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Comparative Analysis of the United States Patent Law and the New Industrial Property Code of Brazil

By JOHN GIUST

I. Introduction

An industrialized and technologically advanced nation, such as the United States, seeks to maintain a dominant economic position by the use of strong intellectual property laws. In contrast, developing countries, such as Brazil, seek to use intellectual property laws to foster innovation without upsetting their fragile economy. Technological advancement in a developing country must not take precedence over societal priorities such as food, medicine, and infrastructure.

Given this different emphasis concerning intellectual property protection, one would expect the patent laws of Brazil to differ greatly from those of the United States. This Article sets forth a comparative analysis of the patent laws of Brazil and the United States. It concludes that both patent law systems have the same ultimate goal, that of stimulating technological growth, and that both systems are really more alike than different. The similarity of the patent laws of the United States and Brazil indicate that global patent harmonization may be possible.

Both Brazil and the United States have recently amended their patent laws, in part, to comply with the recent TRIPs agreement of the World Trade Organization. Brazil enacted a new Industrial Property Code in

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1. See Bill No. 115/95, Report by Senator Fernando Bezerra, Reporter for the Committee of Economic Affairs, approved by the Senate's Committee of Economic Affairs on September 27, 1995 (stating that the pending Brazilian intellectual property bill uses the TRIPs level of protection as a minimum reference); Uruguay Round Agreements Act, Pub. L. No. 103-465, 108 Stat. 4982-90 (1994) (amending U.S. intellectual property law for TRIPs compliance).

1996 which rewrote the Brazilian patent law. The most recent significant change in the United States patent law was in 1994, although substantial patent legislation is pending in the United States Congress. This paper provides a comparative analysis between the currently enacted patent laws of Brazil and those of the United States. Where significant, the pending legislation in the United States is also discussed.

II. The Legal Systems of Brazil and the United States

A basic distinction between the Brazilian and the United States legal systems is that Brazil has a civil law heritage based on codification, and the United States has an Anglo-American common law heritage. In the United States, courts are charged with interpreting the Constitution (as well as statutes and regulations) and may strike down statutes which they believe to be contrary to the constitutional mandate. Judicial decisions follow the principle of stare decisis, which means that courts follow earlier decisions on principles of law, even to later parties who were not present.

Aspects of Intellectual Property Rights [hereinafter “TRIPs” or “TRIPs Agreement”]; Final Act Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations, Apr. 15, 1994, reprinted in The Results of the Uruguay Round of Multilateral Trade Negotiations—The Legal Texts (GATT Secretariat ed., 1994). The TRIPs Agreement establishes the protection of intellectual property as an integral part of the multilateral trading system embodied in the WTO. See The Results of the Uruguay Round of Multilateral Trade Negotiations—The Legal Texts, at 6-19, 365-403.


4. See Uruguay Round Agreements Act, supra note 1.

5. S. 507, 105th Cong. (May 23, 1997) (pending); H.R. 400, 105th Cong. (1997) (passed House April 23, 1997). The two bills are related, and would generally: (a) establish the United States Patent and Trademark Office as a Government Corporation, (b) establish publication of patent applications after 18 months from the earliest filing date, along with providing provisional rights for infringement of the published application, (c) provide for patent term extensions to patents which were delayed in prosecution, (d) establish prior user rights, (e) increase third-party participation in Reexamination procedures, and (f) provide miscellaneous amendments. The bills are similar but the Reexamination provisions of H.R. 400 did not pass.


in the earlier case.\(^8\) The body of law in the United States is made up of both statutory law and judicially created law.

Brazil (as well as other Latin American countries, to the chagrin of some)\(^9\) uses the civil law system. In the civil law, the concept of jurisprudence constante states that courts may defer to a multiplicity of decisions reaching the same result.\(^10\) The role of judges\(^11\) is to apply, not interpret, statutes.\(^12\) The civil law system may be summarized as follows:

Civil Code jurisdictions are premised upon the ideal that legislatures bear the entire burden of codifying positive law. Civil courts of law, in theory, engage in the entirely deductive process of applying the general principles set out in the Code to the facts before them. In a system that eschews the judicial creation of positive law, the doctrine of stare decisis has a less prominent, and certainly a less formal, role. While the civilian tradition does not rest upon the romantic ideal that for every question of law, there exists a single correct answer accessible to all

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9. The emphasis in the Latin American legal community has been on the systematic development of codes in the abstract, based on juristic writings and doctrine, with inadequate attention paid to social realities in a country. Legislatures in Latin America have not been in a position to promulgate laws that respond to societal needs and contexts. To date, these legislatures remain ill equipped. They are overly reliant on the executive branch for information, remain closed to interest group views, and are unable to receive and reconcile important voices in society. They have a history, moreover, as being fora for ineffective rhetoric and no real legislative debate. In some cases, they are nontransparent and unaccountable.


11. For a rough overview of the Brazilian judicial system, see Legal System of Brazil, from Conference of Supreme Courts of the Americas, 40 St. Louis U. L.J. 1337 (1996).

judges who engage in the appropriate deductive inquiry, it does rest upon a far more stringent vision of separation of powers. . . .

Brazil's new Industrial Property Code entered into force on May 15, 1997, except for provisions relating to INPI (The National Institute of Industrial Property, Brazil's agency having similar functions to the U.S. Patent and Trademark Office) and pipeline protection for pharmaceuticals, which became effective May 15, 1996. It is unclear how the principle of jurisprudence constante will be applied because there has been no time for lines of authority (or any authority) to develop. Therefore, the present analysis of the Brazilian patent law primarily considers the text of the law itself. In contrast, to fully understand the patent laws of the United States, the relevant decisions are considered along with the current statute and proposed legislation.

The analysis begins with a study of the relevant constitutional provisions.

III. Constitutional Provisions

The Constitutions of Brazil and the United States provide the basis for enacting each country's patent law. The Constitution of the United States provides that "[t]he Congress shall have Power ... to promote the Progress of Science and useful Arts, by securing for limited times, to Authors and Inventors, the exclusive Right to their respective Writings and Discoveries." Congress enacted the patent laws and copyright laws pursuant to this grant of power.15 Congress enacted the patent laws and copyright laws pursuant to this grant of power.15

The Brazilian Federal Constitution states, "[t]he law will ensure to authors of industrial inventions of a temporary privilege for their

16. And under authority of the necessary and proper clause, which states, "Congress shall have Power ... To make All Laws which shall be necessary and proper for carrying into Execution the foregoing powers . . . ." U.S. CONST. art. I, § 8, cl. 18. See also Burrow-Giles Lithographic Co. v. Sarony, 111 U.S. 53 (1884) (constitutional basis for copyright law); Graham v. John Deere Co., 383 U.S. 1, 6-12 (1966) (extended discussion of constitutional basis for patent law). In enacting the 1952 Patent Act, both houses of Congress adopted in their reports a construction of the Constitution where the word "science" has the meaning of knowledge in general applicable to copyright law, to secure to authors the exclusive rights of their writings. It was also stated that the term "useful arts" referred to the patent law, and operated to secure to inventors exclusive rights of their discoveries. R.R. REP. NO. 1920, 82d Cong., 2d Sess 4 (1952); S. REP. NO. 82-1979, 82d Cong., 2d Sess. 3 (1952).
use...with due regard for social interests and for the technological and
economic development of Brazil.¹⁷ Brazil's constitution characterizes the
patent law as a "privilege" and not as an absolute right. The idea that in-
tellectual property rights are not absolute is also present in the U.S. Con-
stitution, which delegates power to Congress, but does not mandate that
Congress enact patent or other intellectual property laws.

Unlike the U.S. Constitution, the Brazilian Constitution limits the
rights provided to authors of inventions based upon the needs of Brazil's
economic development and social interest. These Constitutional objectives
serve to curb intellectual property protection when it may be contrary to
Brazil's developing economy. The significance of this difference becomes
clear when the provisions of the Brazilian patent law are examined in fur-
ther detail.

IV. Different Types of Patents in the United States and Brazil

In the United States, the patent system is divided into utility patents,
design patents, and plant patents. Utility patents protect useful inventions
meeting the criteria of patentability.¹⁸ Design patents protect ornamental
designs for articles of manufacture.¹⁹ Plant patents are available to one
who invents or discovers and asexually reproduces any distinct and new
variety of plant.²⁰ Additionally, the Plant Variety Protection Act provides
patent-like protection to varieties of sexually reproduced plants.²¹

In Brazil, the patent system is divided into invention patents and util-
ity model patents.²² Designs are protected by the Industrial Design Regis-
tration provisions of the Industrial Property Code.²³ There are no special
patent-type statutes for the protection of plants.

¹⁷. BRAZ. FED. CONST. art. 5, § XXIX (1988).
¹⁸. See 35 U.S.C. § 101 (1952) (setting forth subject matter requirements for utility
patents).
¹⁹. See 35 U.S.C. § 171 (1952) (setting forth subject matter requirements for design
patents).
²⁰. See 35 U.S.C. § 161 (1952) (setting forth subject matter requirements for plant
patents).
protection).
Models" (setting forth requirements for invention patents and utility model patents in
arts. 8-15).
²³. See id., arts. 94-121 (setting forth provisions for registering and protecting in-
dustrial designs).
This paper comparatively analyzes the differences between United States utility patents and the invention patents and utility model patents of Brazil (unless otherwise stated the term "patent" used herein in the context of Brazil's patent system means both utility model and invention patents; the term "patent" used herein in the context of the United States patent system refers to utility patents).

