemption from seizure or detention of the aircraft shall in any case be required in the State entered by such aircraft.
>
> (b) The provisions of paragraph (a) of this Article shall also be applicable to the storage of spare parts and spare equipment for the aircraft and the right to use and install the same in the repair of an aircraft of a contracting State in the territory of any other contracting State, provided that any patented part or equipment so stored shall not be sold or distributed internally in or exported commercially from the contracting State entered by the aircraft.
>
> (c) The benefits of this Article shall apply only to such States, parties to this Convention, as either (1) are parties to the International Convention for the Protection of Industrial Property and to any amendments thereof; or (2) have enacted patent laws which recognize and give adequate protection to inventions made by the nationals of the other States parties to this Convention.

The Chicago Convention appears to be broader than both 35 U.S.C. § 272 and Article 5ter of the Paris Convention by precluding from patent infringement the "storage of spare parts and spare equipment for the aircraft" in the domestic country. CHISUM, *supra* note 42, § 16.05[4] n.12; *cf.* 35 U.S.C. § 272; Paris Convention, *supra* note 47, art. 5ter. In *Cali v. Japan Airlines, Inc.*, 380 F. Supp. 1120 (E.D.N.Y. 1974), the Eastern District of New York rejected plaintiff's argument that Section 272 was invalid because it repealed or narrowed the scope of the Chicago Convention. *Id.* at 1124. The court did not consider whether the Chicago Convention, if

Convention—and the national statutes of the majority of signatory countries that have codified that article—shields from infringement liability a much broader scope of activities than just the installation of patented repair parts. The use of patented devices in the "construction" of aircraft and land vehicles could be interpreted to grant a manufacturing exception for makers of aircraft and land vehicles, as long as "foreign conveyances" are constructed. Arguably, the exception permits the unauthorized construction of aircraft for foreign countries and nationals. Perhaps noting the broad implications of the "construction" language, a minority of domestic statutes that provide for differential conveyance treatment have abandoned this language.[57] Instead, these nations grant an exception only for spare parts and repairs of aircraft.[58] This codification, which does not permit the unauthorized construction of foreign conveyances, hues more closely to the purpose of the Chicago Convention but deviates from the language of the Paris Convention. The full implication of this "construction" language is discussed more thoroughly in Part IV, *infra*.

There is a second, smaller group of countries, including the United States, which has codified the temporary presence exception in a manner that differs from the language of the Paris Convention.[59] These domestic statutes completely eliminate the "construction" language found in Article 5ter(2) of the Paris Convention and provide identical rights to all types of conveyances.[60] The United States' decision to alter the language of Article 5ter of the Paris Convention stems from the country's history with the exception, and the purposes behind it. To illuminate the policy rationale behind the United States' alteration of the Paris Convention language, a brief history and description of the codification of the temporary presence exception in the United States is provided herein.

The U.S. Congress codified the temporary presence exception twenty-seven years after the exception was added to the Paris Conven-

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found to be broader than Section 272 and the Paris Convention, is self-implementing. *Id.* at 1127.

57. *See, e.g.*, Lov om patenter [Patents Act], Act No. 9 of Dec. 15, 1967, *as last amended by* Act No. 104 of Dec. 20, 1996, § 5 (Nor.) (spare parts and accessories for aircraft only); Ustawa o Wynalazczosci [Law on Inventive Activity], Oct. 19, 1972, *as amended by* the Law of Apr. 16, 1993, art. 16(5) (Pol.) (spare parts for all conveyances); Loi fédérale sur les brevets d'invention [LBI] [Federal Law on Patents for Inventions], June 25, 1954, *as last amended on* Mar. 24, 1995, RS 232.14, art. 35, ¶ 3 (Switz.) (equipment for vehicles); Patents Act, 1977, c. 37, § 60 (U.K.) (spare parts for aircraft).

58. *See id.*

59. *See, e.g.*, 35 U.S.C. § 272 (2000); The Industrial Property Act, (2001) Cap. 3 § 58(3) (Kenya).

60. *Id.*

tion.[61] The resulting statute, 35 U.S.C. § 272, was passed as part of the Patent Act of 1952 and reflected both the United States' obligations under Article 5ter of the Paris Convention[62] and the Supreme Court's holding in *Brown*.[63] Section 272 provides:

> The use of any invention in any vessel, aircraft or vehicle of any country which affords similar privileges to vessels, aircraft or vehicles of the United States, entering the United States temporarily or accidentally, shall not constitute infringement of any patent, if the invention is used exclusively for the needs of the vessel, aircraft or vehicle and is not offered for sale or sold in or used for the manufacture of anything to be sold in or exported from the United States.[64]

Superficially at least, Section 272 appears to be more limited than the exceptions in *Brown* and the Paris Convention, because sales and offers for sales are explicitly excluded from protection under Section 272.[65] It is doubtful, however, that the explicit exclusion of sales and offers of sales from Section 272 actually altered the law in any meaningful way. Sales and offers for sales are included in the current U.S. patent act as infringing acts,[66] and Article 5ter exempts from infringement only the "use" of "devices forming the subject of the patent," not the sale of those devices in the United States.[67]

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61. *See* S. REP. NO. 82-1979, at 9, 28 (1952), *as reprinted in* 1952 U.S.C.C.A.N. 2394, 2402, 2422. The Paris Convention, without accompanying statutory authority, has no force of law because it is not self-executing. *In re Rath*, 402 F.3d 1207, 1209–10 (Fed. Cir. 2005) (citing Kawai v. Metlestics, 480 F.2d 880, 884 (C.C.P.A. 1973)).

62. 35 U.S.C. § 272 (2000); *see also*, LADAS, *supra* note 44, at 246.

63. *See* S. REP. NO. 82-1979, at 28 (1952), *as reprinted in* 1952 U.S.C.C.A.N. at 2422 ("This section follows the requirement of the International Convention for the Protection of Industrial Property, to which the United States is a party, and also codifies the holding of the Supreme Court that use of a patented invention on board a foreign ship does not infringe a patent.").

64. 35 U.S.C. § 272. The current version of Section 272 has been amended once, in 1994, as part of the Uruguay Round Agreements Act, Pub. L. No. 103-465, 108 Stat. 4809, 4989 (codified as amended at 35 U.S.C. § 272). The Uruguay Round Agreements amended the definition of patent infringement to include offers for sale. *See* S. REP. NO. 103-412, at 511 (1994). Section 272 was thus amended to reflect this change: namely, the phrase "not offered for sale or sold" replaced the former phrase of "not sold" in the statute. Uruguay Round Agreements Act, 108 Stat. at 4989; S. REP. NO. 103-412, at 512.

65. *Compare* Paris Convention, *supra* note 47, art. 5ter (excluding from infringement "the use" of patented devices), *and* Brown v. Duchesne, 60 U.S. (19 How.) 183, 198 (1857) (excluding "the use of such improvement, in the construction, fitting out, or equipment" of a vessel), *with* 35 U.S.C. § 272 (listing "sales and offers for sales" as actions that constitute patent infringement).

66. 35 U.S.C. § 271(a) (2000).

67. Paris Convention, *supra* note 47, art. 5ter.

Section 272 does not follow the Paris Convention's language in one important aspect. Whereas the Paris Convention grants a "construction" exception for aircraft, Section 272 does not differentiate between conveyance types and does not grant any sort of exception for "construction" of conveyances. There is no discussion in the legislative history of the motivation behind Congress' decision to diverge from the language of the Paris Convention. However, it is likely that Congress felt that the exception in *Brown*, which had been good law for nearly 100 years, was sufficient and therefore, it was not necessary to alter the state of the law. Notably, Congress does not appear to have taken into account the United States' obligations under the Chicago Convention when passing Section 272.[68] Thus, it appears that Congress was more interested in statutorily adopting the holding in *Brown* than in following the contours of the exception as found in the Paris Convention or its obligations under the Chicago Convention.

The legislative history of Section 272 is sparse,[69] perhaps indicating that Congress believed the exception to be a narrow one.[70] Whatever Congress's belief as to the scope of the exception, it seems that statements characterizing the exception as of "relatively little importance" were accurate, as the exception was not litigated in U.S. courts until 1974.[71]

Other than the two slight variations discussed above, Section 272 has the same requirements as Article 5ter of the Paris Convention. Like the Paris Convention, Section 272 contains a reciprocity provision. The statute also retains the Paris Convention's ambiguity regarding the method of determining conveyance nationality. Indeed, most countries that have codified Article 5ter have not addressed the nationality issue. However, a few countries have adopted a standard for determining conveyance nationality.[72] These domestic statutes—including those in India, New Zealand, and South Africa[73]—explicitly state that a conveyance's country of registry is its country of nationality for purposes of the temporary

68. *See supra* note 63.

69. *See* Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 357 F.3d 1319, 1326 (Fed. Cir. 2004) ("*Nat'l Steel Car II*") (describing the legislative history as "brief, noting only that section 272 was drafted to codify the Supreme Court's holding in *Brown* . . . and to satisfy the obligations of the United States under the Paris Convention").

70. In fact, in one of the two pieces of legislative history, Section 272 is described as being "of relatively little importance." S. REP. NO. 82-1979, at 8 (1952), *as reprinted in* 1952 U.S.C.C.A.N. 2394, 2402.

71. S. REP. NO. 82-1979 at 29 (1952).

72. *See, e.g.*, Patents Act, No. 39 of 1970; India Code (1999), v. 49; The Patents Act, 1953, 79 (N.Z.); Patents Act 57 of 1978 s. 71(2) (S. Afr.).

73. *See id.*

presence exception. This method of determining nationality may conflict with international law and is addressed more fully in Part III, *infra*.

2. The Scope of the Exception: Domestic Cases

The temporary presence exception has been infrequently litigated following its adoption in the Paris Convention and subsequent codification by member-states. Strikingly, all the cases that have dealt with the exception have broadly interpreted the exception's scope. The first case to address the scope of the temporary presence exception was in the United States in *Cali v. Japan Airlines, Inc*.[74] Cali, the holder of a patent related to a modification of JT-4 jet engines, accused three major international air carriers of infringement: Japan Airlines, KLM Royal Dutch Airlines, and Scandinavian Airlines.[75] Cali argued that the airlines could not claim protection under 35 U.S.C. § 272 because their activities within the United States were "regular and systematic," and that to the extent Section 272 exempted such activities, the statute represented an unconstitutional taking of Cali's property.[76]

The Eastern District of New York disagreed with Cali. The court first dispensed of Cali's constitutional claim by noting that the Constitution's patent clause is "not self-executing," as it only "empowers but does not command Congress to grant patent rights."[77] As to the limits on temporality, the court began by examining the roots of the exception in *Brown*. The court shared the *Brown* Court's concern that unlimited private patent rights would threaten the treaty-making power of the federal government and its ability to regulate international commerce.[78] However, the *Cali* Court ignored *Brown*'s emphasis on the lack of damages to the patent holder. *Cali* held that the exception covered more than just "trivial uses."[79] Clear congressional intent, the court reasoned, demonstrated that the exception was meant to have a broad scope; thus, the exception should apply even in instances when a patent holder stands to suffer significant monetary loss from the unenforceability of his patent rights.[80] Thus, the court found that for purpose of Section 272 "temporarily" included all instances when a conveyance "enters for the purposes of completing a voyage, turns about, and continues or commences a new

74. Cali v. Japan Airlines, Inc., 380 F. Supp. 1120 (E.D.N.Y. 1974). For a more detailed account of the history of the temporary presence exception in the United States, see Ted L. Field, *The "Planes, Trains, and Automobiles" Defense to Patent Infringement For Today's Global Economy: Section 272 of the Patent Act*, 12 B.U. J. SCI. & TECH. L. 26 (2006).

