

THE SUBSTANTIAL IDENTITY RULE UNDER THE JAPANESE NOVELTY STANDARD

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I. INTRODUCTION

Under both Japanese and United States patent law, to obtain a patent an invention must satisfy the requirements of "novelty"¹ and "nonobviousness."² Although the terms differ, it is commonly accepted that the novelty and inventive step requirements³ under Japanese patent law correspond to the novelty and nonobviousness requirements under United States patent law.⁴ However, it has been argued that the patentability standard is lower under Japanese law than under American law; as a result, Japanese companies have encroached on American inventions by obtaining patents for trivial improvements. At least one American company has strongly opposed this practice in the Japanese patent system, emphasizing the threat of Japanese competition.⁵

The patentability standard is closely related to a country's industrial and economic policies, and to the protection of pioneer inventions and their improvements. In general, the patentability standards of developing countries tend to be lower than those of industrialized countries, so that improvements made by the domes-

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1. See generally CHISUM, PATENTS § 3.01 (Supp. 1990) [hereinafter PATENTS] (to fulfill the novelty requirement, a patentable invention must be new).

2. *Id.* § 5.01 (to fulfill the nonobvious requirement, a patentable invention "must not have been obvious to one with ordinary skill in the art to which the subject matter of the invention pertains at the time of the invention and in light of the teachings of the prior art.").

3. TOKKYO HO (hereinafter PATENT CODE) Law No. 121 of 1959, art. 29 (Japan). The term "inventive step" is translated from the Japanese phrase *shinpo sei*.

4. 35 U.S.C §§ 101-103 (1988).

5. The president of Fusion Systems Corporation, Donald M. Spero, argued that the Japanese Patent Office allows patents for trivial improvements so that Japanese companies can freeze out American pioneer inventions. Spero, *Patent Protection or Piracy - A CEO Views Japan*, HARV. BUS. REV. 58, 66 (Sept.-Oct. 1990).

tic industries of developing countries can be better protected. In most developing countries, since the owner of an invention is required to license patented improvements of that invention,⁶ protection can be inadequate if the patentability standard is too low; under such circumstances, trivial modifications are patentable.

On the other hand, it is important to encourage innovation. A lack of innovation discourages industrial progress. The inventor of an improvement deserves a patent monopoly if the improvement contributes to the progress of technology. Developments of new art are always to some degree based on prior art. The real question is what sort of improvements should be patentable.

It is commonly believed that the Japanese patentability standard is the same as the American standard, except for minor variations. Yet Japanese attorneys and examiners have never questioned whether "new" means the same thing to them as it does to their American counterparts. On the other hand, American attorneys with extensive experience in handling Japanese patent applications see differences between the novelty and inventive step standards of Japanese patent law, and the novelty and nonobviousness standards of American patent law. Some American patent attorneys suggest that under Japanese patent law there seems to be yet another standard in addition to the novelty and inventive step standards. If so, it is important for American attorneys to know the difference between Japanese and American standards so that they may overcome rejections posed by Japanese patent examiners. Moreover, Japanese attorneys often find it difficult to explain to foreign applicants the reasons for rejections. Harmonizing patentability standards provides advantages to foreign applicants and attorneys as well as to Japanese attorneys.

The World Intellectual Property Organization (WIPO)⁷ has been trying to harmonize patent laws in member countries, and General Agreement on Tariffs and Trade (GATT)⁸ recently started to discuss the establishment of minimum standards in intellectual property protection. In light of these movements, differences in the

6. PATENT CODE, *supra* note 3, art. 92 (a patentee of improvements may request the owner of the pioneer invention to hold consultations on the grant of a non-exclusive license).

7. WIPO was established by multilateral convention in 1967. The organization administers various intellectual property treaties, studies intellectual property laws, renders intellectual property law assistance, and proposes model laws and treaties. Convention Establishing WIPO, July 14, 1967, 21 U.S.T. 1749, T.I.A.S. No. 6932, U.N.T.S. 3.