V. Patent Eligibility

Only inventions falling within specifically defined classes of subject matter are eligible for patent protection. In the United States the applicable statute states: "whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor."24 Judicial decisions have liberally construed this statutory provision so that patentable subject matter includes almost everything except products of nature25 and abstract principles and ideas.26 While mathematical formulas and algorithms per se are not patentable in and of themselves,27 recent court decisions have upheld the patentability of computer programs tied to some form of hardware.28 Additionally, non-naturally occurring living organisms are patentable in the United States.29

In Brazil, a number of specific categories of inventions are expressly excluded from patentability as utility models or invention patents, including: discoveries, scientific theories, and mathematical methods; purely ab-

25. See Funk Bros. Seed v. Kalo Inoculant Co., 333 U.S. 127, 130 (1948) (bacteria not patentable because its qualities were the work of nature, "those qualities are of course not patentable"); General Elec. Co. v. De Forest Radio Co., 28 F.2d 641, 642 (3d Cir. 1928) ("substantially pure tungsten" not patentable "because a patent cannot be awarded for a discovery or for a product of nature").
26. See O'Reilly v. Morse, 56 U.S. (15 How.) 62, 112-13 (1853) (holding principle of electro-magnetism not patentable); Panduit Corp. v. Stahlin Bros. Fibre Works, Inc., 575 F.2d 1152, 1158 (6th Cir. 1978) (holding that ideas are not patentable, but particular uses of the ideas are patentable).
abstract concepts; schemes, plans, principles or methods of a commercial, accounting, financial, educational, publishing, lottery or fiscal nature; literary, architectural, artistic and scientific works or any aesthetic creation; computer programs per se; the presentation of information; rules of games; operating or surgical techniques and therapeutic or diagnostic methods for use on the human or animal body; natural living beings, in whole or in part; biological material, including the genome or germ plasm of any natural living being, when found in nature or isolated therefrom; and natural biological processes. Further, inventions which are contrary to morals, good customs and public security, order and health; substances, mixtures, elements or products of any kind which result from the transformation of the atomic nucleus, and living beings except transgenic micro-organisms meeting certain conditions are not patentable in Brazil.

Pharmaceuticals are now patentable in Brazil, although special “transitory provisions” providing “pipeline” type protection apply to pending pharmaceutical patents applications. This “pipeline” protection provides patent protection to pharmaceuticals which have been patented abroad, for the duration of the patent in the foreign country (up to the standard term in Brazil). In view of its historic antipathy towards pharmaceutical patents, it is encouraging that Brazil appears to be finally willing to allow pharmaceutical patent applications.

The other significant difference between the law of Brazil and the United States is that the United States allows patents on operating or surgical techniques and therapeutic or diagnostic methods for use on the human or animal body, while Brazil does not. Brazil’s patent law addresses its health care problems via the provisions on patentable subject matter, pre-

31. Id., art. 18, pt. I.
32. Id., art. 18, pt. II.
33. Id., art. 18, pt. III (setting forth other requirements for patentability of transgenic micro-organisms (included in art. 8), which are novelty, inventive activity and industrial application, and adding the requirement that the micro-organism is not a mere discovery). The “sole paragraph” of art. 18 defines transgenic micro-organisms:

For the purposes of this law, transgenic micro-organisms are organisms, except the whole or part of plants or animals, that exhibit, due to direct human intervention in their genetic composition, a characteristic that cannot normally be obtained by the species under natural conditions.

34. See id, arts. 229-32.
35. The law is effective a year after publication, on May 15, 1997, but immediately upon publication (May 15, 1996) with respect to articles 230 and 231 (pipeline provisions). Id., art. 243.
36. See id, arts. 230, 231.
venting the patenting of surgical and diagnostic methods so that all physici-
ans can use the best medical techniques without fear that someone had
obtained a patent on the technique used. The United States has a different
system, preferring to allow patents in this area of technology to encourage
innovation. However, the U.S. law does contain a narrow limitation on in-
fringement liability for medical practitioners who infringe a medical proc-
ess patent, discussed infra at Part IX, subsection C (Exceptions to In-
fringement).37

The Catholic church38 was successful in obtaining an exclusion from
patentability for living beings (except transgenic micro-organisms) in Bra-
zil.39 In the United States, patentability of non-naturally occurring living
beings is accepted.40 This difference is an example of each country’s
democratic process adapting its lawmaking to the needs of its present cul-
ture. As patenting living forms becomes more commonplace, Brazil may
be forced to change its patentability laws to maintain an incentive for re-
search in this field.

Subject to these limitations, invention patents may be obtained for
other areas of technology. However, utility model patents are further lim-
ited to “an object of practical use, or part thereof...”41 The utility model
patent is intended to cover simple inventions which may not be sufficiently
innovative to qualify for an invention patent. The United States has no
utility model patent, but regular utility patents cover inventions in this
subject area.

VI. Patentability Requirements

Assuming that an invention is of patentable subject matter, it must
clear additional hurdles before it can be patented. Invention patents and
utility model patents have different thresholds of patentability.

37. See 35 U.S.C. § 287(c) (limiting liability of a medical practitioner’s performance
of a patented process).
38. See Don Lucas Moreira Neves, Jornal do Brasil (August 18, 1996) (opposition
to the patenting of living beings by Cardinal Archbishop of Brazil); Senate Testimony of
November 17, 1993 in Law 9.279/96 (opposition to patentability of living organisms by
father Ernane Pinheiro, representing Don Luciano Mendes de Almeida, President of
CNBB).
40. See Diamond, supra note 29, at 307-12 (non-natural living micro-organism is
patentable subject matter); In re Bergy, 563 F.2d 1031 (C.C.P.A. 1977), remanded sub nom
organism, culture of Streptomyces vellosus, is patentable as a product because it does not
occur in nature).
A. Utility and Industrial Applicability

The first hurdle a patent must clear in the United States is known as "utility." The utility requirement has its origins in the U.S. Constitution, which empowers Congress to promote the progress of science and the "useful" arts. The United States patent act provides that patents may be granted only for new and "useful" inventions. The utility requirement is met if the invention is "operable," in that it is capable of being used to effect the object proposed. The invention must also achieve some minimum human purpose which is not illegal, immoral, or contrary to public policy. The utility requirement is very low, the invention need not be the best or only way to achieve the sought after result. Utility is important in the chemical technology area, because often chemicals or pharmaceuticals are discovered and their best use is not fully understood. Court decisions indicate that a patent applicant's general assertion that a compound is useful to combat disease is insufficient, but that an assertion that a compound is more effective than another prior compound against a disease is sufficient.

In Brazil, invention patents and utility models must meet the criteria of industrial application. Industrial application is met where the invention "can be made or used in any kind of industry." The Brazilian industrial application requirements appear to be broader than the utility requirements in the United States, especially for chemical and pharmaceutical inventions. Industrial application is ascertainable if the invention can be used in industry, but apparently the invention need not work as described or have a specific application to a specific industry.

42. U.S. Const., art. I, § 8, Cl. 8; Carl Zeiss Stiftung v. Renishaw PLC, 945 F.2d 1173, 1180 (Fed. Cir. 1991) (holding that the utility requirement has its origins in the U.S. Constitution).
43. 35 U.S.C. § 101 (1952); Carl Zeiss Stiftung v. Renishaw PLC, supra note 42, 1180 (describing utility requirements of current patent act).
46. See Carl Zeiss Stiftung v. Renishaw PLC, supra note 42, 1180 (holding that invention need not be the best or only way to accomplish a certain result, and it need only be useful to some extent in certain applications).
47. See In re Kirk, 936 F.2d 936 (C.C.P.A. 1967).
48. See In re Brana, 51 F.3d 1560 (Fed. Cir. 1995) (holding that utility was present where compound showed a pharmaceutical property using statistically significant tests with standard laboratory animals).
50. Id., art. 15.
Brazil's law focuses on that which is commercially useful, rather than whether the invention actually achieves a described result. By taking a practical approach to utility, rather than a theoretical approach, Brazil may be more in touch with the reality of the market.

B. The Novelty Requirement

The second hurdle to patentability, in both the United States and for invention patents in Brazil, is the novelty requirement. Novelty in the United States means that the invention was not identically disclosed in the prior art, i.e., was not known, used patented, described, or made by another prior to the applicant's invention. The definition in Brazil is similar in that novelty is met when the invention is not "included in the state of the art," but different in that the "state of the art" is determined from the date the applicant files the patent application, not the date the applicant invented the invention.

Brazil is a "first to file" system, where the United States is a "first to invent" system. In Brazil, if two inventors have independently invented the same thing, the first to file for a patent application will obtain the patent. If this were to occur in the United States, the applicant who can prove the earliest date of invention will prevail. Thus, the novelty provisions reflect this philosophy, as they negate a patent based on disclosures occurring before the date of invention in the United States and the date of filing in Brazil.

Looking more closely at the United States novelty provisions, a U.S. patent applicant will be denied a patent on novelty grounds if the invention was patented or described in a printed publication anywhere, or known or used by others in the United States, before being invented by the appli-

52. See Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367 (Fed. Cir. 1986) (holding that novelty is established only when every element of the claimed invention shown in the prior art).
53. Id., art. 11.
54. Id., art. 11, § 1.
55. Id., art. 7 (providing that between two inventors who have independently devised the same invention or utility model, "the right to obtain a patent will be assured to whoever proves the earliest filing, independently of the dates of invention or creation"). If the first to file inventor withdraws the first filed application, the second to file inventor will have priority of invention against all others. Indus. Prop. Code of Braz., art. 7, "sole paragraph."
Brazil's novelty provision is much broader because it is worldwide in scope and expressly covers oral disclosures. This is because "state of the art" in Brazil is defined as "everything made accessible to the public before the date of the filing of [the] patent application, by written or oral description, by use or any other means, in Brazil or abroad" subject to certain exceptions.

The prior art effect given in the United States to United States patents affects the novelty of inventions, in that a U.S. patent is considered "prior art" (and patent defeating) as of its earliest United States filing date. However, no equivalent treatment is given if the United States patent claims the benefit of an earlier foreign priority filing date; in this case, the U.S. patent is prior art as of its U.S. filing date, not the filing date from which it claims the benefit of foreign priority. It has been argued that this unequal treatment violates the concept of national treatment, which the United States is bound to uphold through its treaty obligations.