75. *Cali*, 380 F. Supp. at 1122.

76. *Id.* at 1123–24.

77. *Id.* at 1124.

78. *Id.* at 1125–26.

79. *Id.* at 1126.

80. *Id.*

voyage."[81] This broad definition of "temporarily" permitted the defendant airlines, and presumably all other airlines using vehicles "of other countries," to make use of patented inventions without fear of patent infringement in the United States.

Interestingly, the *Cali* Court, which analyzed Section 272 with respect to aircraft, did not reveal how it determined the aircraft's nationality. The court found, in a conclusory fashion, that "[t]he defendant aircraft are 'aircraft of other countries,' and are 'aircraft of' their respective national states;" yet, the court did not outline what factors were considered in reaching such a conclusion.[82] The court read Cali's complaint to stipulate that the vehicles met the reciprocity requirement of Section 272: "It does not quite appear to be argued that the defendants and their aircraft are not 'of' foreign countries or national states within the potential scope of Section 272 and Articles 5ter . . . ."[83] Thus, the issue of conveyance nationality under the temporary presence exception remained unresolved.

The scope of the exception as it applied to boats was the subject of a 2003 case in England. In *Stena Rederi Aktiebolag v. Irish Ferries Ltd.*, an English court of appeal reached a conclusion regarding the scope of the exception similar to that reached in *Cali*: namely, that "temporarily" covered prolonged and frequent entrances into a foreign country.[84] *Stena Rederi* involved a company called Irish Ferries that owned a ferry named the *Jonathan Swift* that operated between Dublin, Ireland and Holyhead, England. Stena was the exclusive licensee of a European Patent[85] entitled "Superstructure for Multihull Vessels" that described a catamaran with a superstructure containing two hulls joined by a cargo deck.[86] The *Jonathan Swift* was registered in Ireland and journeyed between Ireland and England three times per day.[87] When traveling to England, the ferry typically remained in English waters for around three hours.[88]

The court of appeal determined that although the *Jonathan Swift* literally infringed Stena's patent, the English temporary presence exception—Section 60(5)(d) of the Patents Act of 1977—provided Irish Ferries with a valid defense.[89] The court of appeal relied on the reasoning in *Cali* to conclude that the *Jonathan Swift* was "temporarily" in English

81. *Id.*
82. *See id.* at 1122.
83. *Id.* at 1127.
84. Stena Rederi Aktiebolga v. Irish Ferries Ltd., (2003) EWCA (Civ.) 66 (Eng.).
85. European Patent No. 0,648,173 (filed June 30, 1993).
86. *Stena Rederi*, EWCA (Civ.) 66 at 4.
87. *Id.* at 13.
88. *Id.*
89. *Id.* at 38.

waters, even though it made regular entries into the country.[90] This broad reading of "temporarily" was also supported, in the court's view, by *Rolltrailer*, a German case.[91] The court of appeals felt that the German court's reasoning was convincing, even though *Rolltrailer* interpreted a temporary presence exception that preceded the Paris Convention.[92] The court in *Stena Rederi* did not directly address the nationality of the *Jonathan Swift*, but seemed to adopt the lower court's finding that the ferry was Irish. Indeed, as the craft's home port and registration were in Ireland, it is unlikely that the nationality of the ferry was challenged.

Shortly after the *Stena Rederi* decision, the U.S. Court of Appeals for the Federal Circuit, the circuit charged with adjudicating all appeals arising under the patent laws, first addressed the scope of the temporary presence exception in 2004.[93] In *National Steel Car II*,[94] Canadian Pacific Railway (CPR) appealed the Eastern District of Pennsylvania's grant of a preliminary injunction prohibiting CPR's use of a patented railcar. The patent, which issued in the United States but not in Canada, covered a type of railcar specifically designed to haul lumber.[95] CPR intended to use the railcars to haul lumber from Canada to the United States and then return to Canada, typically without cargo.[96] CPR argued that Section 272 provided an exception from infringement while in the United States. The district court disagreed and granted a preliminary injunction.[97] The district court found that CPR had failed to meet four requirements of Section 272: the railcars were not vehicles of "another country,"[98] they

90. *Id.* at 72–73.

91. LG Hamburg, GRUR Int. 1973, Heft 12, 703 (F.R.G.) (holding that Finnish roll trailers used to unload cargo from a German ship while docked in Germany did not infringe a German patent because the devices were "foreign vehicles").

92. *Id.*

93. Aside from *Cali* and *Nat'l Steel Car*, there has been only one other published case analyzing the extent of Section 272. *Hughes Aircraft Co. v. United States*, 29 Fed. Cl. 197 (1993), involved a spacecraft launched by the United States which made use of a patented apparatus for "controlling the attitude of a spin-stabilized spacecraft." *Id.* at 201. Among the arguments presented by the United States favoring non-infringement was the contention that Section 272 provided complete immunity for patent infringement for importation of the spacecraft from another country for launch in the United States because the spacecraft was only temporarily on U.S. soil. The court agreed, holding that spacecraft launched after 1981 were excluded from Section 272 under an amendment specifically excluding spacecraft from coverage. Spacecraft launched prior to 1981 were considered temporarily in the United States, and were otherwise covered under Section 272. *Id.* at 229. For a more complete treatment of this case, see Field, *supra* note 74, at 50.

94. Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 357 F.3d 1319, 1326 (Fed. Cir. 2004) ("*Nat'l Steel Car II*").

95. *Id.* at 1322.

96. *Id.* at 1323–24 (noting that "cars return to Canada empty 99.2 percent of the time").

97. *Id.* at 1324.

98. Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 254 F. Supp. 2d 527, 556 (E.D. Pa. 2003) ("*Nat'l Steel Car I*").

were not temporarily in the United States,[99] the patented aspect of the vehicles was not used exclusively for the needs of the vehicle,[100] and the patented invention was sold or offered for sale in the United States.[101]

On appeal, the Federal Circuit reversed the Eastern District of Pennsylvania, holding that Section 272 did protect CPR from the infringement claim. In so doing, the Federal Circuit held that "temporarily," as used in Section 272, was not limited to vehicle entries of short duration or infrequent occurrence.[102] Rather, the court held that for an entrance into the United States to qualify as temporary, there need only be a finite duration to the entrance (i.e., the entrance is not permanent) and the "sole purpose" of the entrance must be to engage in international commerce.[103] For support of its purposive interpretation of the exception, the Federal Circuit looked to the legislative history of Section 272. Determining that *Brown* and Article 5ter of the Paris Convention evidenced a concern with excessive impediments on international commerce, the court held that vessels engaged in international commerce were exempt from patent infringement under Section 272 regardless of the length of their stay in a foreign country.[104]

While the Federal Circuit's decision in *National Steel Car* established which entries of foreign vessels are temporarily within the United States and thus eligible to receive exemption from the patent laws under Section 272, the decision did not clarify which vehicles qualify for the exception as being "of another country." The district court, however, reached the nationality issue and found that the railcars were not "of another country."[105] Although this finding was subsequently reversed by the Federal Circuit,[106] it is instructive to examine the district court's reasoning on this issue.

CPR used its own locomotives to haul lumber from Canada into the United States. At some point after entering the United States, the railcars were transferred to locomotives owned and operated by U.S. companies. The district court found that as long as the railcars were being pulled by

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99. *Id.*

100. *Id.* at 557. The district court found that the "vehicle," for purposes of Section 272, was not the railcar but rather the locomotive that pulled the railcars. *Id.* at 556. The Federal Circuit reversed this finding on appeal. *Nat'l Steel Car II*, 357 F.3d at 1328–29.

101. *Nat'l Steel Car I*, 254 F. Supp. 2d at 557. This portion of the district court's opinion has been redacted. The Federal Circuit commented on the redacted portion of the opinion in *Nat'l Steel Car II*, 357 F.3d. at 1333.

102. *Nat'l Steel Car II*, 357 F.3d at 1331.

103. *Id.*

104. *Id.* at 1329–30. The court also noted that the *Cali* decision lent persuasive authority to a purposive reading of "temporarily" that did not rely on the duration of the entry at issue. *Id.* at 1330–31.

105. *Nat'l Steel Car I*, 254 F. Supp. 2d at 556 (emphasis added).

106. See *Nat'l Steel Car II*, 357 F.3d at 1328–29.

a CPR locomotive, the "accused railcars [were] part of a vehicle of another country;" namely, Canada.[107] However, "[d]uring the time the accused rail cars are part of trains powered by locomotives owned and operated by United States companies, the accused rail cars are not used in a vehicle of another country."[108] The district court focused on vehicle ownership as proxy for nationality. Thus, it appears that the district court believed that the vehicle must be owned by a foreign corporation or citizen to qualify as a vehicle of "another country" for purposes of Section 272.

Because the Federal Circuit reversed the district court's definition of "vehicle," it did not directly address the nationality issue. However, the Federal Circuit did indicate factors that may influence conveyance nationality, albeit in dicta. While not explaining its methodology, the Federal Circuit determined that the railcars were Canadian, regardless of which country they were in or which locomotive was powering them.[109] It could be argued that the Federal Circuit's ruling seems to implicitly adopt the trial court's nationality-by-owner determination. In a footnote, the court stated that "[n]either the district court opinion below nor NSC's argument on appeal proposes that, if the railcars are vehicles of Canada, CPR is not in relevant part a Canadian corporation or that Canada does not afford similar privileges to United States vehicles as required by the reciprocity provision in section 272."[110]

Further support for the Federal Circuit's implicit adoption of the district court's nationality link between owner and vehicle can be found in the court's opinion. The court addressed, in dictum, what would happen if CPR engaged in a sale-leaseback arrangement. As of the time of the *National Steel Car II* decision, CPR had not determined the ownership scheme under which the rail cars would be purchased. One option considered by CPR was to purchase the cars and then sell them to an American corporation who would then lease the cars back to CPR.[111] The Federal Circuit noted that such an arrangement might take the rail cars outside of Section 272's protection because of the prohibition on the sale of an invention.[112] Furthermore, the court surmised that a sale-leaseback agreement "might transform the rail car into a vehicle of the United States."[113] Such a transformation would only be possible if the Federal

107. *Nat'l Steel Car I*, 254 F. Supp. 2d at 556.
108. *Id.*
109. *Nat'l Steel Car II*, 357 F.3d at 1328 (holding that CPR "may be a foreign vehicle" for the purposes of Section 272).
110. *Id.* at 1328 n.10.
111. *Id.* at 1334.
112. *Id.*
113. *Id.*

Circuit believed, as the district court implicitly held, that the nationality of the rail car depended upon the nationality of its owner.