8. General Agreement on Tariffs and Trade, *opened for signature* Oct. 30, 1947, T.I.A.S. No. 1700, 55 U.N.T.S. 187, *reprinted in* 4 General Agreement on Tariffs and Trade, Basic Instruments and Selected Documents (1969). The "GATT" is commonly used to refer to both an international organization and to the General Agreement on Tariffs and Trade, which is the organization's charter document.

understanding of such basic terminology as "novelty" and "nonobviousness" cannot be ignored. To inventors whose patent applications are accepted in one country but rejected in another, the lack of uniformity in patent laws may seem irrational. If in fact any differences between the novelty and inventive step standards of Japanese patent law and the novelty and nonobviousness standards of American patent law exist, we must evaluate them to know their causes and to make an effort to eliminate these differences in order to harmonize Japanese patent law with the patent laws of other countries.

This article compares the novelty standard under Japanese patent law with the novelty standard under American patent law. This article first explains the structure of the novelty and inventive step provisions under Japanese patent law and examines the interpretation and basic legal theories of these provisions. The inventive step standard developed out of the novelty standard. Thus, to understand the inventive step standard, it is necessary to understand the novelty standard.

Next, this article discusses the unique features of the Japanese novelty standard. The strict novelty requirements of the patent laws of the United States and European countries are contrasted with the relaxed substantial identity rule developed by Japanese courts, which will be discussed in detail. This article then evaluates the differences between Japanese and other novelty standards, and examines the reasons for those differences.

The final part of this article analyzes problems caused by the substantial identity rule and questions whether this rule is in fact necessary. The article concludes that the substantial identity rule should be abolished in Japanese patent law, and that the novelty and inventive step requirements should be clearly differentiated to harmonize the Japanese patentability standard with American and European standards, as well as to provide an objective patentability standard for the Japanese patent system.

II. INTERPRETATION OF PROVISIONS AND GENERAL THEORIES FOR JAPANESE NOVELTY AND INVENTIVE STEP STANDARDS

A. Article 29: Novelty and Inventive Step

Japanese patent law, Article 29, Paragraph 1 defines the traditional novelty standard and Paragraph 2 defines the inventive step standard, as follows:⁹

1. Any person who has made an invention which is industrially

9. PATENT CODE, *supra* note 3. This article also sets forth the requirement of applicability. However, discussion in this paper will be limited to the novelty standard.

applicable may obtain a patent therefor, except in the case of the following inventions:

- (1) inventions which were publicly known in Japan prior to the filing of the patent application;
 - (2) inventions which were publicly used in Japan prior to the filing of the patent application;
 - (3) inventions which were described in a publication distributed in Japan or elsewhere prior to the filing of the patent application.
2. Where an invention could easily have been made, prior to the filing of the patent application, by a person with ordinary skill in the art to which the invention pertains, on the basis of an invention or inventions referred to in any of the paragraphs of subsection 1, a patent shall not be granted for such an invention notwithstanding subsection 1.

1. Novelty standard

Novelty is a basic requirement to justify a legal monopoly. The novelty standard has existed since the beginning of the patent system. The origin of the novelty standard is found in *Darcy v. Allin*,¹⁰ an English case which became the foundation for patent systems in common law countries.¹¹ The rationale for requiring that an invention be "new" to be patentable is common to all patent systems, including those of the United States and Japan. The rationale for requiring that an invention be "new" to be patentable is clear: it is unreasonable to allow a person to enjoy a monopoly over part of an industry which was already in existence. Since the purpose of the patent system is to encourage the progress of industry, science and the useful arts,¹² allowing a monopoly on existing technology would debilitate industry and forestall progress by preventing people from freely using technology.