In Brazil, a published Brazilian patent application is considered "prior art" as of its date of filing, and the filing date will be the earlier foreign priority filing date, if present. Brazil even goes further, applying this provision to international applications filed in accordance with a treaty in force in Brazil. Thus, Brazil has evenhandedly applied the U.S. rule, and extended it to international applications.

The other novelty provision in the United States relates to proving an earlier date of invention, i.e. novelty, is lost if the invention was made in the United States before the applicant's invention by another who did not

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62. Id.
63. Id., art. 11, § 3.
suppress or conceal the invention. This has no counterpart in Brazil, because the date of invention is irrelevant, the pertinent date being the date the patent application was filed.

Other than the different “first to file” and “first to invent” philosophies, the novelty provisions of the United States and Brazil are quite similar, Brazil’s being slightly broader in scope and more evenhandedly applied. The United States will continue to face criticism of its novelty provisions until it adopts an impartial approach similar to that of Brazil.

C. Statutory Bars

Certain acts after the date of invention operate as a “bar” to prevent the inventor from obtaining a patent. In the United States the inventor is barred if the invention is patented or described in a printed publication anywhere, or if the invention in public use or on sale in the United States, more than one year prior to the date the applicant filed for a patent application. The statute does not distinguish acts of third parties from acts of the inventor. Thus, a bar will occur one year from the time the inventor places the invention on sale in the United States. In Brazil, an exception to the definition of “state of the art” is made to provide a similar one year grace period to any disclosures made by the inventor. Specifically, the disclosure of an invention in the twelve months preceding the filing of an application or date of priority is not considered as part of the state of the art if made by the inventor.

It is apparent that Brazil and the United States have a similar grace period. While Brazil does not specifically itemize that a “sale” may be a bar, if the sale involved a disclosure of the invention, the sale would constitute the “state of the art” and effectively cause a bar to arise.

64. 35 U.S.C. § 102(g) (also stating: “In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other”).
68. Indus. Prop. Code of Braz., art. 12, pt I. Also, the unauthorized disclosure of the invention by INPI or third parties based on information received from the inventor is not prior art, if occurring within 12 months of the filing date or priority date. Id., art. 12, pts II, III.
D. Nonobviousness and Inventive Activity

Another hurdle to patentability is nonobviousness or inventive activity. A patent cannot be obtained in the United States if the invention is obvious. Obviousness is a legal conclusion based on factual inquiries concerning the scope and content of the prior art, the differences between the prior art and the claims, and the level of ordinary skill in the pertinent art. Secondary considerations such as commercial success, long felt but unsolved needs, and failure of others indicate nonobviousness and must be considered if present.

In Brazil, inventive activity is defined as "when, for a person skilled in the art, [the invention] does not derive in an evident or obvious manner from the state of the art," and invention patents must meet the requirement of inventive activity.

Although the law of Brazil does not recite that secondary considerations may show nonobviousness, it is not clear that secondary considerations would be excluded from the term "obvious" recited in the statute. Thus, the standards of each country appear closely related, both using the word "obvious." In practice it is thought that inventive activity in Brazil will roughly equate to obviousness in the United States.

E. Utility Model Patents—Inventive Act

Utility model patents need not meet the inventive activity requirement, but instead, must merely involve an inventive act that results in a functional improvement in use or manufacture. The definition of "inventive act" is "when, for a person skilled in the art, [the invention] does not derive in a common or usual manner from the state of the art." This is a lesser standard, utility models are intended to provide protection for inventions which do not fully rise to the inventive activity level of invention patents.

There is nothing in the U.S. law which provides patent-like protection using a lessor standard than obviousness. Therefore, inventions which only qualify for utility model protection in Brazil would not be patentable.

70. See Graham v. John Deere Co., supra note 16, at 17-18 (secondary considerations); In re GPAC, Inc., 57 F.3d 1573, 1580 (1995) (holding that the secondary considerations of nonobviousness must be considered if present).
72. Id., art. 9.
73. Id., art. 14.
in the United States. The United States has not embraced the concept of a utility model patent, despite the fact that it is commonplace throughout the world.

VII. Ownership and Assignment

Patents are a form of property, albeit intellectual property, and may be owned and transferred as discussed herein.

A. Ownership

In the United States, it is the inventor(s) who initially hold the rights in the patent. The inventor’s employer may own the invention if there is an express contract to that effect, or if the employee was specifically hired to invent. The law of patent ownership in employment relations is governed by state law, which is generally consistent with Supreme Court precedent and the Restatement of Agency.

If there is more than one owner and no agreement to the contrary, each owner may make use, offer to sell, sell, or import the patented invention without the consent of the other owners and without accounting to (paying) the other owners.

In Brazil, the ownership of a patent initially vests in the inventor (author of an invention). In the case of an employee, if the employee de-

74. At the heart of any ownership analysis lies the question of who first invented the subject matter at issue, because the patent right initially vests in the inventor who may then, barring any restrictions to the contrary, transfer that right to another, and so forth. See Beech Aircraft Corp. v. EDO Corp., 990 F.2d 1237, 1248 (Fed. Cir. 1993).

75. See Lariscey v. United States, 949 F.2d 1137, 1144 (Fed. Cir. 1991), judgement vacated, opinion withdrawn on grant of reh’g, 962 F.2d 1047 (Fed. Cir. 1992), on reh’g, 981 F.2d 1244 (Fed. Cir. 1992) (holding “the general rule is that, absent contractual arrangements to the contrary, an independent discovery belongs to the employee, unless the discovery is within the scope and purpose of the employment”).

76. See State Bd. of Educ. v. Bourne, 7 So. 2d 838, 841 (Fla. 1942) (holding “when an employer undertakes to establish a claim to a patent or a patentable object as against his employee who is the inventor, he must show beyond question that the employment was for the specific purpose of making the invention”).

77. See Standard Parts Co. v. Peck, 264 U.S. 52, 59-60 (1924) (holding employer was entitled to assignment because employee was hired to invent).

78. See RESTATEMENT (SECOND) OF AGENCY, § 391 (1958) (entitled “When Agent Has Right to Patents,” stating “unless otherwise agreed, a person employed by another to do noninventive work is entitled to patents which are the result of his invention although the invention is due to the work for which he is employed”). See also DONALD S. CHISUM, 8 CHISUM ON PATENTS § 22.03 (1993).


80. “The author of an invention or of a utility model will be assured the right to ob-
velops an invention that is unconnected to his work contract and does not use resources or materials of the employer, then the invention is owned by the employee. However, the patent rights will belong exclusively to the employer when the invention or utility model results from a work contract being executed in Brazil, the object of which is research or the exercise of inventive activity, or when such results form the nature of the services for which the employee was contracted. In the case of a work contract, there is a presumption that the invention was developed while the contract was in force if a patent application is filed within one year of the expiration of the contract.

If the invention results from the personal contribution of the employee and from resources or materials of the employer then the ownership of the invention will be held by both the employer and the employee. If the employer and employee share in ownership of the invention, the employer is guaranteed the right to an exclusive license for exploitation and the employee is guaranteed remuneration. The employer has one year from the date of grant to exploit the patent or the patent rights may be transferred to the exclusive ownership of the employee.

This ownership sharing is different from that in the United States. In the United States, absent an agreement to the contrary, either the employee or employer own the entire patent rights, it is not split between them. The Brazilian law places an ownership interest in the party who provides materials rather than inventive effort. While this law may make sense in the environment of the workplace, it is perhaps contrary to the U.S. Constitution which requires an inventive effort.

B. Assignment

In the United States, patents have the attributes of personal property and are assignable in law by an instrument in writing. In both the United States and Brazil, patents and patent applications may be assigned in whole or in part. The United States Patent Office and the Brazilian counterpart

81. Id., art. 90.
82. Id., art. 88.
83. Id., art. 88, § 2.
84. Id., art. 91.
85. Id., art. 91, § 2.
86. Id., art. 91, § 3.
(INPI) both register the assignments of the patent's application or patents.89

Recording an assignment in the United States is desirable because the assignment is void as to third parties who purchased the patent for value without notice of the assignment, unless it is recorded in the Patent Office within three months from its date of execution or prior to the date of the subsequent purchase.90

In Brazil, an assignment should be recorded because a recorded assignment has legal effect with regard to third parties from the date the assignment is published.91 This is also true with license agreements, because the license must be recorded at INPI to produce effect with regard to third parties (as from its date of publication).92

Recordal is a historically important part of property law, well suited for intellectual property. The statutes of the United States and Brazil both function to establish a system where ownership of patents can be easily traced. This aids in the marketing and transferring of patent assets.

VIII. Date from which Rights Accrue, Term of Protection and Termination of Rights

Under the current law of the United States, a patent application provides no rights93 and therefore rights accrue only upon issuance of a patent.94 Because Brazil's INPI publishes patent applications before issuance, competitors may learn of (and consequently copy) a patentee's technology prior to issuance of the patent. To prevent this, a patentee is entitled to compensation for unauthorized exploitation of the patent that occurred between the date of publication of the application and the date the

89. 35 U.S.C. § 261; Indus. Prop. Code of Braz., art. 59, pt. I (setting forth the information to be recorded, including a notation of the assignment, mentioning the complete qualification of the assignee as well as any limitation applied to the application or patents and any change in address or name of the applicants or patentee).
93. See GAF Bldg. Materials Corp. v. Elk Corp., 90 F.3d 479, 481-83 (Fed. Cir. 1996) (holding that a dispute over a pending patent application is purely hypothetical and called for an advisory opinion; a patent does not exist until it is granted; patent rights are created only upon the formal issuance of a patent); Conopco, Inc. v. May Dep't Stores Co., 46 F.3d 1556, 1562 (Fed. Cir. 1994) (holding that activities undertaken with knowledge that a patent application was pending, in view of the "patent pending" notice affixed to product, are insufficient to support a finding of willful infringement).
94. See 35 U.S.C. § 154(a)(2) (Supp. 1997) (stating that patent rights "shall be for a term beginning on the date on which the patent issues... ").
The New Industrial Property Code of Brazil

95. Indus. Prop. Code of Braz., art. 44.


97. Indus. Prop. Code of Braz., art. 34, § 3 (referring to art. 41, which provides that a patent protects the "content of the claims, interpreted in the light of the specification and drawings").