The Federal Circuit also described what it found to be the purpose behind Congress' enactment of the temporary presence exception:

> Congress intended to join an international movement to place foreign-owned means of international transport beyond the reach of domestic patentees' exclusive rights because the cost of complying with multiple, inconsistent rights of exclusion provided by the patent regimes of a large number of countries would likely place an excessive drag on international commerce.[114]

The court's focus on reducing international shipping costs is similar to the English Parliament's concern that led it to statutorily overrule *Caldwell*.

D. *The Purpose of the Exception*

As demonstrated in the preceding sections, the structure and requirements of the temporary presence exception have undergone changes as the exception has journeyed from legal argument to international treaty provision. However, it is possible to identify the key policies behind the exception's adoption and the basis for the exception's current status under international law.

The exception was initially adopted in England in response to a chancery court decision that a Dutch ship entering English ports was subject to English patent laws.[115] The English statute applied to any docking of a foreign ship within an English port, regardless of the length or frequency of its stay. By reciprocally respecting the nationality of foreign ships, the statute allowed shippers to concern themselves with only the patent laws of their home country, and not those of every nation into which they enter. This reduced transport costs in two ways: by reducing the extent of patent searches and by eliminating the need to obtain licenses to avoid infringement in foreign countries.

The reduced patent informational burden on international shippers resulting from Article 5ter of the Paris Convention has been noted by

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114. *Id.* at 1330. The international community has amended the Paris Convention only with respect to the international shipping industry. As a policy matter, one may wonder why the international shipping industry should be shielded from the high informational cost of understanding hundreds of national patent systems, while other industries that operate in the international arena, such as producers of international goods or internet service providers, are forced to grapple with the variations among domestic patent laws. Whether the exception should be extended to benefit other industries—or repealed altogether—is a question that is outside the scope of this Article.

115. *See supra* Part I.B.

commentators as well. One commentator noted that a major concern of the adoption of the exception was to protect shippers "who may be altogether ignorant of the grant of a patent in a country," from risk of property seizure.[116] Reducing the cost of patent searches reduces the transaction cost of international shipping worldwide, as all major nations enjoy reciprocity for their ships.

Similarly, courts in the United States have found that the reduced informational burden that the temporary presence exception provides for shippers is the main policy objective of the exception.[117] Courts in other countries have similarly emphasized the temporary presence exception's purpose of reducing costs for the transportation industry by reducing the number of patent licenses required to engage in international commerce.[118]

Aside from reducing costs for shippers, the other principal objective of the temporary presence exception is the maintenance of harmonious international relations. The United States Supreme Court in *Brown* felt that granting patentees the right to detain foreign conveyances would unconstitutionally bestow part of the treaty-making power of the federal government on individual citizens.[119] Since the amendment of the Paris Convention, other courts interpreting the temporary presence exception have also noted this important policy goal. For instance, the Eastern District Court of New York stated that, "the patent law must not be so interpreted as to impair the treaty-making capacity of the nation or to clog its power to regulate foreign commerce (since that would make patent grants a surrender pro tanto of 'sovereignty' to private persons . . .)."[120]

The application of the exception by various courts around the world has furthered both of the exception's primary goals. The broad interpretation of temporality by the English Court of Appeal and the U.S. Federal Circuit, among others, greatly reduces the liability and information costs associated with international commerce. Conveyances that are engaged in international commerce can rely on the temporary presence exception to shield them from infringement liability on all patents issued in every country other than their home country. This reduction in global patent liability concomitantly reduces the legal cost of ensuring

116. LADAS, *supra* note 44, at 246.

117. *See supra* Part I.C.2.

118. *Schlumberger Logelco, Inc. v. Coflexip S A* 2000 (3) SA 861 (SCA) at 863 (S. Afr.) (noting that the effect of the temporary presence exception is that conveyance owners "are not required to obtain licenses on patents in force in [foreign] countries in order to avoid infringing such patents") (quoting GEORG HENDRIK CHRISTIAAN BODENHAUSEN, GUIDE TO APPLICATION OF THE PARIS CONVENTION FOR THE PROTECTION OF INDUSTRIAL PROPERTY 82 (1967)).

119. Brown v. Duchesne, 60 U.S. (19 How.) 183, 197 (1856).

120. Cali v. Japan Airlines, Inc., 380 F. Supp 1120, 1125–26 (E.D.N.Y. 1974).

compliance with patent systems worldwide. Through the temporary presence exception, commercial enterprises can focus exclusively on the local patent system and the patents granted therein, assured that liability is limited to those patents. This reduced cost of doing business for companies involved in international trade was much of the driving force behind the international adoption of the temporary presence exception.

However, there is a potential downside to the exception as well. The modern international legal structure for determining conveyance nationality allows owners to select their conveyance's nationality. Nationality selection paired with the temporary presence exception allows conveyance owners to avoid patent infringement liability in every single country. Neither courts nor commentators have addressed this loophole in the international patent system. The next section will describe the international law of conveyance nationality that creates this loophole.

II. International Law: Determining Conveyance Nationality

As described above, most nations that have adopted the temporary presence exception have not defined the manner in which conveyance nationality is determined, nor have domestic courts addressed the nationality question when interpreting the exception. A few countries have statutorily defined nationality with respect to the exception, but most are silent on the issue.[121] Courts that have interpreted the statute thus far have either presumed nationality based on ownership, or found the nationality of the conveyances to be undisputed.[122] Because neither the Paris Convention nor domestic laws have settled the nationality issue, courts faced with cases involving the temporary presence exception turn to international law for nationality determinations.[123]

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121. *See supra* note 72 and accompanying text.

122. *See supra* Part I.C.2.

123. Superficially, it seems appealing for courts to adopt a simpler rubric to determine reciprocity: instead of determining vessel nationality, a court might simply determine that a vessel is "foreign" and from a country that has signed the Paris Convention. Doing so would seem to alleviate the difficulty described in this Article in determining vessel nationality, while still upholding the reciprocity requirement. However, this approach would still encounter the same difficulties that are encountered in determining a specific nationality for vessels. A "foreignness" determination requires the evaluating body to determine that a vessel is not nationalized in the country in which it is located. To do this, the evaluating body must determine where the vessel is nationalized in order to make such a "foreignness" determination. Furthermore, a mere analysis of "foreignness" does not reduce the opportunities for transporters to avoid patent infringement. In fact, under such a broad reciprocity scheme, vessel owners could receive even broader liability immunity because they would only need to prove foreignness in every country into which they enter.

International law requires that vessels (boats, ships, and other ocean-going conveyances) and aircraft have a particular nationality. However, the international regimes for obtaining nationality differ between vessels and aircraft. International law does not determine the nationality of vehicles (automobiles, trains, and other land-based conveyance). This section will describe the international system of nationalization that applies to the three types of conveyances enumerated in the temporary presence exception: vessels, aircraft, and vehicles.

A. *Vessels*

Article 5ter of the Paris Convention grants an exception from infringement for patented devices used "in the body of the vessel, in the machinery, tackle, gear and other accessories."[124] International maritime law, unlike most domestic laws,[125] provides a method for determining the nationality of foreign vessels. International law requires that all navigable vessels have a nationality and fly the flag of that nation.[126] The nationality of a vessel is determined by the flag under which that vessel sails. Thus, even if a vessel's home port is in a country other than the flag country, it is considered a national of the flag country.[127] Under this "law of the flag," each country determines the conditions on which to

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124. Paris Convention, *supra* note 47, art. 5ter(1).

125. As an example of the lack of a statutory scheme for determining foreign vessel nationality, the United States' current statutory codification of the exception provides protection against infringement liability for "vessels," as well as for "aircraft," and "vehicles." The term vessel is broadly defined in the U.S. Code to include "every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water." *See* 1 U.S.C. § 3 (2008). Thus, any means of water transport entering the United States for purposes of international commerce is eligible for protection under the temporary presence exception, as long as it meets the requirements of 35 U.S.C. § 272, including, inter alia, the reciprocity requirement. To determine whether Section 272's reciprocity requirement has been met, a court must determine the vessel's nationality in order to determine whether the vessel's home country provides similar protection from infringement to vessels of the United States. Section 272 does not define how nationality of a vessel is to be determined, nor does the U.S. Code. "Foreign vessel" was formerly defined as "a vessel of foreign registry or operated under the authority of a country except the United States." 46 U.S.C. § 2101(12) (2000). However, that definition was deleted on October 6, 2006. Even using this definition, however, vessel nationality would have to be determined in any inquiry involving Section 272's applicability. Simply finding that a vessel is foreign is not sufficient to determine whether the vessel's home nation provides reciprocity to U.S. vessels.

126. Jessica K. Ferrell, *Controlling Flags of Convenience: One Measure To Stop Overfishing of Collapsing Fish Stocks*, 35 ENVTL. L. 323, 333 (2005); Sompong Sucharitkil, *Liability and Responsibility of the State of Registration or the Flag State in Respect of Sea-Going Vessels, Aircraft and Spacecraft Registered by National Registration Authorities*, 54 AM. J. COMP. L. 409, 411 (2006).

127. *See, e.g.*, *Sclumberger Logelco, Inc. v. Coflexip S A* 2000 (3) SA 861 (SCA) at 865 (S. Afr.) (noting that a vessel carrying a South African flag is a South African vessel, even if its home port is elsewhere).

grant its nationality to a vessel.[128] The flag under which a ship sails determines the laws governing the vessel's operations while on the high seas.[129] A ship on the high seas is assimilated into the territory of the state under whose flag it flies. In essence, a ship is considered part of the national territory of the country whose flag it flies and the duty to exercise control and jurisdiction over vessels is posited solely in that country. International law generally prohibits ships from having dual-citizenship.[130]

The nationality of a particular vessel is of supreme economic importance to a ship owner because it controls numerous aspects that affect profitability.[131] To obtain nationality in a particular country, a ship must seek and obtain registration in that country. The country of registration governs many elements that are of vital importance to ship owners, including labor laws, taxation, and environmental controls.[132] There must be a "genuine link" between the ship and the registering country, but the linkage requirement is not strictly enforced in every nation.[133] The validity of a particular ship's registration and the linkage between the ship and the registering country can be questioned only by the registering state.[134]

Two distinct types of ship registries exist: traditional registries and open registries.[135] Traditional registries impose strict linkage requirements between the flag state and the vessel.[136] These registries typically require that some percentage of the owners or the crew of the vessel be citizens of the granting nation.[137] Some traditional registries impose further citizenship requirements on the management or ownership of the corporation that owns the vessel.[138] For example, the United States is a traditional registry country and maintains a strict nationality requirement for vessel registration. Only U.S. citizens, trusts and partnerships composed exclusively of U.S. citizens, or U.S. corporations that have a

128. BOLESLAW A. BOCZEK, FLAGS OF CONVENIENCE: AN INTERNATIONAL LEGAL STUDY 93–94 (1962).

129. *See* Alexander J. Marcopoulos, Comment, *Flags of Terror: An Argument for Rethinking Maritime Security Policy Regarding Flags of Convenience*, 32 TUL. MAR. L.J. 277, 282–83 (2007).

130. *See* LASSA OPPENHEIM & HERSCH LAUTERPACHT, INTERNATIONAL LAW VOL. 1 (7th ed. 1948).

131. MARTIN STOPFORD, MARITIME ECONOMICS 152–53, 156 (2d ed. 1997).

132. *Id.* at 156.