On the surface, the Japanese novelty standard is very similar to the American standard. An invention satisfies the novelty standard when the invention is "new"; that is, when it is not identical to a

10. 74 E.R. 1131 (1602) (a patent monopoly was granted to existing playing cards. The patent granting to Mr. Darcy a monopoly on the selling, manufacturing, and importing of playing cards was held invalid:

Now therefore I will show you how the judges have heretofore allowed of monopoly patents which is that where any man by his own charge and industry or by his own wit or invention both bring any new trade into the Realm or any Engine tending to the furtherance of a trade that never was used before and that for the good of the Realm; in such cases the King may grant to him a monopoly patent for some reasonable time, until the subjects may learn the same, in consideration of the good that he doth bring by his Invention to the common wealth, otherwise not.)

11. With respect to the case development of standards of patentability in the United States and United Kingdom, see generally, Bochnovic, *The Inventive Step*, 5 I.C.C. STUDIES (1982).

12. PATENT CODE, *supra* note 3, art. 1; U.S. CONST. art. I, § 8, cl. 2, 1 U.S.C.A. § 673 (1987).

prior art invention listed in art. 29, para. 1, items 1-3. Because the Japanese patent system is based on the first-to-file rule,¹³ prior art consists of those inventions which are made public prior to the date of the filing of the application¹⁴ rather than the date of invention.¹⁵ There are three types of prior art in Japanese patent law: publicly known inventions,¹⁶ publicly used inventions,¹⁷ and published inventions.¹⁸ In some respects, the unpatentable inventions listed in art. 29, para. 1, substantially correspond to the bar events provided in 35 U.S.C. § 102(a) to (d).¹⁹ In both Japan and the United States, inventions described in a publication in any country constitute prior art.²⁰ Under Japanese patent law, inventions publicly used or known do not constitute prior art unless they are used or known in Japan. In addition, there is no bar event equivalent to the "on sale" bar provided in 35 U.S.C. § 102 (b).²¹ An invention which would have been rejected as unpatentable for lack of novelty in the United States because of the "on sale" bar does not lose its novelty under Japanese patent law unless the invention is disclosed to persons who have no obligation to keep the invention secret.

There are certain exceptions to the Japanese rules regarding public disclosure which provide a grace period to the inventor.²² For instance, an inventor may experiment and publish his results or he may provide a written report of his invention at a meeting of an academic society without losing his novelty claim.²³ Where novelty is lost contrary to the will of the inventor, as in an unauthorized publication, the inventor may obtain a patent if he files an application within six months of the date on which the invention lost its novelty.²⁴ In some circumstances, public display of an article which embodies the invention may not entail loss of novelty if the inventor

13. PATENT CODE, *supra* note 3, art 39 (para. 1 provides that where two or more patent applications relating to the same invention are filed on different dates, only the first application may obtain a patent for the invention).

14. Or the priority date if the application is first filed outside Japan.

15. Compare with 35 U.S.C. § 102 (1988) (American patent law is based on the first-to-invent system); See PATENTS, *supra* note 1, § 6.02.

16. PATENT CODE, *supra* note 3, art. 29, para. 1, item 1.

17. *Id.*, item 2.

18. *Id.*, item 3.

19. See generally CHISUM, ELEMENTS OF UNITED STATES PATENT LAW, § 1500 [hereinafter ELEMENTS]. Bar events mean conditions that will preclude a patent.

20. However, in the United States, there is a one year grace period if the invention is described by the inventor in a publication.

21. See generally ELEMENTS, *supra* note 19, § 1522.

22. *Id.*, § 1520. The grace period is from the critical date, which is one year prior to the filing date. Under United States patent law, an inventor is given a one-year grace period so that he or she can prepare and file an application within one year from a public disclosure or commercial use of the invention.

23. PATENT CODE, *supra* note 3, art. 30, para. 1.

24. *Id.*, art 30, para 2.

files an application within six months of the display.²⁵ However, the Japanese patent office applies these exceptions strictly. Moreover, they are applied only to the novelty standard, not to the first-to-file rule provided in Article 39.²⁶ If an inventor who is entitled to an exception files for a patent after a second inventor has filed for the same invention, then neither can obtain a patent. The second inventor is barred by the disclosure of the first inventor, and the first inventor is barred by the first-to-file rule.