99. Id., § 204 (1997). The pertinent provisions read:

SEC. 204. PROVISIONAL RIGHTS.

“(d) PROVISIONAL RIGHTS.-

“(1) IN GENERAL.—in addition to other rights provided by this section, a patent shall include the right to obtain a reasonable royalty from any person who, during the period beginning on the date of publication of the application for such patent pursuant to section 122(b) of this title **

“(A)(i) makes, uses, offers for sale, or sells in the United States the invention as claimed in the published patent application or imports such an invention into the United States; or

“(ii) if the invention as claimed in the published patent application is a process, uses, offers for sale, or sells in the United States or imports into the United States products made by that process as claimed in the published patent application; and

“(B) had actual notice of the published patent application, **

“(2) RIGHT BASED ON SUBSTANTIALLY IDENTICAL INVENTIONS.—

The right under paragraph (1) to obtain a reasonable royalty shall not be available under this subsection unless the invention as claimed in the patent is substantially identical to the invention as claimed in the published patent application.

100. See 35 U.S.C. § 154(a)(2). However, for patents resulting from applications filed prior to June 8, 1995, and for patents in force on June 8, 1995, the term is the
United States patent may be extended in certain circumstances for up to five years, such as if the patent is delayed for purposes of national security,\textsuperscript{101} for an interference proceeding (to determine the first inventor),\textsuperscript{102} or to seek appellate review.\textsuperscript{103} Additionally, patents on products or methods of using/making products may be extended to compensate for delays in achieving regulatory review and approval,\textsuperscript{104} for example, obtaining approval from the Food and Drug Administration to market a pharmaceutical.

In Brazil, the term of an invention patent is normally twenty years from the filing date.\textsuperscript{105} Because utility model patents have a lower criteria of patentability, their term is only fifteen years from the filing date.\textsuperscript{106} However, Brazil provides for minimum terms. The term of an invention patent cannot be less than ten years and the term for a utility model cannot be less than seven years, both counted from the date of patent issuance.\textsuperscript{107}

The term provisions in the United States and Brazil are generally consistent and conform to the minimum term established by TRIPs.\textsuperscript{108} Brazil’s law is perhaps more insightful since it provides for minimum terms of ten and seven years from the date of issuance, which would negate long prosecution history delays without the need for filing requests for extensions. On the negative side, these minimum terms may create a “submarine patent” problem in Brazil.\textsuperscript{109}

\begin{itemize}
\item longer of 20 years from the filing date or 17 years from the issue date. 35 U.S.C. § 154(c)(1).
\item 102. Id. (setting forth term extension for a patent delayed in an interference proceeding under section 135(a)).
\item 103. 35 U.S.C. § 154(b)(2) (allowing for maximum 5 year term extension if issuance is delayed by an appeal to the PTO Board of Appeals and Interferences, or for an appeal to a Federal court).
\item 104. 35 U.S.C. § 156 (Supp. 1997). Patents “in force” on June 8, 1995 by virtue of a § 156 extension do not qualify for an extension of term under §154(c)’s transitional provisions, which calculate the term as 20 years from filing rather than 17 years from issuance. See Merck & Co. v. Kessler, 80 F.3d 1543 (Fed. Cir. 1996).
\item 106. Id.
\item 107. Id., art. 40, “sole paragraph”. These minimum terms do not apply where the INPI is prevented from proceeding with the examination to the merits of the application. Id.
\item 108. TRIPs, art. 33 (setting forth minimum term of 20 years from the earliest filing date).
\item 109. The well known and criticized “submarine patent” problem arises when patent applications are secretly kept pending in the Patent Office for long periods of time, only to issue (or “surface”) after related technology becomes prevalent in the marketplace. See H.R. REP. NO. 105-39, available in LEXIS 44-45 (1997) (describing “submarine” patent problem in pending legislation H.R. 400; H.R. 400, 105th Cong., § 202, passed
In the United States, patent rights are terminated at the end of the patent term, or if periodic "maintenance fees" are not paid. Maintenance fees are assessed at three years and six months, seven years and six months, and eleven years and six months from issuance of the patent. Likewise, in Brazil patent rights are terminated at the end of the patent's term or if periodic fees are not paid. The fees are assessed every year, beginning the third year from the date of filing.

In the United States, if a patent is declared invalid or unenforceable by a court, the patent rights extinguish. In Brazil, patent rights will also be terminated if a patent is found to be invalid in a "nullity" proceeding or action.

Any United States applicant or patentee may disclaim or dedicate to the public any remaining part of the patent's term. In Brazil, a patent can be extinct by virtue of a waiver by the patentee, without prejudice to third parties.

In the United States, patent rights may be terminated by applying for Reissue, although the patent, when reissued, contains the same or new rights. Patent rights may also be terminated if the patent claims covering those rights are found to be unpatentable in a reexamination proceeding. Brazil's law does not provide for reissue or reexamination procedures. Here the law of the United States is more comprehensive because it provides for corrective measures to be applied to issued patents.

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House April 23, 1997 (providing for publication of patent applications, but providing deferred publication for small inventors, small businesses, and universities). Brazil's provisions regarding 18 month publication assure that patent applications are published, and help avoid this problem.

110. 35 U.S.C. § 41(b) (setting forth fees for maintaining patents in force based on applications filed after December 12, 1980).

111. Indus. Prop. Code of Braz., art. 78, pt. IV; art. 86.

112. Id., art. 84.


114. See Indus. Prop. Code of Braz., arts. 46-49 (nullity provisions; patent null when granted contrary to law); arts. 50-55 (nullity procedure); arts. 56-57 (nullity actions in the Federal Courts).


117. See 35 U.S.C §§ 251, 252. Reissue is a process to correct the specification, drawings, or claims of a patent if they contain errors which were incurred without deceptive intent. The patent claims may not be enlarged unless Reissue is applied for within two years from the grant of the original patent. Id.

In Brazil, patent rights may be forfeited and therefore cause the patent to become extinct. The patent become forfeit *ex officio* or at the request of any party with a legitimate interest if after two years from the grant of a first compulsory license, an abuse or disuse of the patent is not corrected, except for legitimate reasons. The United States has no similar provisions since it lacks a compulsory licensing statute.

In Brazil, patent rights are also terminated if the applicant does not maintain a permanently qualified attorney residence in Brazil in a representative capacity. This rule assures that patentees in Brazil will always be able to be directly contacted. A termination of patent rights for what amounts to not having an attorney on retainer appears to be overly harsh. Foreign patentee’s must pay close attention to this rule or face a loss of all patent rights.

IX. Rights Conferred, Exceptions and Limitations

Both the United States and Brazil define the coverage of a patent by its claims. Therefore, in both countries the claims must be construed properly to define the scope of coverage obtained by the patent.

A. Claim Interpretation

In Brazil, the protection conferred by a patent is determined by the content of the claims which are interpreted in light of the specification and drawings. To the contrary, in the United States, the protection conferred by a patent is determined by the claims construed in view of the claims themselves, the specification and the file history, as well as considering extrinsic evidence, if appropriate.

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120. *Id.*, art. 80. If the patent is not being exploited at this time, it will be forfeit. *Id.*, art. 80, § 1. If a party drops its claim that the patent is forfeited, INPI may continue the process in place of the party. *Id.*, art. 80, § 2. See also *id.*, arts. 81-83 (setting forth structure of forfeiture proceedings). Compulsory licensing is discussed *infra* at § X of the Article.
121. *Id.*, art. 78, pt. V.
122. *Id.*, art. 41.
123. See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979-81 (Fed. Cir. 1995) (en banc), *aff’d*, 116 S.Ct. 1384 (1996). The file history is the record of transactions between the Patent Office and the applicant or applicant’s attorney. File history analysis is helpful, for claim interpretation, to identify admissions of the applicant and to determine what the applicant considers the distinguishing features of the invention.
124. Currently, extrinsic evidence may be used to explain the meaning of a claim term, if the meaning is not clear from the claims themselves, the specification, or the prosecution history. See *Southwall Technologies, Inc. v. Cardinalig Co.*, 54 F.3d 1570,
Brazil does not utilize the prosecution history or extrinsic evidence, such as expert testimony, to construe the claims, while both may be admissible in the United States. Patent practitioners in Brazil must be careful to clearly define claim terms in Brazilian patent applications, since there appears to be no flexibility in Brazil's claim interpretation rules. In the United States, practitioners must be careful to avoid making limiting statements in the prosecution history (apparently irrelevant in Brazil) to avoid a narrow claim construction.

B. Rights Conferred—Infringement

In Brazil, a patent confers on the patentee the right to prevent third parties from manufacturing, using, offering for sale, selling or importing the invention without the patentee's consent. This is closely analogous to the law of the United States, which provides infringement liability to whoever, without authorization, makes, uses, offers to sell, sells, or imports any patented invention. Brazil's infringement provision generally applies to products obtained by a patented process, as does the relevant provision in the United States; however, it does provides an exception to the importation of products made by an infringing process if the products are materially changed by a subsequent process or are a trivial component of another product.