133. Geneva Convention on the High Seas art. 5(1), Apr. 29, 1958, 450 U.N.T.S. 82.

134. GEORGE KASOULIDES, PORT STATE CONTROL AND JURISDICTION 75 (1993) (stating that the U.N. treaty designed to strengthen the "genuine link" requirement merely "reaffirmed the flag state's supremacy and institutionalized the *status quo*").

135. *Id.* at 159–60.

136. *Id.*

137. *Id.* at 160.

138. *Id.*

minimum number of U.S. citizens on its board of directors can register vessels in the United States.[139]

In contrast, open registries are characterized by a general decoupling between a vessel and its ties to the state of registration.[140] Countries with open registries allow foreign owners to register their vessels. Most open registries allow complete anonymity of ownership interest through the use of bearer shares, nominee shareholders, nominee directors, and intermediaries.[141] Nations with open registries compete for the registration of foreign vessels by reducing the costs and regulations imposed on registered vessels.[142] Ships registered in these so-called "flag of convenience" states typically enjoy lower taxes, operating expenses, and costs associated with regulatory compliance. "Flag of convenience" states have flourished since World War II,[143] and the lowered regulations and costs associated with registering in these countries has attracted over 60 percent of the world's shipping by tonnage.[144] Commentators have criticized the proliferation of "flag of convenience" nations as a race-to-the-bottom for international ship regulations.[145]

The two largest "flag of convenience" registries are those of Panama and Liberia. Over 20 percent of the world's vessels take advantage of Panama's relaxed registration requirements and its light regulatory oversight.[146] There is no citizenship requirement to obtain Panamanian registration nor is there a minimum tonnage requirement.[147] Similarly, Liberia—second only to Panama in number of registered ships—has no citizenship requirement between the registering country and the home port of the vessel, the owner's nationality, or the nationality of the ship's crew.[148]

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139. 46 U.S.C. § 12103(b) (2000).

140. *See* J. Bennett Fox, Jr., *Vessel Ownership and Terrorism: Requiring Disclosure of Beneficial Ownership Is Not the Answer*, 4 LOY. MAR. L.J. 92, 98 (2005).

141. *Id.* at 96.

142. *See* STOPFORD, *supra* note 131, at 161.

143. BOLESLAW A. BOCZEK, INTERNATIONAL LAW: A DICTIONARY 280 (Scarecrow Press 2005); Anastasia Strati, *Greek Shipping Interests and the UN Convention on the Law of the Sea*, *in* GREECE AND THE LAW OF THE SEA 255, 258 (Theodore C. Kariotis ed., 1997).

144. Ferrell, *supra* note 126, at 338.

145. *See e.g.*, Paul S. Dempsey & Lisa L. Helling, *Oil Pollution by Ocean Vessels—An Environmental Tragedy: The Legal Regime of Flags of Convenience, Multilateral Conventions, and Coastal States*, 10 DENV. J. INT'L L. & POL'Y 37, 40, 51, 86 (1980); William Langeweische, *Anarchy at Sea*, ATL. MONTHLY, Sept. 2003, at 52.

146. Marcopoulus, *supra* note 129, at 290–91.

147. *Id.* at 291.

148. *Id.* at 290.

B. *Aircraft*

The exception granted to aircraft in the Paris Convention is arguably broader than the one granted to vessels. Article 5ter permits the unauthorized use of patented devices in the "construction or operation" of aircraft, or "of accessories of such aircraft."[149] International law recognizes the right and duty of aircraft to be registered in a particular country and to adopt the nationality of that country. Thus, as with vessels, courts interpreting the temporary presence exception will look to the country of an aircraft's registration to determine nationality. However, unlike international maritime law in which multinational treaties accord great deference to a vessel's choice of nationality, aviation law is characterized by decentralized agreements between individual nations. These agreements typically establish minimum requirements for registration, such as nationality of ownership. These requirements limit an owner's ability to select his aircraft's nationality.

The first international agreement to require aircraft nationality was the Chicago Convention.[150] Article 6 of that treaty stipulates that aircraft shall take the nationality of the state in which they are registered.[151] That same rule of aircraft nationality exists in various other international treaties.[152] The Chicago Convention fully established the state of registration as the state of an aircraft's nationality.[153] The principle of exclusive jurisdiction of the state of nationality applies to aircraft just as it does to vessels.[154] States must ensure that their aircraft comply with the local rules and regulations in force wherever the aircraft travels, issue certificates of airworthiness for their aircraft, and provide licenses for the crews of those aircraft.[155] While over the high seas, aircraft are treated as part of their state's national territory.[156] However, all aircraft are subject

149. Paris Convention, *supra* note 47, art. 5ter(2).

150. Convention for the Regulation of Aerial Navigation art. 6, Oct. 13, 1919, 11 L.N.T.S. 173 [hereinafter Chicago Convention]. For more on this convention, see I.H.Ph. Diederiks-Verschoor, *Dr. J.F. Lycklama à Nijeholt (1876–1947)*, 19 AIR & SPACE L. 8, 8–14 (1994).

151. *Id.*

152. *See, e.g.*, Pan-American International Convention on Commercial Aviation art. 7, Feb. 20, 1928, 47 U.S.T. 1901; Ibero-American Convention on Air Navigation art. 6, Nov. 1, 1926, (L.O. 1927, 913).

153. Under the Chicago Convention, "Every aircraft engaged in international air navigation shall bear its appropriate nationality and registration marks." Chicago Convention, *supra* note 150, art. 20. The United States complies with this requirement by issuing N-numbers to all registered aircraft, whether the aircraft are used for international or domestic flights. The requirements for requesting, obtaining and displaying N-numbers are stated in 14 C.F.R. § 45.

154. Andrew S. Williams, *The Interception of Civil Aircraft Over the High Seas in the Global War on Terror*, 59 A.F. L. REV. 73, 96 (2007).

155. *Id.* at 97.

156. *Id.*

to the laws of the state in whose territory they enter for purposes of safety, security, customs, immigration, and quarantine.[157] They may be intercepted and boarded for inspection by local officials to ensure compliance with local law.[158]

Thus, just like maritime law, international aviation law looks to the national registries of individual nations to determine nationality. However, the registration regimes differ between the two types of conveyances: domestic aircraft registries do not have international application, unlike vessel registries. Instead, aircraft registries are maintained between the signatories of bilateral agreements.[159] These bilateral agreements establishing nationality are required for planes from the European Union, which has introduced a registration system for E.U. planes. If a plane is registered in the European Union, it must have an individual nationality for purposes of the bilateral agreements that its home country maintains with other nations.[160]

In addition to establishing the nationality requirement for aircraft, the Chicago Convention established the right of every country to reserve to its own carriers air travel between two points within its territory (known as "cabotage").[161] The United States, for instance, reserves its cabotage rights for U.S. air carriers, with exceptions for carriers from countries that offer reciprocal cabotage rights.[162] For an aircraft to be registered in the United States, it must meet strict requirements promulgated to ensure that U.S. aircraft are, in fact, owned and operated by U.S. citizens. Currently, U.S. law requires that an applicant be a U.S. citizen before receiving a license to operate as an air carrier.[163] This strict requirement of owner nationality prevents serious foreign investment in American air carriers, even though U.S. airlines have long been deregulated. Similarly strict ownership requirements are, or may be, imposed

157. *Id.* at 99.

158. *Id.*

159. I.H. Ph. Diederiks-Verschoor, An Introduction to Air Law 271 (8th ed. 2006). The bilateral agreements that have been entered into since the Chicago Convention typically refer to nationality of airline, rather than nationality of individual aircraft. *See* Romina Polley, *3. Aviation Defense Strategies of National Carriers*, 23 Fordham Int'l L.J. 170, 193 (2000).

160. Polley, *supra* note 159, at 193–94.

161. Chicago Convention, *supra*, note 150, art. 7.

162. 49 U.S.C. § 40109(g) (2008).

163. For purposes of U.S. aircraft registration, citizenship includes individual U.S. citizens, partnerships made up entirely of U.S. citizens, or a U.S. corporation of which "the president and at least two-thirds of the board of directors and other managing officers are citizens of the United States, and in which at least 75 percent of the voting interest is owned or controlled by persons that are citizens of the United States." 49 U.S.C. § 41102(a)(15) (2008).

on domestic air carriers in other countries through those countries' bilateral agreements.[164]

Because of international aviation law's reliance on bilateral agreements instead of international treaties, there has not been a proliferation of "flag of convenience" states for aircraft, unlike vessels. Although all international aircraft are required to have a nationality, there is no international agreement that requires that all nations recognize domestic registration practices. For example, the United States has the power to ensure that the nationality of an aircraft applying for a permit has a reasonable relationship with the owner of the aircraft. For a foreign-flag air carrier to permissibly make flights to and from the United States, the carrier must apply for a permit under Section 402 of the Federal Aviation Act. The U.S. Department of Transportation (DOT) is authorized to issue permits to foreign aircraft and in doing so evaluates three areas to ensure compliance with Section 402: (1) public interest, (2) operational and financial fitness, and (3) ownership and control of the airline.[165] DOT has the authority to examine the ownership and control of an aircraft to ensure that it is substantially controlled and effectively managed by nationals or the government of the country of registration.[166] DOT has the power to withhold a foreign permit from an air carrier owned by U.S. citizens. Because DOT has discretionary power to grant or withhold foreign air carrier permits for aircraft that are in reality owned by American citizens or corporations, DOT can effectively limit the ability of U.S. citizens to register their aircraft abroad.

Additionally, bilateral air agreements typically give individual nations the power to accept or reject other countries' registration practices, thus granting individual nations a type of veto power against the rise of "flag of convenience" states for aircraft. While obtaining a particular nationality for an aircraft may be economically beneficial for an aircraft owner, it is much more difficult as a practical matter to obtain such nationality than it is in the case of vessels. The standard bilateral air agreement between individual nations contains a clause that grants states the right to refuse the nationality designation of an air carrier if that air

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164. *See* PAT HANLON, GLOBAL AIRLINES: COMPETITION IN A TRANSNATIONAL INDUSTRY 9 (3d ed. 2007).

165. *See* U.S. Dep't of Transp., Application of Aeroejecutivo for Foreign Air Carrier Permit, Order 91-10-42, Sept. 16, 1991, 1991 DOT Av. LEXIS 762; U.S. Dep't of Transp., Application of Air Europe for Foreign Air Carrier Permits, Order 91-10-22, Sept. 10, 1991, 1991 DOT Av. LEXIS 755; U.S. Dep't of Transp., Eva Airways Corp., Order 91-9-32, Sept. 11, 1991, 1991 DOT Av. LEXIS 648.