2. Inventive Step

As the policies of the patent system changed and technology progressed, a new standard developed, which requires more than mere novelty.²⁷ A fundamental principle common to patent systems that underlies both the Japanese inventive step standard and the American nonobviousness standard²⁸ is the need to balance public interest considerations against the grant of a patent monopoly.²⁹ A patent monopoly is not justified by trivial change or modification.³⁰ The indiscriminate protection of inventions which would naturally occur to any person skilled in the art would tend to obstruct rather than stimulate inventiveness.³¹

Historically, the patent systems of the United States and Germany have had two tests for this new standard. One is the nonobviousness test and the other is the advance test, also known as the new result test.³² Under the nonobviousness test, an invention is examined in terms of its physical and operational structure to determine whether one skilled in the art could easily have conceived of the improvement over the existing art. Furthermore, prior art publications are evaluated to determine whether the improvement

25. *Id.*, art 30, para 3.

26. *See supra* note 11.

27. With respect to the history of inventive novelty, see generally, Kitch, *Graham v. John Deere Co.: New Standards for Patents*, SUP. CT. REV. 293 (1966) [hereinafter Kitch]; see also PATENTS, *supra* note 1, § 5.02; Seidal, *The Constitution and a Standard of Patentability*, 48 J. PAT. OFF. SOC'Y 5 (1966).

28. The first Japanese Patent Act, Senbai Ryaku Kisoku (The Regulation of Patent Monopoly), Law No. 175 of 1871, art. 1, provided: Where with respect to machinery, tools and instruments, weapons, textiles, etc. a new invention which has not yet been open to the public in this country is made and the invention is capable of advancing the convenience of the people, an inventor is entitled to a patent monopoly for a limited period.

29. *See generally* Bochnovic, *supra* note 11. With respect to the history of inventive novelty, see also Kitch, *supra* note 27; PATENTS, *supra* note 1, § 5.02.

30. *See, e.g.*, Judgment of Apr. 1, 1912, Daishin'in (Great Court of Judicature), Japan, 786 Horitsu Shimibun 15 [hereinafter Judgment of Apr. 1, 1912].

31. This principle was originally developed by American courts before the first Japanese patent law was drafted. *See, e.g.*, *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248 (1850).

32. *See generally* 1 ULLRICH, STANDARDS OF PATENTABILITY FOR EUROPEAN INVENTIONS (1977) [hereinafter ULLRICH].

could easily be conceived by combining the publications. Under the advance test, an invention is compared to the prior art to determine whether the new invention has an advantage over the prior art. Thus, the advance test always compares a new invention to the prior art to evaluate relative advantage.

There had been no statutory requirement in Japanese patent law until 1959.³³ However, even in the early stages of the Japanese patent system, there was the principle that a patent could not be granted for a trivial invention. This resembled American law, where American courts had long recognized the nonobviousness standard, but the standard was not codified until 1952. As Japanese patent law is largely based on American patent law,³⁴ Japanese courts naturally followed the principles developed in the American courts. So even though the only statutory requirement of Japanese patent law was novelty,³⁵ the courts developed the inventive step requirement as a result of the influence of the American nonobviousness test as well as the German advance test.³⁶

The revision of the Patent Law in 1959 was one of the most significant changes in the history of the Japanese patent system. The Diet for the first time recognized the judicially-developed inventive step doctrine and added the inventive step standard in article 29, paragraph 2. According to this standard, the differences between an invention in issue and prior art inventions are examined not to decide whether the invention in issue has an advantage over the prior art, but to decide whether one skilled in the art would have readily conceived of the improvement by the filing date. Thus, the Diet chose the American standard of nonobviousness over the German advance test.