To prevent the encouragement of others to engage in infringing activity, the U.S. law prohibits active inducement of infringement of a patent, as well as contributory infringement. Active inducement occurs when the defendant actively and knowingly induced actual infringement by a third party. Contributory infringement is the offer to sell, sale, or importation

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129. 35 U.S.C. § 271(b) (1952); see also Hewlett-Packard Co. v. Bausch & Lomb, Inc., 909 F.2d 1464 (Fed. Cir. 1990) (elements of active inducement as compared to contributory infringement).
of a component of a patented machine, or material for use in a patented process, knowing it to be especially adapted for use in infringing the patent, and not a staple article of commerce suitable for substantial noninfringing use.\textsuperscript{130}

Brazil's law is much more general, providing the right to "prevent third parties from contributing to the practice [of infringement] by other parties...."\textsuperscript{131} The law of Brazil is generally consistent with that of the United States, and is designed to combat the same perceived evil of causing third parties to infringe. Both laws appear to provide strong patent protection, but this is before the exceptions are analyzed.

C. Exceptions to Infringement

The real differences between the laws of the United States and Brazil lie in the exceptions to infringement. The United States has a limited exception concerning the preparation of information for submission to federal agencies,\textsuperscript{132} such as the FDA, and old cases allowed for very limited noncommercial testing of patented inventions for experimental purposes.\textsuperscript{133} Recent legislation exempts medical practitioners and their related health care entities from infringement if they perform a patented medical procedure on a body.\textsuperscript{134} However, this exception is very narrow in that it is unavailable if the medical practitioner uses a patented machine or composition of matter.\textsuperscript{135} In contrast, Brazil has numerous exceptions for infringement.

\textsuperscript{130} 35 U.S.C. § 271(c) (1952).
\textsuperscript{131} Indus. Prop. Code of Braz., art. 42, § 1.
\textsuperscript{133} See Whittemore v. Cutter, 29 F. Cas 1121, 1121 (C.C.D. Mass. 1813) (No. 17,600) (Story, J., stating: "it could never have been the intention of the legislature to punish a man, who constructed [the patented] machine merely for philosophical experiments, or for the purpose of ascertaining the sufficiency of the machine to produce its described effects."); see also Jordan P. Karp, Note, Experimental Use as Patent Infringement: The Impropriety of a Broad Exception, 100 YALE L.J. 2169, 2169 (1991) (discussing the historically narrow experimental use exception and recommending its continuance as a narrow exception to infringement).
\textsuperscript{134} 35 U.S.C. § 287(c)(1), (2) (1996) (setting forth infringement exception for a medical practitioner's performance or a "medical activity" on a "body". The term "medical activity" is defined as medical or surgical procedure and the term "body" is defined as a human body, organ, cadaver, or nonhuman animal used in medical research or instruction directly relating to the treatment of humans.).
\textsuperscript{135} 35 U.S.C. § 287(c)(2)(A)(i), (ii) (1996) (setting forth when the exception is unavailable). The law and its exception are explained by one of its sponsors, Senator Bill Frist (R-TN): the "provisions [§ 271(c)] are designed to prevent health care professionals from being sued for using innovations in pure medical or surgical procedures, such as the
In Brazil, unauthorized acts practiced by third parties privately without commercial ends, or practiced for experimental purposes are not infringing activities. With respect to medicine and living matter, the exceptions become even larger. It is not infringement to prepare a medicine according to a medical prescription for an individual case, or to use patented living matter, without economic ends, as a source of variation or propagation for obtaining other products. These exceptions are similar to the experimental use exception in the United States, although appear much broader since neither one requires both experimentation and non-commercial use.

Brazil does not protect products made in accordance with a patented process or product, if the product has been placed on the Brazilian market by the patentee or by a third party with the patentee's consent. This limits the value of process patents because if the product made by the patented process is not placed on the internal market, compulsory licensing may be available for parties interested in selling the product by using the patented process. Therefore, it will be important for patentees, especially pharmaceutical companies, to obtain both product and process protection on new drugs.

The large number of infringement exceptions in Brazil appear directed at the medical and pharmaceutical fields of technology. While perhaps justified by the developing nature of Brazil's economy, allowing these infringing uses of patented inventions ignores the positive contribution patents can make in the medical field. Brazil's approach may be short-sighted in this regard.

Heimlich maneuver or CPR,” and “pure medical procedures [which] do not involve drugs or medical devices but simply improve existing medical or surgical procedures” do not require significant research investments, and, therefore, do not require traditional patent protection as an incentive to continued innovation in that area. See infra § X of the Article for a discussion of Brazil’s compulsory licensing provisions.
D. **Prior User Rights**

Brazil provides for prior user rights. Thus, a person who has exploited the patented invention in good faith prior to the patentee’s filing date is guaranteed the right to continue the exploitation in the previous form and conditions.\(^{142}\) Prior user rights can only be transferred with the business or part of the business that has a direct relation with the exploitation of the patented subject matter.\(^{143}\)

The United States has no prior user rights but may implement some in recent legislation pending before Congress.\(^{144}\) The legislation would provide a defense to infringement to the party that has commercially used the patented subject matter (or made serious preparations to do so) prior to the effective filing date of the patent.\(^{145}\) As with Brazil, the proposed rights would only be transferable with the business related to which the defense

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142. Indus. Prop. Code of Braz., art. 45. The prior user rights do not apply to persons having knowledge of the patents due to disclosure from the inventor or knowledge of publication without consent by the inventor, if the application was filed within twelve months of the disclosure. *Id.*, at § 2.

143. *Id.*, at §1.


145. See S. 507, 105th Cong. §§ 273(B), 273(C)(3) (1997). As pending, these sections state:

\[
\text{(B) DEFENSE TO INFRINGEMENT. -} \\
\text{(1) IN GENERAL. - a person shall not be liable as an infringer under section} \\
\text{271 of this title with respect to any subject matter that would otherwise infringe} \\
\text{one or more claims in the patent being asserted against such person, if such per-} \\
\text{son had, acting in good faith, commercially used the subject matter before the} \\
\text{effective filing date of such patent.} \\
\text{(C) LIMITATIONS AND QUALIFICATIONS OF DEFENSE. - THE} \\
\text{DEFENSE TO INFRINGEMENT UNDER THIS SECTION IS SUBJECT TO} \\
\text{THE FOLLOWING:} \\
\text{** * * **} \\
\text{(3) Effective and serious preparation. - With respect to subject matter that cannot} \\
\text{be commercialized without a significant investment of time, money, and} \\
effort, a person shall be deemed to have commercially used the subject matter if:} \\
\text{(A) Before the effective filing date of the patent, the person reduced the sub-} \\
\text{ject matter to practice in the United States, completed a significant portion of} \\
\text{the total investment necessary to commercially use the subject matter, and made} \\
a commercial transaction in the United States in connection with the preparation to use the subject matter; and} \\
\text{(B) Thereafter the person diligently completed the remainder of the activities} \\
\text{and investments necessary to commercially use the subject matter, and promptly} \\
\text{began commercial use of the subject matter, even if such activities were con-} \\
ducted after the effective filing date of the patent.} \\
\]
relates. Thus, the pending U.S. legislation closely mirrors that currently enacted in Brazil.

X. Compulsory Licensing

A compulsory license may be defined as the situation where the patent owner cannot prevent (or enjoin) another party from making, using, selling or importing the patented invention. While the patentee is prevented from obtaining an injunction, monetary compensation is usually provided. Generally, a patentee in the United States may lawfully prevent the manufacture, use, sale, or importation of its patented invention, without fear of violating the patent or antitrust laws.

A. Government Use

In the United States, the patentee cannot obtain an injunction to prevent infringement by the United States Government, effectively resulting

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146. Id., § 273(c)(6). This section states:
(6) PERSONAL DEFENSE.—the defense under this section may only be asserted by the person who performed the acts necessary to establish the defense and, except for any transfer to the patent owner, the right to assert the defense shall not be licensed or assigned or transferred to another person except in connection with the good faith assignment or transfer of the entire enterprise or line of business to which the defense relates.

147. But see 7 U.S.C. § 2404 (1970) (delegating compulsory licensing authority to the Secretary of Agriculture under the Plant Variety Protection Act in order to ensure an adequate supply of fiber, food or feed in the United States).

148. “No patent owner... shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following:... (4) refused to license or use any rights in the patent...” 35 U.S.C. § 271(d).

149. See Simpson v. Union Oil Co. of Cal., 396 U.S. 13, 24 (1969) (“The patent laws which give a monopoly on ‘making, using or selling the invention’ are in pari materia with the antitrust laws and modify them pro tanto”); American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1367 (Fed. Cir. 1984) (“The patent system, which antedated the Sherman Act by a century, is not an ‘exception’ to the antitrust laws, and patent rights are not legal monopolies in the antitrust sense of the word”); SCM Corp. v. Xerox Corp., 645 F.2d 1195, 1206 (2d Cir. 1981) (“where a patent has been lawfully acquired, subsequent conduct permissible under the patent laws cannot trigger liability under the antitrust laws”).

150. As codified in 28 U.S.C. 1498(a) (1948), the United States Government is liable only for reasonable compensation when it infringes a patent.

Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner’s remedy shall be by action against the United States in the United States Court of
in a compulsory license. In Brazil, the government may obtain a compul-
sory license only in the case of a national emergency.\textsuperscript{151} However, Brazil’s
copyright law provides for numerous additional cases where the patentee can
be forced to license the patented technology.

\subsection*{B. Brazil—Abuse of Patent Rights or Abuse of Economic Power}

A patentee will be subject to a compulsory license if he exercises the
patent rights in an abusive manner or practices abuse of economic power
proven by in an administrative agency or court.\textsuperscript{152} Should an “abuse of
economic power” situation arise, the licensee will be permitted a period to
import while preparing to manufacture the patented invention, if the pat-
entee has placed the patented invention on the Brazilian market (presuma-
ble via importation).\textsuperscript{153}

Impermissible conduct under these “abuse” provisions is thought to
be roughly analogous to antitrust violations in the United States, where the
patentee impermissibly attempts to extend the patent monopoly. However,
compulsory licenses are normally not the sole remedy for antitrust liability,
which may include damages and injunctive relief usually suffice.