166. *See* Application of Air Europe, *supra* note 165, at *2. In one DOT decision, the fact that a U.S. citizen was one of five officers of a foreign airline did not prohibit that airline from obtaining a U.S. permit. *See* Application of Aeroejecutivo, *supra* note 165, at *2.

carrier is not majority-owned and effectively controlled by nationals of that state.[167]

C. *Vehicles*

Vehicles are afforded the same exception from patent infringement that aircraft are afforded under the Paris Convention. Thus, the use of a patented device in the "construction," "operation," or "accessories" of a vehicle is permitted while in a foreign country temporarily. Although vehicles, such as railcars and automobiles, are often registered in individual countries, the domestic registration of those vehicles does not determine nationality under international law.[168] Courts faced with determining the nationality of land vehicles will therefore have no choice but to look to domestic law to determine nationality. Unfortunately, many nations do not have such statutory nationality determinations. For instance, while "vehicles" are well-defined in the U.S. Code,[169] "foreign vehicles" are not, nor is vehicle nationality generally defined. Faced with this predicament, courts that have thus far analyzed the issue have looked to the vehicle owner's nationality as a proxy for vehicle nationality.[170]

III. The Problem: Using Territoriality and Nationality to Avoid Patent Infringement

The temporary presence exception effectively limits the scope of a conveyance owner's patent infringement liability to a single country. The reduced scope of international liability results in reduced costs for the owner. These reduced costs include reduced patent search costs, reduced licensing fees, and lower infringement judgment and insurance costs.[171] The exception maintains the domestic reach of patent law—conveyances remain bound by their home patent law system—while eliminating the additional liability associated with conveyances entering foreign nations.

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167. Diederiks-Verschoor, *supra* note 159, at 76.

168. *Id.* at 28.

169. 1 U.S.C. § 4 (2008).

170. *See* Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 357 F.3d 1319, 1326, 1328 n.10, 1334 (Fed. Cir. 2004) ("*Nat'l Steel Car II*").

171. *See, e.g.*, Ladas, *supra* note 44, at 246 ("The right of the patentee to prevent the use of his invention in foreign vessels or other means of transportation coming temporarily into the jurisdiction of a state may cause much inconvenience to the freedom of communication. It is too rigid to require a foreigner, who may be altogether ignorant of the grant of a patent in a country, to secure a license from the patentee for the use of the invention at the risk of being subjected to seizure of the machine or engine employed in the construction, fitting out, or functioning of his vessel or other means of transportation.").

The temporary presence exception is a reciprocal exception. Paris Convention countries agree not to enforce their patents against conveyances from other member-countries.[172] The reciprocal nature of the temporary presence exception inherently requires that conveyances have a designated nationality; nationless conveyances cannot claim protection under the exception because they do not hail from a country that offers reciprocal protections. In essence, the exception allows a conveyance owner to ignore patents issued in all countries, other than the flag country of the conveyance. It is therefore necessary to determine a conveyance's nationality in order to determine which country's patent laws govern the conveyance.

When the temporary presence exception was adopted in 1925, determining the nationality of an airplane or a ship was a fairly simple matter. Airlines were generally state-owned or, in countries with private airline ownership, domestic governments exercised great control over pricing and routes.[173] In the 1920s, ship registries were "closed;" that is, they were available only to a country's own citizens.[174] Ships were, therefore, clearly nationalized within the country in which their owner was a citizen. "Flag of convenience" registries had not yet developed and ships were typically nationalized in their owner's home country.[175] With the rise of "flag of convenience" registries, however, conveyance owners are now able to select their conveyance's flag country.

This section will describe two ways in which owners can select the nationality of their conveyance in such a way as to completely eliminate patent infringement liability. This reduction in infringement liability is available to a degree not contemplated by the framers of the temporary presence exception. In short, owners can register their conveyances in a nation of their choice and effectively opt-in to the most favorable patent system, while opting-out of every other domestic patent system worldwide. They can do this by either selecting a flag country in which inventors do not typically obtain patent protection, or a country into which the particular conveyance never enters. By carefully selecting the flag country of their conveyance, owners can effectively, if not completely, eliminate their liability for patent infringement on a global level.

The practice of selecting a flag country in order to reduce operating costs is well-documented.[176] "Flag of convenience" registries thrive precisely because they allow owners to evade laws, regulations, and taxes to which they would otherwise be subject if they were forced to register in

172. *See* Paris Convention, *supra* note 47, art. 5ter.
173. *See* HANLON, *supra* note 164, at 7.
174. BOCZEK, *supra* note 143.
175. *Id.*
176. *See, e.g.*, *id.*

other nations.[177] This creates a race-to-the-bottom in which countries competing for vessel registrations reduce the regulatory requirements and taxes on vessels in order to attract foreign registrants.[178] This practice has been roundly criticized and some steps have been taken on an international level to address the issue.[179]

However, the effect of "flag of convenience" registries on international patent law has not been addressed by commentators. This is likely due to a number of reasons. First and foremost, it is unclear whether patent costs drive the registration decisions of conveyance owners. Conveyance owners are faced with numerous variables when deciding in which country to register their conveyance.[180] It may be the case that a reduction of taxes, salaries, and regulations is more attractive to conveyance owners than reduced patent infringement liability. It is also likely that the true cost savings associated with choosing a particular tax and regulatory regime over another is more easily calculable than the reduced patent search and licensing costs associated with one patent regime over another. Patentees also face search costs associated with identifying and locating infringing conveyances and these costs may deter patentees from bringing infringement claims, thereby emboldening infringers. Lastly, it is not apparent that the international transportation industry is aware of the possibility of avoiding patent infringement through conveyance nationality selection.[181]

While the extent to which conveyance owners take patent infringement considerations into account when selecting a flag country for their conveyances is undetermined and perhaps negligible, the existence of a loophole allowing infringement avoidance through nationality selection is troublesome. Flag country selection provides owners with an exception from patent infringement that is much broader than the framers of the temporary presence exception envisioned. The temporary presence exception was designed to place a conveyance at risk of patent infringement only in its home country,[182] but this section will demonstrate how conveyance owners, with the help of "flag of convenience" registries and

177. *Id.*

178. STOPFORD, *supra* note 131, at 161.

179. *See* BOCZEK, *supra* note 143, at 281–82.

180. *See id.* at 279–80 (noting that "flag of convenience" registries are used to reduce tax burdens, regulatory costs, crew salaries, and to avoid compliance with fishing regulations).

181. *Cf. Federal Circuit's First Review of Section 272 of the Patent Act*, Ropes & Gray LLP News and Publications, Mar. 2004, *available at* http://www.ropesgray.com/newspubs/detail.aspx?publication=606 (noting that *National Steel Car II* "need not imply that defendants will successfully rely on Section 272 [temporary presence exception] with any greater frequency than they have for the past 50 years").

182. *See supra* Part I.D.

ownership transfers, can virtually eliminate global patent liability on their vessels and vehicles.

This section will provide examples of how the intersection of the international regime of conveyance registration with the temporary presence exception creates opportunities to eliminate patent infringement liability. The examples are grouped into two types of methods for eliminating patent infringement liability. The first method involves obtaining nationality in a country which has either weak patent enforcement, or few relevant patents. The second method involves obtaining nationality in a country into which the conveyance never enters. Following the examples of liability avoidance, this section will describe additional considerations in using the temporary presence exception to avoid infringement liability.

A. *Examples of the Problem*

Domestic patent systems are not created equally; the subject matter that is eligible for patent protection differs between nations,[183] as do the requirements for obtaining and enforcing patents.[184] Individual domestic patent systems also vary considerably in the amount and scope of patents in force.[185]

These differences between domestic patent systems result, in part, from patentees choosing to obtain patents only in those countries in which doing so will result in an expected economic benefit. Because patents can only be enforced in the issuing country, patenting an invention in a country in which the invention is unlikely to be made, used, manufactured, or sold does little to protect the economic value of an inventor's intellectual property. Similarly, a potential patentee stands to benefit little from patenting an invention in a country with weak, or nonexistent patent enforcement mechanisms.[186] As a practical matter, it is wasteful to spend the time and money required to obtain a patent in a

183. *See, e.g.*, H. Stephen Harris, Jr., *Competition Law and Patent Protection in Japan: A Half-Century of Progress, a New Millennium of Challenges*, 16 COLUM. J. ASIAN L. 71 (discussing the differences between patent-eligible subject matter in Japan, the United States, and Europe).

184. *See, e.g.*, Adam J. Sedia, *Storming the Last Bastion: The Patent Reform Act of 2007 and Its Assault on the Superior First-to-Invent Rule*, 18 DEPAUL J. ART, TECH. & INTELL. PROP. L. 79 (noting that the United States is the only country with the first-to-invent rule for patenting).

185. *See* WIPO STATISTICS DATABASE, PATENTS IN FORCE BY PATENT OFFICE AND REPORTING YEAR (2006), *available at* http://www.wipo.int/export/sites/www/ipstats/en/statistics/patents/xls/wipo_pat_in_force_by_office_table.xls.

186. *See* Robert M. Sherwood, Vanda Scartezini & Peter D. Siemsen, *Promotion of Inventiveness in Developing Countries Through a More Advanced Patent Administration*, 39 IDEA 473, 477–78 (1999).

country in which enforcing that patent would be impractical or impossible.

In practice, inventors typically patent their inventions only in countries in which they will likely receive a significant monetary reward in the case of a favorable infringement judgment, or in cases in which the threat of such a judgment is sufficient to induce a user to obtain a license prior to using the patented device.[187] Patentees often patent only in a few domestic patent offices in which the need for and ability of enforcement is greatest. For example, the patent offices of Japan, the United States, China, South Korea, and the European Union account for over 74 percent of all patent applications worldwide.[188] The IP director for Boeing Corporation estimates that only "30 to 40%" of the company's patents are prosecuted anywhere other than the United States, and of those that are most are prosecuted only in the European Union.[189] Rarely do patentees go to the time, effort, and expense of completely globalizing their patent rights.[190] This is why a much greater number of patents are in force in Japan, the United States, the European Union, and other major industrial nations than in less-developed countries.[191]

Domestic patent systems also differ by the particular domestic laws and enforcement mechanisms employed by individual nations. The types of inventions eligible for patenting differ between nations.[192] Along with the difference in patent-eligible subject matter among nations, there is a disparity in the quality and efficiency of judicial enforcement mechanisms. To effectively enforce patent rights, a patentee must be able to obtain a judicial decree that is enforceable. Many nations lack effective judicial mechanisms for patent enforcement, thus lowering the value of patents in those countries and serving as a disincentive to obtain patent protection in such countries.[193] The temporary presence exception allows

187. *See id.* at 478 (noting that "in countries with weak intellectual property protection, inventors have been discouraged from filing patent applications because of the dubious value of any patent they might obtain").

188. WIPO PATENT REPORT: A STATISTICAL REVIEW (2008 ed.), *available at* http://www.wipo.int/ipstats/en/statistics/patents/wipo_pub_931.html#a12.

189. Ingrid Hering, *Taking to the Skies: Ingrid Hering Speaks to James Tierney, Director of IP Business, Boeing*, MANAGING INTELL. PROP. Nov. 2001, at 64–65.

190. *See* Michael D. Bednarek, *Global Patent Strategy*, MANAGING INTELL. PROP., Nov. 1994, at 12 ("few individuals or even large companies can afford to protect every invention in every country.").

191. *See* WIPO PATENT REPORT, *supra* note 188.

192. Harris, *supra* note 183. TRIPS grants nations the right to exclude from patentability applications involving certain subject matter, including patent applications for medical procedures, inventions involving plant or animal material, and business methods. *See* TRIPS, *supra* note 4.

193. *See* Richard T. Rapp & Richard P. Rozek, *Benefits and Costs of Intellectual Property Protection in Developing Countries*, 24 J. WORLD TRADE 75, 77–83 (1990) (finding that

patent users to exploit this patchwork of domestic patent rights in order to avoid patent liability globally in two ways: by registering a vessel in a country with a weak patent system, or by employing a sale/leaseback agreement with a foreign corporation.