The postwar technology boom prompted this revision. Since the 1950s, Japanese industries and technologies have progressed dramatically. This technological progress has been reflected in an increased number of patent applications. The old patentability standard became outdated and was consequently changed by case law. After World War II, industrialized countries revised their pat-

33. See PATENT CODE, *supra* note 3.

34. The first Japanese patent law was based on the American patent system. During the Taisho period, the German influence on Japanese law became stronger. The Taisho ho, the basis of the Patent Code, adopted most of the significant features of the German patent system.

35. Judgment of Apr. 1, 1912, *supra* note 30. This case involved a well-known rice-cleaning machine, to which inventor added a spiral rotating fan that had been used for other machines. The Patent Bureau refused the application on the ground of lack of novelty because the claimed invention was a combination of old elements.

36. Takenaka, *Clear Standards of Patentability for the Japanese System*, in LESSONS FROM THE EVOLUTION OF PATENTABILITY STANDARDS IN GERMANY AND THE UNITED STATES (1990) [hereinafter Takenaka].

ent laws. German patent law, a model for the Japanese patent system, was also revised, triggering the revision of Japanese patent law.

Although the revisions of 1959 introduced many new and important concepts, there has been little discussion of the objectives and intentions of the revisions.³⁷ Prior to 1959, inventions were rejected on the ground of lack of novelty if they were identical to prior art inventions or were trivial modifications of prior art inventions. Because Japanese patent law did not clarify the relationship of the new inventive step standard to the novelty standard, it was not clear whether the introduction of the inventive step standard would affect the novelty standard.³⁸

Once the inventive step standard was introduced, the Japanese courts and patent office should have stopped basing rejections of inventions which involved trivial modifications on lack of novelty. However, they were reluctant to do so because they were worried that using only one standard to reject trivial modifications would lower the patentability standard.³⁹ Thus, they did not seriously discuss changing the practice of rejection based on lack of novelty, and no significant change occurred after the introduction of the inventive step standard.

Further, it was believed that the Diet had recognized and codified the judicially-developed inventive step standard. However, it was not clear how the statutory language should have effected the judicially developed inventive step standard, and there was extended debate on the relationship between the new statutory language and the counterpart patent laws of foreign countries.⁴⁰ Scholars and practitioners were naturally confused and could not reach a clear consensus.⁴¹ By the time of the revisions, Japanese courts had already established their own inventive step requirement, a mixture of the American nonobviousness standard and the German advance test. The Japanese inventive step standard was unique at the time of the revisions, with no counterpart in Germany or the United States.

37. See generally N. Sugibayashi, *Shin kogyo Shoyuken Gairon (New Treatise for Industrial Property Law)*, HATSUMEI (INVENTION) (1962); S. MATSUMOTO, TOKKYO HATSUMEI NO HOGOHANI (THE SCOPE OF PROTECTION FOR PATENTED INVENTION) (1981).

38. See generally UCHIDA, HATSUMEI 1 (INVENTION) (1969). This book contains the proceedings of a patent law seminar where leading scholars and practitioners of the 1960s met to discuss the effects of the revision.

39. *Id.* at 82. One leading legal writer, who is a former chief examiner of the Patent Office, dared to state that the introduction of the inventive step standard in a statutory form would be meaningless if this caused the novelty standard to be lowered. He apparently was concerned that some inventions which would have been rejected for lack of novelty before the revision would escape rejection if examined only under the inventive step standard. See also Takenaka, *supra* note 36.

40. UCHIDA, *supra* note 38, at 66.

41. Takenaka, *supra* note 36, at 54.

American and German scholars recognized that the nonobviousness test and the advance test were different. Both countries evaluated these tests and chose the nonobviousness test as the proper standard.⁴² In Japan, these tests had become inseparable in the patent system. Yet an American or German scholar who had read article 29, paragraph 2 would have understood that the Japanese Diet chose the nonobviousness standard over the advance test. Japanese courts and scholars did not see this because the Japanese patent system had never clearly distinguished the two tests. Thus, they did not completely discard the advance test, as they continued to use the inventive step standard, a combination of the nonobviousness test and the advance test.