\subsection*{C. Brazil—Failure to Exploit or Commercialize}

A compulsory license may also be granted if the patentee does not
exploit the patent in Brazil.\textsuperscript{154} There is insufficient exploitation if any of
the following occur: the invention is not manufactured in Brazil, or incom-
pletely manufactured in Brazil, or if it is a process, the process is incom-
pletely used.\textsuperscript{155} The exception is that exploitation is considered as present
if the non-exploitation is due to economic inviability and the patented in-
vention is imported.\textsuperscript{156} Requests for compulsory licenses, under the failure
to exploit provisions, cannot be filed until three years from the issuance of
the patent.\textsuperscript{157}

\footnotesize{Federal Claims for the recovery of his reasonable and entire compensation for
such use and manufacture. ***

Section 1498 has been judicially interpreted as precluding injunctive relief against the

152. Id., art. 68.
153. Id., art. 68, § 3.
154. Id., art. 68, § 1, pt. I.
155. Id.
156. Id.
157. Id., art. 68, § 5.
As a separate ground for compulsory licensing, if commercialization does not meet the needs of the market, the patent may be subject to compulsory license.\textsuperscript{158} There is no statutory "importation" exception to the non-commercialization provision.

Consistent with the infringement exception for the importation of a product (manufactured in accordance with a patented process or product that has been placed on the Brazilian market by the patentee),\textsuperscript{159} third parties are allowed to import products manufactured in accordance with a patented process or product that has been placed on the Brazilian market by the patentee.\textsuperscript{160} Additionally, a compulsory license can only be requested by a party with a legitimate interest who has the technical and economic capacity to efficiently exploit the patent in Brazil.\textsuperscript{161}

Compulsory licensing may be avoided on the grounds that non-use can be justified for legitimate reasons, that serious and effective preparations for exploitation have been carried out, or by asserting justification based on legal obstacles to manufacture or commercialization.\textsuperscript{162}

Taking these provisions together (often called "working" requirements), it is almost impossible to avoid compulsory licensing unless the patented invention is used or produced in Brazil. Even importation will trigger the infringement exception and permit importation by third parties. Brazil's law is clearly designed to encourage local manufacture of patented inventions.

D. Brazil—Dominant and Dependent Patent Cross Licensing

Should the patentee manage to comply with the "working" requirements and avoid a compulsory license, another party who invents an improvement (hereinafter "dependent patent") to the patentee's patented invention (hereinafter "dominant patent") may obtain a compulsory license. The following conditions must be met to license the dominant patent: the third party's patent must be dependent on the patentee's patent, so that exploiting the dependent patent would require the use of the subject matter of the dominant patent;\textsuperscript{163} the third party's patent must "constitute a substantial technical advance" over the dominant patent; and the patentee does not

\textsuperscript{158} Id., art. 68, § 1, pt. II.
\textsuperscript{159} Id., art. 43, pt. IV.
\textsuperscript{160} Id., art. 68, § 4.
\textsuperscript{161} Id., art. 68, § 2.
\textsuperscript{162} Id., art. 69.
\textsuperscript{163} Id., art. 70, § 1. Process patents may be "dependent" on product patents and vice-versa. Id., § 2.
voluntarily agree to license the dominant patent to the third party.\textsuperscript{164} Despite having to license its patent, the dominant patentee is entitled to a cross-license of the third party's dependent patent.\textsuperscript{165}

Brazil's laws favor commercial exploitation of inventions, and the cross-licensing provisions increase the chance that both patented technologies will be used commercially. However, the United States patent law lacks mandatory cross-licensing and it is not foreseeable that the U.S. law will change in this regard in the near future.

\textbf{E. General Rules and Procedures Concerning Compulsory Licenses}

In Brazil, compulsory licenses are always nonexclusive and sublicensing is not permitted.\textsuperscript{166} The compulsory licensee may not assign the compulsory license unless the part of the business that exploits the compulsory license is also assigned.\textsuperscript{167} The compulsory licensee is vested with powers to defend the patent.\textsuperscript{168}

The procedure for obtaining a compulsory license requires that the interested party to submit an application indicating the conditions offered to the patentee.\textsuperscript{169} Once this application has been filed, the patentee has sixty days to respond or the proposal will be considered as accepted under the conditions offered.\textsuperscript{170} An applicant for a compulsory license who alleges abuse of patent rights or abuse of economic power must file documentary proof.\textsuperscript{171} However, if a compulsory license is requested on the basis of lack of exploitation, the burden of proof is on the patentee.\textsuperscript{172}

If there is a dispute regarding the issuance of a compulsory license, INPI may attempt to arbitrate the dispute.\textsuperscript{173} Once a compulsory license is granted, it will not be suspended during the pendency of an appeal by the patentee.\textsuperscript{174}

Brazil has a comprehensive compulsory licensing scheme, which it obviously considers important to stimulate its manufacturing industry. The lack of compulsory licensing in the United States may be due to a fear that

\begin{itemize}
  \item \textsuperscript{164} Id., art. 70, pts. I-III.
  \item \textsuperscript{165} Id., art. 70, § 3.
  \item \textsuperscript{166} Id., art. 72.
  \item \textsuperscript{167} Id., art. 74, § 3.
  \item \textsuperscript{168} Id., art. 74, § 2.
  \item \textsuperscript{169} Id., art. 73.
  \item \textsuperscript{170} Id., art. 73, § 1.
  \item \textsuperscript{171} Id., art. 73, § 2.
  \item \textsuperscript{172} Id., art. 73, § 3.
  \item \textsuperscript{173} Id., art. 73, § 4.
  \item \textsuperscript{174} Id., art. 73, § 8.
\end{itemize}
such licensing is unconstitutional,\textsuperscript{175} because the Constitution mentions “exclusive” rights.\textsuperscript{176} Some have argued that compulsory licensing is constitutional,\textsuperscript{177} and even that it should be adopted in the United States.\textsuperscript{178} Notwithstanding the constitutional questions, however, the United States will probably not adopt compulsory licensing, as it may violate TRIPs.\textsuperscript{179} Likewise, to comply with TRIPs, Brazil may have to change its current stance on compulsory licensing, at least along the lines proposed in the United Kingdom,\textsuperscript{180} to permit importation by patentees of WTO member countries. Thus, while Brazil has an interest in encouraging patentees to “work” the invention locally, its ability to do so may be limited when it becomes TRIPs compliant in this area, which is currently anticipated to occur on January 1, 2000.


\textsuperscript{176} U.S. Const. art. I, § 8, cl. 8.


\textsuperscript{178} Ackiron, \textit{supra} note 177, at 176-77 (urging adoption of compulsory licenses for pharmaceutical patents); Fauver, \textit{supra} note 177, at 685 (recommending adoption of patent compulsory licensing to stimulate domestic production and balance the laws of the U.S. with those of other countries.)

\textsuperscript{179} See TRIPs, art. 27, para. 1 (stating that “patents shall be available and patent rights enjoyable without discrimination as to the place of invention, the field of technology and whether products are imported or locally produced”); but cf. TRIPs, art. 40 (Members may adopt appropriate measures to prevent abuse of intellectual property rights).

\textsuperscript{180} In the United Kingdom, amending legislation is under consideration provide an exception to compulsory licenses (in new sections 47B to 47G of the patent law) if the proprietor of the patent is a national of, or is domiciled or has a real and effective industrial or commercial establishment in, a country which is a WTO member. \textit{See Amendments to the Patent Act of 1977, § 47A} (proposed).
XI. Registration Requirements and Procedures

Patent rights are obtained by filing a patent application at the relevant government agency. In the United States, the agency is the U.S. Patent and Trademark Office (PTO); in Brazil it is the National Institute of Industrial Property (INPI).

A. Application Procedures

In Brazil, the applicant for a patent may be the author of the invention or utility model, or his heirs or successors, or the assignee or the owner as determined by a work or service contract.\textsuperscript{181} When the invention is created jointly by two or more persons, the patent may be applied for by any or all of them as long as the others are named to guarantee their respective rights.\textsuperscript{182} The authors named may request that their authorship not be divulged.\textsuperscript{183}

In the United States, the application must be filed on behalf of all the inventors, even if the invention is assigned to an entity.\textsuperscript{184} There are no provisions to keep an inventor's identity from being disclosed.

B. Content of Patent Application

In Brazil patent applications are filed in accordance with conditions established by INPI.\textsuperscript{185} Patent applications must contain a request, a specification, claims, drawings, if any, an abstract, and proof of payment of the filing fee.\textsuperscript{186} If the application does not meet the formal requirements but does contain data relating to the subject matter sought to be patented, INPI may issue a dated receipt establishing a period of thirty days to meet the formal requirements.\textsuperscript{187} Once the requirements have been met, filing will be considered to have been made on the original filing date.\textsuperscript{188}

These rules are very similar in the United States. The Commissioner of the PTO performs all duties required by law respecting the granting and issuing of patents.\textsuperscript{189} A patent application must contain a specification (in-

\textsuperscript{181} Indus. Prop. Code of Braz., art. 6., §§1, 2.
\textsuperscript{182} Id., art. 6, §3.
\textsuperscript{183} Id., art. 6, §4.
\textsuperscript{184} See 35 U.S.C. § 111(a)(1) (1952) (amended 1994) ("an application for patent shall be made, or authorized to be made, by the inventor. . .").
\textsuperscript{185} Indus. Prop. Code of Braz., art. 19.
\textsuperscript{186} Id., art. 19.
\textsuperscript{187} Id., art. 21.
\textsuperscript{188} Id.
cluding a claim),\textsuperscript{190} a drawing, a fee, and an oath by the applicant.\textsuperscript{191} However, should the oath or fee be omitted, they may be filed later upon payment of a surcharge, and the filing date will be the date the specification and drawing were received.\textsuperscript{192}

In Brazil, invention patent applications must refer to a single inventive concept\textsuperscript{193} and utility model applications must refer to a single principal model.\textsuperscript{194} Likewise, United States patent applications may not contain more than one distinct invention.\textsuperscript{195} Because both the United States and Brazil allow patent applications to be divided into divisional applications,\textsuperscript{196} any extra inventions disclosed in a parent application may be subsequently filed in a divisional application.