1. "Flag of Convenience" Registries

One method for avoiding global patent infringement liability by using the temporary presence exception is to take advantage of "flag of convenience" registries. This can be done by registering in countries into which a vessel never enters or by registering in a country with a weak patent system. For purposes of this example, a weak patent system refers to systems in which judicial enforcement of patent rights is ineffective or in which the scope of patents is less than robust.

As an example, recall the facts of the *Stena Rederi* case.[194] In that case, an Irish ferry made daily journeys between the United Kingdom and Ireland. The hull design was patented in the United Kingdom, but not in Ireland. That decision—to patent in one country and not the other—ultimately meant that the patentee was unable to enforce his patent against the ferry, as it was an Irish ferry and therefore subject only to patents in effect in Ireland.

Suppose, however, that the patentee had obtained a patent of his hull design invention in both Ireland and the United Kingdom. In that case, the ferry would not be subject to patent infringement in the United Kingdom, but would be in Ireland. The court in the *Stena Rederi* case noted this possibility by noting that, "the Jonathan Swift would not be immune from suit in Dublin, its home port."[195] The court assumed that if the patentee had merely obtained his patent in the neighboring nation of Ireland, the temporary presence exception would not have provided any protection for the alleged infringer.[196]

But this assumption is incorrect for two reasons. First, the ferry could have obtained nationality in a country, such as Panama, into which it would never enter.[197] In that case, even if the patentee obtained a patent in both Ireland and England (the two countries between which the *Jonathan Swift* traveled) he would not be able to enforce his patent against a

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Sub-Saharan Africa and Eastern Europe have strong but poorly enforced intellectual property laws).

194. Stena Rederi Aktiebolga v. Irish Ferries Ltd., (2003) EWCA (Civ.) 66 (Eng.).

195. *Id.* at 77.

196. The court stated that being subject to infringement in Ireland disproved the patentee's argument "that the ship could not infringe anywhere (other than the point of construction)." *Id.*

197. Panama has been a member of the "Paris Union" since October 19, 1996. WIPO, Paris Notification 174, Accession by the Republic of Panama, July 19, 1996, *available at* http://www.wipo.int/edocs/notdocs/en/paris/treaty_paris_174.html.

Panamanian vessel. The court's incorrect belief that simply obtaining a patent in Ireland would have protected the patentee's rights stemmed from the court's misinterpretation of how to determine the *Jonathan Swift*'s nationality. The court stated that "[a] vehicle which returns to its *operational home* may not be treated the same way as one which temporarily visits foreign lands."[198] According to international law, however, a vessel's "operational home" does not influence, much less determine, the vessel's nationality.[199] Instead, the country of registration determines nationality.[200] Therefore, if the *Jonathan Swift* had been registered in Panama—which is permissible under both Panamanian and international law—there would be no risk in using the patented design without a license in England and Ireland. This would be true in any country into which the *Jonathan Swift* entered, except for Panama.

Alternatively, the patentee could have avoided liability by selecting a nation in which the patentee had declined to patent his invention, or in which patent protection is weak. For example, if the patentee had chosen not to obtain patent protection in Liberia, the ferry owner could have registered in that country, thereby obtaining Liberian nationality. Thereafter, the *Jonathan Swift* would only be subject to patent infringement in Liberia. Since the inventor had not patented his invention in Liberia, the ferry would have been immune from patent infringement on the patented hull design in every country. Of course, this scenario assumes significant foresight on the part of the user of the patented device. Such foresight would involve extensive knowledge of patents and patent law.

Under either the Liberia or Panama scenarios above, the patentee would be unable to enforce his patent against the *Jonathan Swift*. The Panama scenario creates unenforceable patent rights even if the patentee had gone to the expense of patenting his invention in every country worldwide.[201] Clearly, this level of patent infringement immunity is beyond the scope contemplated by the framers of the temporary presence exception.[202] The framers of the exception did not contemplate global patent infringement avoidance using the temporary presence exception, nor could they have contemplated such avoidance since the ability to obtain nationality separate from a vessel's operational home did not arise for many years after the adoption of the exception.

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198. *Id.* (emphasis added).
199. *See supra* Part II.A.
200. *See id.*
201. This is subject to the caveat that once on the high seas, the vessel would be subject to the patent laws of the flag country. *See supra* note 129 and accompanying text. Thus, the vessel would only be liable for infringement when in Panamanian waters, or when on the high seas.
202. *See supra* Part I.D.

2. Sale/Leaseback Agreements

The previous example dealt with using "flag of convenience" registries in combination with the temporary presence exception in order to avoid global patent infringement liability. That method of infringement immunity is only available to vessels, because such registries do not exist for land vehicles or aircraft. However, land vehicles may be able to use the temporary presence exception to avoid patent infringement liability globally in a different manner.

To demonstrate this possibility, recall the *National Steel Car* case. In that case, CPR had not finalized the ownership status of its allegedly infringing railcars; CPR was contemplating financing its purchase of the railcars through a sale-leaseback arrangement.[203] Under this arrangement, CPR (a Canadian corporation) would sell the railcars to a leasing company (located in the United States) which would then lease the cars back to CPR through a capital or operating lease.[204]

The modern rail industry often utilizes sale-leaseback agreements in order to finance the purchase of railcars.[205] In such agreements, railcars are simultaneously sold and leased back to the seller, typically for long-term use.[206] Sale-leaseback agreements enable an operator to untie cash invested in a railcar while still enjoying the use of the car. The third-party lessor receives a steady income stream from the lease payments as well as tax breaks associated with the depreciation of the railcars.[207]

The nationality of land vehicles, unlike the nationality of vessels and aircraft, is not controlled by international law.[208] Although some nations explicitly define vehicle nationality as equivalent to the owner's nationality for purposes of the temporary presence exception,[209] most domestic temporary presence statutes are silent on the issue. In any case, a vehicle (as opposed to a vessel or an aircraft) can be registered in more than one country; therefore its registration cannot be determinative of nationality.[210]

In *National Steel Car II*, the Federal Circuit reasoned in dictum that such a leaseback agreement "might transform the rail car into a vehicle

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203. Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 357 F.3d 1319, 1334 (Fed. Cir. 2004) ("*Nat'l Steel Car II*").

204. *Id.*

205. *See, e.g.,* Paul M. Van Arsdell et al., *Toward a Theory of Business Finance: Discussion*, 10 J. FIN. 144, 148 (1955).

206. *Id.*

207. *See, generally,* Myron B. Slovin, Marie E. Sushka & John A. Polonchek, *Corporate Sale-and-Leasebacks and Shareholder Wealth*, 45 J. FIN. 289, 290 (1990).

208. *See* DIEDERIKS-VERSCHOOR, *supra* note 159, at 28.

209. *See supra* note 72.

210. *See* DIEDERIKS-VERSCHOOR, *supra* note 159, at 28 ("nationality does not carry much weight" with regards to land vehicles).

of the United States and thus remove the use of the invention from the scope of the uses provided for in the first half of [the temporary presence exception]."[211] No mention was made of the railcar's registration in determining nationality; rather, the court focused on the nationality of the legal owner of the vehicle.[212] Thus, the court seemed to imply that a vehicle's nationality is determined by the legal owner of the vehicle, and that nationality can be altered by selling the vehicle to a foreign corporation.

However, equating a vehicle's nationality with its owner's nationality creates opportunities for patent infringement avoidance through creative lease agreements. Suppose, for example, that instead of entering a sale-leaseback agreement with an American corporation, CPR had entered into a sale-leaseback agreement with a Vietnamese corporation. Entering into such a leaseback agreement would provide complete infringement immunity to CPR. When entering the United States, the railcars would be entering solely for the purpose of international commerce and would thus be protected from infringement under the American temporary presence statute.[213] The railcar was not patented in Canada; thus CPR could not infringe in Canada. Even if a Canadian patent had been obtained, a railcar owned by a Vietnamese corporation would not be subject to infringement when coming back into Canada under the Canadian temporary presence statute.[214] Thus, the railcars would effectively be immune from infringement worldwide.

It should be noted, as it was by the Federal Circuit, that a sale-leaseback agreement in *National Steel Car II* would have constituted a "sale" of the invention, thereby removing the transaction from the protection of the temporary presence exception.[215] To get around this in the hypothetical above, the arrangement between CPR and a Vietnamese corporation could not involve a sale (or an offer for sale) in a country in which the railcars were patented. Thus, the Vietnamese corporation would have to obtain the railcars from a third party, and then lease them to CPR.[216]

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211. Nat'l Steel Car, Ltd. v. Canadian Pac. Ry., Ltd., 357 F.3d 1319, 1334 (Fed. Cir. 2004) ("*Nat'l Steel Car II*").

212. *Id.*

213. 35 U.S.C. § 272 (2008).

214. Patent Act, R.S.C., ch. P-4, 23 (1985).

215. *Nat'l Steel Car II*, 357 F.3d at 1334.

216. There is some disagreement as to the territorial limits on offers to sell. *See* Timothy R. Holbrook, *Territoriality Waning? Patent Infringement for Offering in the United States to Sell an Invention Abroad*, 37 U.C. DAVIS L. REV. 701, 726–59 (2004). Thus, even if the Vietnamese corporation purchases the vehicles from a Canadian company, the temporary presence exception may still allow complete liability immunity.

B. *The Current Extent of the Problem*

This Article has argued that it is possible for conveyance owners to take advantage of the loophole created by the temporary presence exception and the international conveyance registration system. There are three ways in which an owner can evade infringement through choice of conveyance nationality: (1) choosing a flag nation in which few patents on inventions relating to the conveyance have issued (in the case of vessels), (2) choosing a flag nation into which the vehicle never enters, and therefore is not subject to the territorially limited patent laws (vessels), or (3) through sale/leaseback agreements (in the case of vehicles). The complete elimination of global patent liability is far beyond the protection envisioned by the drafters of the Paris Convention.[217]

While the exception has the potential to provide a loophole for potential infringers, it is not clear to what extent the loophole is currently being used. Indeed, there may be other factors that limit a conveyance owner's ability to fully take advantage of the loophole. One such limitation may be patentees choosing to enforce their patents in the country of manufacture rather than in the country of use. Unauthorized manufacture of a patented invention exposes the manufacturer to liability for patent infringement.[218] While a patent owner may not be able to enforce his patent against a conveyance engaged in international commerce due to the temporary presence exception, the exception does not reduce patent scope in the country of manufacture. It is possible that patentees rely on infringement actions against unauthorized manufacturers, as opposed to unauthorized users, in order to enforce their patent rights.

However, relying on enforcement of patent rights only at the point of manufacture is unlikely to fully protect patentees. To obtain the right to exclude, patentees must patent their invention in the country of manufacture. Many countries in which patentees typically seek patent rights are not large vessel-manufacturing countries. For instance, the United States manufactures less than one percent of ships manufactured in the world,[219] yet the United States Patent Office receives more patent applications that any other office in the world.[220] On the other hand, there are countries (such as Taiwan) with ship-manufacturing industries that exceed the

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217. *See supra* Part I.D.