**B. Article 29 bis : The Novelty Standard with Respect to
Unpublished Prior Art Pending to Japanese
Patent Office**

Even though an invention does not fall under the exceptions listed in article 29, paragraph 1, items 1 - 3, it is not patentable if it has been disclosed in an application pending to the Japanese Patent Office (JPO) that was filed prior to the application of the invention.⁴³ Article 29, paragraph 1 provides that where an invention claimed in a patent application is identical to an invention disclosed in the specifications or drawings of an earlier application, and where the laying open for public inspection⁴⁴ or the publication after the examination⁴⁵ were effected after the filing of the patent application, a patent shall not be granted for that invention.

The requirement that the invention is not disclosed in an earlier, co-pending application means that a patentee must be the one who first discloses the invention. When the claims in an application are identical to the claims disclosed in an earlier, co-pending application, the invention is not novel.⁴⁶ Even though the earlier application was not published or publicly known, the invention had been

42. See Kitch, *supra* note 27; see also ULLRICH, *supra* note 32.

43. PATENT CODE, *supra* note 3, art. 29, para. 1.

44. *Id.*, art. 65. Under Japanese patent law, all pending patent applications are laid open for public inspection 18 months after the date of filing, except for applications which have already been published. This publication is called *kokai*.

45. *Id.*, art. 51. Where the examiner finds no reason for refusing a patent application, the application is published. Any person may file an opposition against the grant of a patent for the application within three months of the publication. This publication is called *kokoku*.

46. The Japanese Patent Office reviews both claims and specifications in a patent application. This review is similar to that practiced in Europe. For a discussion of the European "whole contents" doctrine, see, Decision of Jan. 20, 1987, T167/84, Technical Board of Appeals, European Patent Office (The "whole contents" of an older document within the meaning of Article 54(3) EPC do not comprise features which are equivalents to the features according to the document).

disclosed to the JPO when the earlier application was filed.⁴⁷ At any rate, an invention will be published later than will the earlier application made by another, so this does not benefit industry.

The novelty standard provided in article 29 bis corresponds to the requirements provided in 35 U.S.C. § 102(e) that bar a patent when the invention has been described in a United States patent granted on an application filed by another before the applicant's date of invention.⁴⁸ The rationale for § 102(e) is that the patentee must be the first inventor; thus, it is similar to that of article 29 bis. Section 102(e) and article 29 bis do not apply to inventions made by the same inventor nor to an invention made by the same applicant.⁴⁹

American and Japanese patent laws differ somewhat. Under American patent law, an application is kept secret until a patent is granted. If no patent is granted, the contents of an application are not published.⁵⁰ Thus, an application constitutes § 102(e) prior art only if a patent is granted and published.

Another major difference between Art. 29 bis and § 102(e) is that § 102(e) provides that "prior art" may be applied not only to the inventive step standard but also to the nonobviousness standard.⁵¹ In contrast, under Japanese patent law, an invention is unpatentable only if it is identical to inventions disclosed in a co-pending application.⁵² Thus, the prior art inventions provided in article 29 bis apply only to the novelty standard.

III. FEATURES OF THE JAPANESE NOVELTY STANDARD

Before remarking on the features of the Japanese novelty and inventive step standards, it may be useful to review basic novelty requirements under United States patent law and the European Patent Convention. Accordingly, the following sections briefly discuss the rules used in the United States Patent and Trademark Office (USPTO) and American courts, the rules used in the European Patent Office (EPO) with respect to the novelty standard, and then the

47. See generally YOSHIFUJI, TOKKYOHU GAISETSU (OUTLINE OF PATENT LAW) 159 (1988).

48. *Alexander Milburn Co. v. Davis-Bournonville Co.*, 270 U.S. 390 (1926). Section 102(e) codified the Milburn doctrine.