In Brazil, the specification must describe the subject matter clearly and sufficiently as to enable a person skilled in the art to carry it out and to indicate, when applicable, the best mode of execution.\textsuperscript{197} In the United States, the specification must meet the same requirements, which are known as "enablement" and "best mode." To meet the enablement requirement, the specification must be clear enough to enable any person skilled in the art to which it pertains to, or with which it is most nearly connected, to make and use the invention.\textsuperscript{198} To meet the best mode requirement, the specification must set forth the best mode contemplated by the inventor of carrying out his invention, if the inventor contemplated a best mode.\textsuperscript{199}

\begin{itemize}
\item \textsuperscript{190} 37 C.F.R. § 1.51(a)(i) (1977).
\item \textsuperscript{191} 35 U.S.C. § 111(a)(2) (1952).
\item \textsuperscript{192} 35 U.S.C. § 111(a)(3),(4) (1952).
\item \textsuperscript{193} Indus. Prop. Code of Braz., art. 22.
\item \textsuperscript{194} Id., art. 23. The model may include distinct elements or variations provided that technical/functional and corporeal unity of the object is maintained. Id.
\item \textsuperscript{195} 37 C.F.R. § 1.141 (1987). However, if two or more independent and distinct inventions are claimed in a single patent application, the applicant will be permitted to "elect" a single invention for prosecution. 37 C.F.R. § 1.142 (1959).
\item \textsuperscript{196} For divisional applications in Brazil, see Indus. Prop. Code of Braz., art. 26 (setting forth requirements of specific reference to the parent application, no new matter, and filing deadline at the end of the parent application's examination); art. 27 (providing that the filing date of a divisional application is the same as that of the parent); art. 28 (requiring the payment of fees to file a divisional application). For divisional applications in the U.S. see 35 U.S.C. § 121 (1952) (setting forth requirements of divisional, providing the filing date of the parent application to the divisional application).
\item \textsuperscript{197} Indus. Prop. Code of Braz., art. 24.
\item \textsuperscript{198} 35 U.S.C. § 112 (1952).
\item \textsuperscript{199} Id. See also Robotic Vision Sys., Inc. v. View Eng'g, Inc., 112 F.3d 1163, 1165, available in 1997 U.S. App. LEXIS 9605,*7 (Fed. Cir. May 1, 1997), stating the best mode requirement (citations omitted):}

\end{itemize}
The United States also has an additional "written description" requirement, which directs that the inventor must show "possession" of the invention.200

To achieve complete disclosure in biotechnological patent applications, Brazil provides for the deposit of biological materials in an institution authorized by INPI or indicated in an international agreement.201 The United States also authorizes the deposit of biological materials202 at any International Depository Authority203 or approved depository.204

In Brazil the claims must define clearly and precisely the subject matter to be protected.205 In the United States, the claims must "particularly point out and distinctly claim the subject matter which the applicant regards as his invention."206 These provisions are necessary to ensure that patent applicants place the public on notice as to the subject matter to which they claim protection.

In general, the application content is the same between U.S. patent applications and Brazilian patent applications. The differences in formalities appear insignificant other than the apparent lack of a "written description" requirement in Brazil. Given the other similarities in the specific disclosure requirements this difference, while important, should be of minor concern.

C. Publication

In Brazil, applications are kept secret until eighteen months from the filing date or of the earliest priority date, at which point they are "pub-
lished." Publication may occur at an earlier date, however, if requested by the applicant. Publication does not involve the actual printing of the entire patent application but instead may include data identifying the patent application itself, of which a copy of the specification, claims, abstract and drawings is made available to the public at INPI. In the United States, there is no automatic publication of patent applications, and they are preserved in secrecy until issued. However, currently pending legislation would provide for publication of the entire patent application after eighteen months from the filing date or the earliest priority date.

Brazil's "publication" is not traditional publication, since the applications themselves are not published. For prior art purposes, it is difficult to justify that a "published" Brazilian application was known to anyone. Brazil should improve its publication procedures to conform to the goal of publication-disclosure of the application. Until the United States passes its publication provisions, it will be playing "catch up" with the rest of the world, where eighteen month publication is virtually a standard.

D. Patent Prosecution Procedures

In Brazil, examination occurs, at the earliest, sixty days from publication of the application. Throughout examination, interested parties may file prior art documents and other information which aids in the examination of the application. In the United States, third parties are only per-
mitted to submit information concerning an issued patent during a re-
examination request or proceeding.\textsuperscript{215}

In both the United States and Brazil applications may be amended
during prosecution, but new matter may not be added.\textsuperscript{216} In Brazil, exami-
nation will not be conducted unless the applicant or any interested party
requests examination within thirty six months from the filing date.\textsuperscript{217} This
is different from the practice in-the United States where examination is
automatically conducted.\textsuperscript{218} In Brazil, once examination is requested, an
applicant must conduct prior art searches and file the results of examina-
tion for corresponding applications in other countries when there is a pri-
ority claim.\textsuperscript{219} In addition, the applicant must also file any documents nec-
essary to meet the formal requirements for examination, as well as a simple
translation of the priority documents.\textsuperscript{220} In the United States, applicants
have a “duty of disclosure” to submit “material” prior art to the United
States Patent Office,\textsuperscript{221} but are otherwise not required to submit the results
of foreign examinations.

A Brazilian examination consists of a search report and an opinion
with respect to the patentability of the application, the adaptation of
the application to the nature of protection claimed, and the reformulation
of the application or division of the application or of technical require-
ments.\textsuperscript{222} If the opinion is for nonpatentability or inadequacy of the appli-
cation, the applicant may respond within a period of ninety days.\textsuperscript{223} Ex-
amination concludes upon issuance of a decision which allows or rejects
the patent application.\textsuperscript{224}

\textsuperscript{217} Indus. Prop. Code of Braz., art. 33. However, the patent application may be re-
instated within sixty days from the date of shelving if the proper fee is paid. See \textit{Id.}
\textsuperscript{218} 37 C.F.R. § 1.1019(a) (1984), stating:

\begin{itemize}
  \item applications filed in the Patent and Trademark Office and accepted as complete
    applications are assigned for examination to the respective examining groups
    having the classes of inventions to which the applications relate.
  \item [A]pplications shall be taken up for examination by the examiner to whom they
    have been assigned in the order in which they have been filed . . .
\end{itemize}
\textsuperscript{219} Indus. Prop. Code of Braz., art. 34.
\textsuperscript{220} \textit{Id.}
\textsuperscript{221} 37 C.F.R. §§ 1.97, 1.98 (1992).
\textsuperscript{222} Indus. Prop. Code of Braz., art. 35.
\textsuperscript{223} \textit{Id.}, art. 36.
\textsuperscript{224} \textit{Id.}, art. 37.
In the United States, "office actions" consist of an opinion with respect to formal matters and the patentability of the application.\footnote{See 37 C.F.R. § 1.104 (a) (1978), stating: On taking up an application for examination ... the examiner shall make a thorough study thereof and shall make a thorough investigation of the available prior art relating to the subject matter of the claimed invention. The examination shall be complete with respect both to compliance of the application or patent under reexamination with the applicable statutes and rules and to the patentability of the invention as claimed, as well as with respect to matters of form, unless otherwise indicated.} Applicants have a shortened "statutory period" of three months to reply to an office action, which may be extended to six months.\footnote{See 35 U.S.C. § 133 (1952) (providing maximum time limit of six months to prosecute an application after any action thereon).}

\section*{E. Licensing Assistance}

The Brazilian National Institute of Industrial Property (INPI) assists applicants to license their invention, while the U.S. Patent office does not provide a similar service. A patentee may request INPI to place his patent under an offer to license.\footnote{Indus. Prop. Code of Braz., art. 64.} INPI will promote publication of the offer and will reduce by one-half the annuities required to be paid on the patents between the period of the offer and the grant of any license under the patent.\footnote{Id., art. 66.} However, the offer may not result in an exclusive voluntary license,\footnote{Id., art. 64, § 3.} and the patentee must withdraw the offer before entering into an exclusive voluntary license.\footnote{Id., art. 64, § 2.} If necessary, INPI may assist in arbitrating the remuneration under any license offer.\footnote{Id., art. 65.} Additionally, it may cancel the license if the licensee does not initiate effective exploitation within one year of the license's grant, or if the licensee interrupts exploitation for a period longer than one year, or if the conditions of the license for exploitation are not complied with.\footnote{Id., art. 67.}

The Brazilian licensing arm of INPI is an excellent idea. The United States should adopt a similar system to help its inventors commercialize their inventions. The Patent Office should not turn its back after patent issuance, but should help inventors find licensing partners.

\footnotetext[225]{See 37 C.F.R. § 1.104 (a) (1978), stating: On taking up an application for examination ... the examiner shall make a thorough study thereof and shall make a thorough investigation of the available prior art relating to the subject matter of the claimed invention. The examination shall be complete with respect both to compliance of the application or patent under reexamination with the applicable statutes and rules and to the patentability of the invention as claimed, as well as with respect to matters of form, unless otherwise indicated.}

\footnotetext[226]{See 35 U.S.C. § 133 (1952) (providing maximum time limit of six months to prosecute an application after any action thereon).}

\footnotetext[227]{Indus. Prop. Code of Braz., art. 64.}

\footnotetext[228]{Id., art. 66.}

\footnotetext[229]{Id., art. 64, § 3.}

\footnotetext[230]{Id., art. 64, § 2.}

\footnotetext[231]{Id., art. 65. The remuneration is reviewed after one year. See Id., art. 65, § 2.}

\footnotetext[232]{Id., art. 67.}
XII. Enforcement

Enforcement of patents typically involves injunctions (temporary and permanent) to prevent infringement, damages to compensate for the infringement, and seizure by the authorities or customs officials to gain control of infringing devices.