218. *See, e.g.*, 35 U.S.C. § 154(a) (2008) (granting patentees the right to exclude others from "making" the patented invention); *see also* 35 U.S.C. § 271(f) (2008) (making the export of a patented device for the purpose of foreign assembly a violation of the patent laws).

219. U.S. Dep't of Transp., Research & Innovation Tech. Admin., Bureau of Transp. Statistics, Maritime Trade & Transportation, 2007 at 78 tbl.7-2 (2008), *available at* http://www.bts.gov/publications/maritime_trade_and_transportation/2007/pdf/entire.pdf [hereinafter Maritime Trade & Transp.].

220. *See* WIPO Patent Report, *supra* note 188, at 14.

United States, yet whose patent offices grant significantly fewer patents.[221] Thus, to fully protect an invention, a patentee would have to obtain patent rights in all countries in which a ship, or a ship part, is manufactured. These countries may not be countries from which a patentee would otherwise desire patent protection. The cost of obtaining patent protection for vessel patents would thus increase by the amount spent on prosecuting patents in the various manufacturing countries. This increased cost also reduces the incentives to invest in the development of technologies associated with international shipping.

Additionally, as globalization increases, the ship-manufacturing industry will likely become even less centralized. As this occurs, patentees desiring global patent protection will be forced to patent their invention in even more countries. Furthermore, patented devices that are "add-on" conveyance technologies, such as navigational systems, can be manufactured in an even wider variety of countries, thus increasing even further the burden on patentees.

Even if patentees obtain global patent protection, most countries have inadequate mechanisms for enforcing patents. Thus, although a patentee may nominally have protected his intellectual property globally, in reality he can only protect his rights in a limited number of countries.

A point regarding the doctrine of patent exhaustion should also be noted. Patent exhaustion grants purchasers of a patented product the right to use that product without being liable for infringement.[222] If a conveyance or any patented item embodied therein is purchased from a patentee or an authorized licensee, it may be used with impunity.[223] Thus, a purchaser is not subject to infringement in the country in which the device was purchased. However, exhaustion, like other elements of patent law, is generally territorially limited.[224] Purchasing a patented device from a French patentee grants the purchaser rights to use the invention in France, but nowhere else.

The temporary presence exception allows conveyance owners to ignore patents in all countries other than the conveyance's flag country. Therefore, if a conveyance owner has obtained rights to use a patented device in the flag country, he does not face patent liability regardless of

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221. For example, Taiwan's ship-building industry manufactures over three times more gross tonnage than the United States' industry. MARITIME TRADE & TRANSP., *supra* note 219, at 78, tbl.7-2. Taiwan is not among the top 20 patent granting nations. WIPO PATENT REPORT, *supra* note 188, at 21.

222. *See generally* Noel Chatterjee, *Imperishable Intellectual Creations: The Limits of the First Sale Doctrine*, 5 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 383 (1995).

223. *Id.*

224. *See* CHISUM, supra note 42, § 16.03[2][a][iv] (In the United States, international exhaustion has arisen often with regard to trademark and copyright, but relatively rarely with regard to patents.).

where the conveyance travels. Assuredly the vast majority of owners of the international aircraft and vessels in use today have legitimately obtained the rights to use the patented devices contained in their conveyances. As described in this Article, however, the potential exists to operate an international conveyance without first obtaining those patent rights. This potential problem could lead to a reduction in value for transportation patents resulting in fewer future advances in transportation technology.

C. *Institutional Problems Associated with Infringement Avoidance*

The ability to avoid patent infringement through the temporary presence exception creates two potential problems that may aggravate the infringement-avoidance loophole. First, if owners of international conveyances are able to evade infringement using the temporary presence exception, the value of patents related to such conveyances may decline because patentees will be unable to enforce their property rights. This decline in patent value could lead to reduced incentives to innovate and develop new technology in international transportation.[225] Second, if end-users of patented products successfully evade patent infringement they will gain a competitive advantage over firms that do not take advantage of the loophole, because those end-users that utilize the loophole face reduced patent license costs.[226] This would force all transportation firms to take advantage of the loophole which could create competition among countries that maintain "flag-of-convenience" registries.[227] Countries could be incentivized to lower patent enforcement and raise patentability requirements. This reduction in patent enforcement could weaken certain domestic patent systems.

If the use of the temporary presence exception significantly increases, the value of patents on international conveyances will decline. First, to protect their patents from selective avoidance, patentees may seek patent protection in more countries than is currently cost-

225. *See* Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 995–96 (1997).

226. Unfortunately, reliable data on the average cost of negotiating and entering into patent licenses is extremely limited. *See* Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1506 (2001).

227. Such competition is well-documented among "flag-of-convenience" countries. *See, e.g.*, Clifford B. Donn, *Sailing Beyond the Reach of Workplace Regulations: Worker Exploitation by MNCs on the High Seas*, *in* MULTINATIONAL COMPANIES AND GLOBAL HUMAN RESOURCES STRATEGIES 294–96 (William N. Cooke ed., 2003). This phenomenon has also been studied among states competing for business registration. *See, e.g.*, DAVID VOGEL, TRADING UP: CONSUMER AND ENVIRONMENTAL REGULATION IN A GLOBAL ECONOMY 5, 6 (Harvard Univ. Press 1995).

effective.[228] Filing additional domestic patent applications has the potential to greatly increase the cost associated with patenting an invention.[229] Furthermore, conveyance owners will be less incentivized to license patents if they can avoid infringement of those patents by registering their conveyance in a country with weak patent enforcement. The inability to license a patent or to bring an infringement suit against unauthorized use could decrease the value of patents in the international transport industry.

Patent theory predicts that if patents are reduced in value, investment in research and development will likewise be reduced.[230] A reduction in research and development will lead to less innovation in the field. The degree to which the exception is utilized will affect this reduction in R&D spending: if the exception is not widely used, the reduction in development will likely by negligible; however, if the use of the exception in the shipping industry becomes widespread, the reduction in development may become significant. The temporary presence exception presents a potential cost to the transportation industry in the sense that if the exception becomes commonly utilized, there may be reduced economic rewards for innovators in the transportation area. This potential for reduced incentives to innovate and increased costs in the transportation industry is in stark contrast to the purposes behind the exception. Indeed, there is evidence that the shipbuilding industry does not secure its intellectual property rights to the fullest extent possible, in part due to the temporary presence exception.[231]

The increased use of the temporary presence exception also has the potential to weaken certain domestic patent systems. For example, if Shipping Company A were able to use numerous patented technologies in its ships without paying a licensing fee to the patent owner, the company would be able to reduce the price at which it bills its services. On the other hand, Shipping Company B, which does not take advantage of the temporary presence exception, would have a higher cost of doing business than Company A, namely the cost of licensing the patented devices used in its ships. To remain competitive, Shipping Company B would be forced to either stop using the patented devices for which it pays licensing fees, or to register its ships in such a way as to take advantage of the temporary presence exception. If a firm wanted to reduce its patent licensing costs by means of the temporary presence exception,

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228. *See supra* Part III.A.

229. Some scholars have suggested that prosecuting a patent application in the United States alone averages from $10,000 to $30,000. Kimberly Moore, *Xenophobia in American Courts*, 97 Nw. U. L. Rev. 1497, 1544–55 (2003).

230. *See* Lemley, *supra* note 225, at 995–96.

231. Shipbuilding IPR Study, Houthoff Buruma N.V. at 10, 105 (Dec. 14, 2007) *available at* http://www.docstoc.com/docs/957809/Shipbuilding-Intellectual-Property-Rights-Study.

it would search for a country that has few relevant patents or weak patent enforcement.

Indeed, if the use of the exception greatly increases, countries with weak patent systems would expect to see an increase in registration requests for ships.[232] Thus, as those countries competed to attract more investment in their ship registry they would be incentivized to reduce patent enforcement mechanisms and to raise the burdens of obtaining a patent in the first place. This race-to-the-bottom for registering countries has been well-documented in other aspects of shipping, such as reduced taxes and regulations.[233] If companies increasingly seek to take advantage of the temporary presence exception, a similar race-to-the-bottom for patent enforcement may occur, especially for those countries that already are engaged in competition for shipping registration.

IV. Proposed Solution: International Transportation Patent Registry

The temporary presence exception is the product of hundreds of hours of international preparation and negotiation. As various courts have recognized, the time and effort spent in enacting the exception indicates that the purpose of the exception has broad international appeal.[234] However, as described in the preceding sections, the exception is overbroad in that it provides a potential loophole from patent infringement for the international transportation industry. This is particularly true for vessels, due to the availability of "flag of convenience" registries.[235] It is also a concern with land vehicles that engage in sale-leaseback arrangements.[236] This section proposes a solution to the infringement loophole created by the temporary presence exception's intersection with the permissive nationality standards of international law.

To completely do away with the exception because of the loophole would eliminate the benefits that the exception provides to international transport. These benefits include reduced informational costs and reduced global patent infringement liability.[237] This section's proposal seeks to retain the benefits of the temporary presence exception while simultaneously protecting the value of patented inventions relating to the

232. *See* Lemley, *supra* note 225.
233. *See* Vogel, *supra* note 227.
234. Cali v. Japan Airlines, Inc., 380 F. Supp. 1120, 1126 (E.D.N.Y. 1974) (stating that the temporary presence exception "was of enough importance to occupy the attention of the [U.S.] Congress and the negotiators of two treaties").
235. *See supra* Parts II.A., III.A.1.
236. *See supra* Parts II.C., III.A.2.
237. *See supra* Part I.D.

transportation industry. In short, the proposal seeks to retain the reduced costs enjoyed by the international transportation industry due to the temporary presence exception, while also maintaining the value of, and incentives to invest in, technology applicable to the international transportation industry. The proposal also seeks to retain, to the extent possible, the current structures of the international patent system and to avoid creating burdensome regulatory oversight.

A. *The Proposal*

In order to eliminate the infringement loophole created by the temporary presence exception, two changes to the current international patent system should be implemented; one which is significant and one which is minor. The significant change involves an amendment to Article 5ter of the Paris Convention that would create an international registry of patents applicable to international vessels. The second change calls for the adoption of a standard judicial interpretation of land vehicle nationality for purposes of the temporary presence exception.

An amendment to Article 5ter is needed to close the loophole created for vessels registered in "flag of convenience" nations. Due to the proliferation and international recognition of "flag of convenience" registries, owners can register their vessels in countries into which a vessel never enters or in countries with weak domestic patent systems, thereby obtaining global patent infringement immunity.[238] Patentees of improvements in vessel technology are therefore unable to fully enforce their patent rights against vessels registered in "flag of convenience" nations.[239]

To reestablish the ability of patentees to protect their inventions, this Article proposes an amendment to Article 5ter in which a patent registry is created that would place registered patents outside the scope of the temporary presence exception. This International Registry of Vessel Patents would operate only with relation to the temporary presence exception. Patentees would continue to obtain patents from domestic patent offices. Once a patent issues, a patentee could apply to have the patent included in the registry, for a fee. Inclusion in the newly created registry would overcome a defense of non-infringement based on the temporary presence exception.