49. ELEMENTS, *supra* note 19, § 1550.

50. Under Japanese patent law, all applications are published 18 months from the filing dates. See *Takenaka*, *supra* note 36. Accordingly, applications constitute prior art as provided in article 29 except for applications which were abandoned before they were published.

51. *Hazeltine Research, Inc. v. Brenner*, 382 U.S. 252, 147 U.S.P.Q. 429 (1965). See generally ELEMENTS, *supra* note 19, § 1550, n.217 (1987).

52. PATENT CODE, *supra* note 3, art. 29, para. 1.

rule requiring novelty of an invention as used in the Japanese Patent Office (JPO) and Japanese courts.

A. The American Novelty Standard: The Single Source/Identity Rule

United States patent law defines the novelty requirement as follows:

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, subject to the conditions and requirements of this title.⁵³

Thus, § 101 requires that a patentable invention be "new". § 102 provides the conditions of novelty. Under United States patent law, the separation of the novelty and nonobviousness standards is rather clear. The single source/identity rule, which is commonly accepted by American courts and scholars, requires that only inventions which are identical to prior art inventions can be rejected for lack of novelty. An invention involving any sort of modification must be examined by the nonobviousness standard.

Under the single/source identity rule, the standard for lack of novelty is one of strict identity.⁵⁴ A single prior source must contain every essential element of a claimed invention to constitute anticipation.⁵⁵ Anticipation is the failure of the invention to meet the patent law requirement of novelty.⁵⁶

Anticipation cannot be shown by combining more than one reference to show the elements of the claimed invention. If it is necessary to rely on a second prior art to find all elements of the claim, then the combination of those references may constitute proof of nonobviousness under § 103, but it will not constitute anticipation under § 102.⁵⁷ The distinction between the novelty standard and the nonobviousness standard is clear to American courts.⁵⁸ Because of the strict requirement that all elements of the

53. 35 U.S.C. § 101 (1988).

54. See generally PATENTS, *supra* note 1, § 3.02. See also Mintz & Rachine, *Anticipation and Obviousness in the Federal Circuit*, 13 A.I.P.L.A. Q.J. 195, 195-98 (1985) [hereinafter Mintz & Rachine].

55. In re Donohue, 766 F.2d 531, 534, 226 U.S.P.Q. 619, 621 (1985) ("It is elementary that an anticipation rejection requires a showing that each limitation of a claim must be found in a single reference, practice or device.").

56. Chisum, *Anticipation, Enablement and Obviousness: An Eternal Golden Braid*, 15 A.I.P.L.A. Q.J. 57 (1987).

57. Rose, *Ascertaining Differences - When Is The "Invention Not Identically Disclosed or Described?"*, in NON OBVIOUSNESS - THE ULTIMATE CONDITION OF PATENTABILITY 116 (Witherspoon ed. 1978).

58. *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 756 F.2d 1556, 1560 (1985), *reprinted in* KITCH, *LEGAL REGULATION OF THE COMPETITIVE PROCESS* 876, 878 (1989). The following particular words of the Jamesbury court illustrate the distinction between the novelty and nonobviousness standards:

claimed invention must be present within a single prior art reference, the requisite degree of identity is rarely found and anticipation is deemed a "technical defense."⁵⁹ The result under the novelty standard is more predictable than that under the nonobviousness standard. In this sense it is more objective. Furthermore, a claim of invention can be carefully defined so as to avoid anticipation, but not obviousness. Also, examiners are on more secure ground when they reject an application for lack of novelty rather than failure to meet the requirement of nonobviousness, in the sense that they need not prove the level of ordinary skill in the art nor the analogous nature of combining prior art, nor need they evaluate the differences between the claimed invention and prior art, and so-called secondary considerations.⁶⁰