A. Infringement Generally

In both the United States and Brazil, infringement occurs even though not all of the claims of the patent are infringed. In Brazil, infringement may occur by use of a means "equivalent" to the subject matter of the patent. Likewise, in the United States the "doctrine of equivalents" is used to find infringement when the claims of a patent are not literally infringed.

B. Injunctive Relief, Civil Actions, Seizure and Confidential Information

The Brazilian Patent law contains a limited number of provisions dealing with enforcement of patent rights, instead referencing the Civil Process Code for obtaining remedies via a civil action. Damages and final injunctions may be obtained in normal civil actions, but preliminary measures of search and seizure are conducted under the provisions of the Criminal Process Code. In addition, for searches and seizures based on alleged infringement of a process patent, an expert must preliminarily verify that the goods in question are manufactured by the patented process.

The Brazilian law also allows for injunctive relief before serving the defendant. This injunctive relief (which is not described as "temporary") is to avoid irreparable damages or damages that would be difficult to recover, but the plaintiff must post money or a fiduciary guarantee.

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237. Id., art. 200.
238. Id., art. 201.
239. Id., art. 209, § 1.
States, or a preliminary injunction, both of which are temporary measures.\footnote{240}

To maintain the secrecy of confidential information during trials, Brazil forbids the use of this information by the opposite party for purposes unrelated to the lawsuit.\footnote{241} Protective orders are used in the United States to achieve this goal.

The procedural aspects of these statutes in each country ensure that patentees can enforce their rights without unduly prejudicing potential infringers. Safeguards are put in place for obtaining pretrial relief and to maintain each party's confidential information.

\section*{C. Damages}

In Brazil, damages for patent infringement actions are calculated according to one of the following measures, whichever is the most favorable to the injured party: (a) the benefits that would have been gained by the injured party had the violation not occurred, (b) the benefits gained by the infringer, or (c) the remuneration that infringer would have paid to the owner of the rights for a license that would have legally permitted the exploitation of the subject matter of the rights.\footnote{242}

In the United States, damages are awardable in an amount to compensate for the infringement, but in no case less than a reasonable royalty.\footnote{243} In assessing damages adequate to compensate for infringement, it has been held that if a particular injury was or should have been reasonably foreseeable by an infringing competitor in the relevant market, broadly defined, such an injury would generally be compensable absent a persuasive reason to the contrary.\footnote{244} Two types of recovery attainable are the patentee's lost profits\footnote{245} or a reasonable royalty.\footnote{246}

\begin{footnotes}
\item 240. See \textit{Fed. R. Civ. P.} 65(a) (preliminary injunctions); 65(b) (temporary restraining orders).
\item 242. \textit{Id.}, art. 210.
\item 244. See \textit{Rite-Hite v. Kelley}, 56 F.3d 1538, 1546 (Fed. Cir. 1995) (en banc) (holding the defendant liable for convoyed sales of a device not covered by a patent in suit).
\item 245. See \textit{Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.}, \textit{supra} note 26, at 1156 (articulating a four-factor "but for" test that has since been accepted as a useful, but non-exclusive, way for a patentee to prove entitlement to lost profits damages, including the requirement that the patentee establish: (1) demand for the patented product; (2) absence of acceptable non-infringing substitutes; (3) manufacturing and marketing capability to exploit the demand; and (4) the amount of the profit it would have made).
\end{footnotes}
The provisions in Brazil's law for renumeration for a license and benefits that would have been gained by the injured party are similar to the reasonable royalty and lost profits damages obtainable in the United States. Brazil provides a third measure of damages, the profits gained by the infringer. The U.S. law was amended in 1946 to remove a similar provision, because it was difficult to prove the infringer's profits in court. Another

(setting forth a number of factors useful in calculating the reasonable royalty). The well known and often-used Georgia Pacific factors include: (1) the royalties received by the patentee for the licensing of the patent in suit, proving or tending to prove an established royalty; (2) the rates paid by the licensee for the use of other patents comparable to the patent in suit; (3) the nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold; (4) the licensor's established policy and marketing program to maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly; (5) the commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promoter; (6) the effect of selling the patented specialty in promoting sales of other products of the licensee the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or conveyed sales; (7) the duration of the patent and the term of the license; (8) the established profitability of the product made under the patent; its commercial success; and its current popularity; (9) the utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results; (10) the nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention; (11) the extent to which the infringer has made use of the invention; and any evidence probative of the value of that use; (12) the portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions; (13) the portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer; (14) the opinion testimony of qualified experts; (15) the amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee—who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention—would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license.

247. See King Instruments Corp. v. Perego, 65 F.3d 941, 948 (Fed. Cir. 1995), stating:

The 1946 amendment eliminated the patentee's right to recover the infringer's "profits as such and allow recovery of damages only." See Aro Mfg. Co. v. Convertible Top Replacement Co., 377 U.S. 476, 505-07, 141 U.S.P.Q. (BNA) 681, 693-94, 12 L. Ed. 2d 457, 84 S. Ct. 1526 (1964); General Motors v. Devex, 461 U.S. 648, 654 (1983). These profits were considered too difficult and cumbersome to prove in court. See H.R. REP. No. 1587, 79th Cong., 2d Sess. 1-
difference is that, in the United States, damages may be trebled for willful infringement, and in exceptional cases, attorney’s fees may be added to the damages.\textsuperscript{248}

Thus, the approaches to infringement damages in both the United States and Brazil are extremely flexible, and are designed to adequately compensate the patentee for the infringement. Brazil’s approach uses the calculation most favoring the patentee, in contrast to the approach in the United States, which attempts to use the most accurate method of calculation, but increase the amount in appropriate circumstances.

Brazil’s law states that damages for the violation of an industrial property right are limited to a five year period.\textsuperscript{249} The law of the United States is similar, providing a six year period before the filing of the complaint or counterclaim.\textsuperscript{250}

D. Seizure of Goods By Customs

While broader measures are provided for the Brazilian custom authorities to seize counterfeit, falsified, altered or imitated marks or a goods bearing a false indication of source,\textsuperscript{251} there are no express provisions for the seizure of goods which may infringe a patent.

The Tariff Act of 1930\textsuperscript{252} authorizes the U.S. International Trade Commission to exclude goods from entry into the United States if the goods are found to infringe U.S. intellectual property rights or otherwise violate the statute.\textsuperscript{253}

Both the United States and Brazil could improve their customs law to allow for the seizure of imported infringing goods. Improved seizure authority is present in the trademark and copyright areas of law, so increasing the scope of these laws may be a good starting point.

\begin{footnotes}
2 (1946); S. REP. No. 1503, 79th Cong., 2d Sess. 2 (1946). The 1946 amendment thus sought to eliminate the delay and cost of protracted litigation to determine the infringer’s profits. \textit{Id.}

Later, the Patent Act of 1952 consolidated the existing provisions relating to damages into section 284. The 1952 Act effected no substantive change other than the addition of an attorney fees clause. \ldots \textit{See also} Bellehumer v. Bonnett, \textit{available in} 1996 U.S. App. LEXIS 33587, *9 (Fed. Cir. 1996) (unpub.) ("The district court thus committed an error of law and hence abused its discretion in calculating damages on the basis of the profits of the infringer, Bonnett, rather than the lost profits of the patentee, Bellehumeur").

253. \textit{See id.}
\end{footnotes}
E. Criminal Penalties for Patent Infringement

To American legal scholars, the concept of criminal liability for patent infringement is completely foreign. However, Brazil's law now contains numerous criminal penalties against patent infringers.

The manufacture of a product that is subject to a patent of invention or utility model patent, without authorization from a patentee or the use of a process that is the subject matter of a patent of invention without authorization of the patentee are crimes punishable by detention of three months to one year or a fine. The export, sale, offer for sale, maintenance in stock, hiding or receiving of a product manufactured in violation of a patent of invention or a utility model patent or a patented process is punishable by a fine or detention of one to three months.

The importation of a product that is the subject matter of an invention patent, or a utility model patent, or a patented process is punishable by a fine or detention of one to three months. Supplying a component of a patented product, or material or equipment for carrying out a patented process, provided that the final application of the component, material or equipment necessarily leads to the exploitation of the subject matter of the patent, is punishable by a fine or detention of one to three months.

The penalties of detention are increased by one-third to one-half when the party was a representative or employee of the patentee or of the licensee, and there are also minimum and maximum fines set in accordance with the criminal code system.

An allegation of the nullity of a patent upon which a criminal action is based may constitute a defense to the criminal action. However, acquittal of the defendant does not nullify the patent.

Brazil's criminal code provisions are extremely harsh and appear completely unnecessary, since the civil penalties should be deterrent enough to infringers. Perhaps Brazil, in response to previous criticism of its patent laws, is attempting to demonstrate its commitment to protect patent rights. Although such efforts and commitment are to be applauded, this emphasis on criminal punishment of patent infringers is perhaps misplaced, as it may take away the resources of law enforcement authorities from combating more serious crimes.

255. Id., art. 184, pt. I.
256. Id., art. 184, pt. II.
257. Id., art. 185.
258. Id., arts. 196, 197.
259. Id., art. 205.
XIII. Conclusion

The patent systems of the United States and Brazil both aim to foster technological growth through the grant of patent rights. Brazil's law emphasizes its constitutional mandate to take into regard the social interests and economic development of Brazil. Such a commitment is shown through its compulsory licensing scheme, designed to aid its manufacturing industry, as well as by its limits on patenting living organisms, which is reflective of its social culture. Despite some significant differences, the patent laws of the United States and Brazil are really more alike than they are different. This may be due, in part, to each country's commitment to TRIPs, which Brazil is expected to comply with by January 1, 2000. The laws of the two nations will converge even more if pending legislation in the United States concerning prior user rights and publication of patent applications is passed. The similarities between the patent law of the United States and those of Brazil strongly support the argument that global patent harmonization is possible.