The registry would not confer any special rights upon the listed patents other than to overcome a defense of temporary presence in the country in which the patent has issued. Inclusion in the registry would not indicate any higher proof of validity than the patent already

238. *See supra* Parts II.A., III.A.1.
239. *Id.*

possesses. Validity determinations (including novelty, inventive step, and patentable subject matter) would continue to be determined by domestic patent offices, not by the maintainer of the registry. Nor would the registry "internationalize" the patent in any way. The patent would remain valid only in the country or countries in which it had been issued domestically. Thus, for example, inclusion of a Canadian patent in the registry would not give the patent holder any additional rights outside of Canada. Similarly, a U.S. patent included in the registry would only overcome a defense based on 35 U.S.C. § 272, and only in patent disputes in the United States.

Patent registries are used in other areas of patent law. For example, in the United States, the so-called "orange book" is the authoritative reference source for all drug product patents that have been approved by the Food and Drug Administration.[240] Inclusion of a patent in the orange book does not provide additional support for the validity of a patent, but serves to give notice to potential infringers. The proposed registry system would operate in a similar fashion.

An amendment to Article 5ter might take the following form:

> Section 1 of this Article [exempting patented devices on vessels from infringement] shall not apply to the use of patented devices on board vessels temporarily present in the waters of said country, if said device is patented in said country and is registered in the International Registry of Vessel Patents.

This proposed change to the Paris Convention has numerous benefits for patentees. Perhaps most importantly, with the registry in place, the value of patents related to international vessels would not risk becoming artificially deflated due to the temporary presence exception. Patentees of inventions related to international vessels would not be forced to patent inventions in dozens of countries to enforce their patents.[241] Instead, patentees would be able to select the countries in which the costs of obtaining a patent are less than the expected benefits of having the right to exclude.[242] Patentees could thus choose to patent inventions only in the countries with the largest number of potential users. Reducing the number of countries in which patent protection is sought will greatly reduce

240. Ctr. for Drug Evaluation & Research, U.S. Dep't of Health & Human Servs., http://www.fda.gov/cder/ob/default.htm (last visited Jan. 9, 2009).

241. *See supra* Part III.

242. Patentees would still be forced to make decisions, oftentimes difficult ones, regarding the choice of countries in which to apply for a patent and prosecute their invention. These decisions, however, apply to all technological fields, and are not unique to patents related to international shipping.

the cost of obtaining patent protection.[243] Furthermore, the ability to overcome the temporary presence exception would give patentees the ability to bring infringement suits against unauthorized users, which would increase a patentee's ability to obtain licensing fees from vessel owners.

Under the proposed amendment, vessel owners who have not obtained licenses on patented inventions due to the protection of the temporary presence exception, would be forced to obtain permission to use patents included in the registry. International shippers would therefore have an increased informational burden as compared to the current system. Instead of having to be familiar with only the conveyance's home patent system, owners would need to familiarize themselves with the patents in the registry as well.

However, such a registration system would not require international shippers to be familiar with every patent in every country in which they enter; vessels would still not be subject to patents not included in the register. Under the proposed registry system, the patent search costs for owners would remain relatively low compared to international technologies in other fields that do not enjoy the benefits of the temporary presence exception. With this proposed amendment, vessels would be subject to the patent laws of their flag country (as they are under the current system) as well as the patents included in the registry. Therefore, a vessel owner would have to be familiar with only the patents contained in the registry that were issued from countries into which the vessel enters.

For example, the *Jonathan Swift*, as an Irish ferry, would have to be familiar with Irish patents as well as any English patents contained in the registry. The informational costs associated with patent clearance would remain relatively low under the registry system because all of the applicable patents are contained in one international registry, as opposed to various domestic patent offices. Thus, vessel owners would be put on notice of all applicable patents through the registry which would provide a single reference for all of the foreign patents with which a vessel owner must comply.

The second, more minor change proposed by this Article, is one of judicial interpretation. The amendment of the Paris Convention and the creation of an international registry of vessel patents would close the patent infringement loophole for vessels. However, as described above, owners of land vehicles may be able to skirt the patent laws by entering

243. For more on the cost of obtaining patent protection in the United States, see Moore, *supra* note 229, at 1544–55.

into sale-leaseback agreements.[244] The ability of owners to shield their vehicle from liability depends on the judicial interpretation of vehicle nationality. Because vehicle nationality is not defined by international law,[245] it is not entirely clear what factors courts faced with the issue will use to determine nationality. If the nationality of the legal owner is used as a proxy for vehicle nationality, as was the case in *National Steel Car*, sale-leaseback agreements may be able to shield a vehicle from infringement liability.[246]

Therefore, courts faced with a temporary presence defense involving land vehicles should not determine nationality based on owner's nationality alone. Instead, nationality determinations for vehicles should be based on a multitude of factors, such as time spent in various nations, location of vehicle storage, location in which repairs take place, as well as ownership. Courts should look at a vehicle's use, as well as the vehicle's owner, in order to determine nationality. Factors such as the storage location and the time spent within various nations cannot be easily manipulated in order to take advantage of the temporary presence exception, whereas ownership can.

Adopting usage factors along with ownership as a means of determining vehicle nationality benefits patentees by reducing the amount of domestic patents needed to protect an invention. Patentees concerned about unauthorized use of their invention in vehicles in the United States would need to seek patents only in surrounding countries, i.e., Mexico and Canada, in addition to the United States. If courts adopted usage factors for nationality determinations, land vehicles present in the United States would be less likely to be found to be vehicles of any other nation.

It should be noted that while this change only requires a judicial rule of law in most nations, some nations have explicitly defined vehicle nationality.[247] In those countries, the statutory schemes would have to be altered in order to define vehicle nationality as separate from the owner's nationality for purposes of the temporary presence exception.

B. *Potential Drawbacks*

There are, of course, potential drawbacks to the creation of an international registry of vessel patents. It is not a simple task to amend an international treaty like the Paris Convention that has nearly two-hundred member-nations. Furthermore, there is a cost involved with creating an institution to create and maintain such a registry. Also, a

244. *See supra* Parts II.C., III.A.2.
245. DIEDERIKS-VERSCHOOR, *supra* note 159, at 76.
246. *See supra* Part III.A.2.
247. *See supra* note 72.

plausible argument can be made that, although the temporary presence exception creates a method for avoiding patent infringement for vessel owners, the extent of the use of the loophole is not clear and therefore amending the exception is unnecessary.

The cost of creating such a registry system, however, would likely be minimal. The creation of a new international organization is not necessary. The registry could be maintained by an organization currently in existence, such as the World Intellectual Property Organization (WIPO). As the patents contained in the registry would already have been granted by a domestic patent office prior to inclusion, there is no need to employ examiners to review the validity or patentability of the subject matter included in the registry. Furthermore, as the registry would not determine or influence the validity of any patent, there would be no need to compare the patents to prior art in the field; such a task is already undertaken at the domestic patent office and court system.

Of course, some amount of oversight would be necessary from WIPO in order to determine whether the subject matter covered by a patent truly has application in international vessels. Unfortunately, determining whether a patent potentially could be or is used in international vessels is a difficult task. Some method for determining the applicability of a patent to international shipping is necessary to ensure that the registry does not balloon to include an enormous number of patents.

This can be accomplished in two ways. First, a required registration fee would discourage patentees whose inventions were unrelated to international vessels from improperly attempting to register their patents. Patentees of inventions with minimal or tangential relation to vessels, such as improved carpet fibers or interior lighting methods, will be unlikely to pay a registration fee when the fee exceeds any predicted infringement award resulting from unauthorized use aboard international vessels. The fee system could also involve periodic renewal fees which would further dissuade patentees of less-applicable and less-valuable patents from registering. Along with maintaining the registry at a reasonable size, the registration fee system could fund the minor oversight needed to maintain the registry.

Second, the registry could be limited to patents with international classifications that apply to international vessels and related equipment: namely, international classification B63.[248] This classification is reserved

248. B63 applies to "Ships or Other Waterborne Vessels; Related Equipment." WIPO Int'l Classifications, *available at* http://www.wipo.int/classifications/fulltext/new_ipc/pdf/e/class/b63.pdf (last visited Sept. 28, 2008).

for inventions that are used on vessels, such as ship engines and ballast systems.

Limiting the registry to this classification number has the disadvantage of eliminating from registration certain patents which are, in fact, used in the body of international vessels. This is especially true for patents on electronics, such as wireless communications, as well as radar and sonar technologies. Such technologies likely have a broader application than transportation devices, and thus will be classified elsewhere by WIPO. The exclusion of these patents from the registry is less than ideal. However, such electronic patents are also widely used in areas other than international shipping. Because electronic devices have significant value outside the realm of transportation, excluding such inventions from the registry is unlikely to significantly harm the incentives to create and develop electronic devices.

On the other hand, patents specifically classified as applying to transportation devices likely derive the majority of their economic value from improved conveyance performance, and therefore the economic incentives encouraging innovation in these areas are more likely to be decreased by the abuse of the temporary presence exception. Therefore, inclusion of only those patents in the registry, while less than ideal, correctly identifies and includes the patents most likely to be negatively effected by the temporary presence exception.

Lastly, it could be argued that implementation of this Article's proposal is unnecessary, as the extent to which vessel owners take advantage of the temporary presence exception's loophole is unclear.[249] While the extent to which vessel owners utilize the temporary presence exception to avoid patent infringement is unclear, there is ample evidence that "flag of convenience" registries attract and compete for the registration fees of foreign-owned vessels.[250] Countries maintaining these registries compete by reducing taxes, regulations, and oversight involved in the shipping industry.[251] As international transportation increases along with the competition for vessel registration, countries competing for vessel registration may take advantage of the legal framework created by the temporary presence exception to further attract foreign registrants. To do so would involve not only reducing the enforcement of patents relating to vessels, but also increasing the costs associated with obtaining patents in the first place.[252]

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249. *But see supra* note 231.
250. *See* sources cited *supra* note 227.
251. *Id.*
252. *See supra* Part III.C.

TRIPS and other international agreements have established minimum levels of domestic patent protection across the globe.[253] Allowing the temporary presence exception to potentially erode the standards of certain domestic patent systems is at odds with the effort and expense allocated to establishing the international baseline of patent protection in TRIPS.[254] This Article's proposals would eliminate the incentives for countries to weaken their patent systems in an effort to attract foreign vessel registration.

CONCLUSION

The temporary presence exception provides a loophole in which owners of conveyances engaged in international commerce can evade patent infringement liability on an international level. The loophole arises from the exception's nationality requirement as well as the confluence of two distinct legal regimes: domestic patent laws and international conveyance registration systems. This Article has identified the manner in which patent infringement liability can be avoided, namely, by employing existing "flag of convenience" vessel registries or by entering into sale-leaseback agreements. To solve the problem of an overbroad exception from infringement liability for international conveyances, this Article proposes amending the Paris Convention to establish an international registry of vessel patents. A patent's inclusion in the registry would overcome a defense of patent infringement based on the temporary presence exception. Such a registry would retain the policy goals behind the temporary presence exception while eliminating the potential for patent infringement avoidance. This Article further proposes that domestic courts interpreting the temporary presence exception adopt a test for land vehicle nationality that involves factors related to the vehicle's physical presence within various nations.

253. *See*, *e.g.*, John F. Duffy, *Symposium: Patent System Reform: Harmony and Diversity in Patent Law*, 17 BERKELEY TECH. L.J. 685, 688 (2002) (describing TRIPS as requiring "nations to conform their patent laws to a uniform framework of international standards").

254. *Id.*