However, some courts seem to use a more relaxed standard, applying the rule that minor or obvious modifications cannot avoid anticipation.⁶¹ The number of such courts is far smaller than that of the majority, which use the stricter novelty rule. Further, most of the cases which used the relaxed rule somehow relate to the issue of ascertaining the content of disclosure.⁶² In other words, in these cases the content of disclosure was interpreted expansively to include an element which was in fact missing from the disclosure. In

The instruction . . . to the effect that the claims are invalid if the prior art Saunders patent discloses "substantially the same things" as claims 7 and 8, and Interrogatory No. 1, which speaks of the claims not differing in "significant particulars," are not legally correct.

The error in this interpretation of the statutory requirement of novelty is the same as that which was addressed in *Connell [v. Sears Roebuck & Co., 722 F.2d 1542, 1548, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983)]*:

The opinion says anticipation may be shown by less than "complete anticipation" if one of ordinary skill may in reliance on the prior art "complete the work required for the invention," and that "it is sufficient for anticipation" if the general aspects are the same and the difference in minor matters is only such as would suggest itself to one of ordinary skill in the art. Those statements relate to obviousness, or anticipation. Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim (citations omitted). A prior art disclosure that "almost" meets that standard may render the claim invalid under § 103; it does not "anticipate."

Here, as well, anticipation is not shown by a prior art disclosure which is only "substantially the same" as the claimed invention.

59. *Phillips Petroleum Co. v. U.S. Steel Corp.*, 673 F. Supp. 1278, 6 U.S.P.Q.2d 1065 (D. Del. 1987).

60. Regarding the test of nonobviousness, see generally, *PATENTS*, *supra* note 1, § 5.04 ("Secondary considerations" are nontechnological considerations which are relevant to the issue of the nonobviousness of an invention).

61. *RCA Corp. v. Applied Digital Data Sys., Inc.*, 730 F.2d 1440, 211 U.S.P.Q. 385 (Fed. Cir. 1984) (Kasiwa, J. dissenting). See generally *Mints & Rachine*, *supra* note 54.

62. *E.g., Leinoff v. Louis Milona & Sons, Inc.*, 726 F.2d 734, 220 U.S.P.Q. 845 (Fed. Cir. 1985) (Judge Nies, dissenting from the majority opinion, stated that to be anticipatory, a reference need not expressly disclose what is inherent).

these cases courts decided that the invention was disclosed in the prior art even though an element of the invention was missing.

The number of courts relying on the relaxed rule is insignificant. In general, the American courts' view with respect to the rule requiring novelty can be considered the single source/identity rule.

B. European Patent Convention: Single Source/Identity Rule

Today, most European countries are members of the European Patent Convention (EPC).⁶³ Member states of the EPC have harmonized their national patent laws. Under the EPC, domestic and European applications and patents for any member country should have the same effect on each other, though it has been left to the countries' national legislatures to determine how these principles for European patents become part of national law.⁶⁴ As for the Federal Republic of Germany, the EPC provision has been included in the Law on International Patent Treaty (December 16, 1976).

Worldwide harmonization has been discussed mainly by the European, United States, and Japanese patent offices. A study of the novelty standard based on the text of the EPC and the EPC's Examination Guideline is very important for harmonization, considering that European countries have been successful in harmonizing differences among member countries' patent laws, including German patent law, which was a model for the present Japanese patent law, and United Kingdom patent law, which is similar to American patent law.

The EPC defines the standards of patentability as follows:

European patents shall be granted for any inventions which are susceptible of industrial application, which are new and which involve an inventive step.

With regard to novelty, the EPC further provides that the novelty standard is satisfied if an invention does not form part of the state of the art.⁶⁵ The state of the art is defined as including everything made available for public use by means of a written or oral description, by use or in any other way,⁶⁶ before the date of filing of the European patent application or a validly claimed convention priority date.⁶⁷

Similar to the novelty standard of American law, if an application is to be rejected for lack of novelty, it is necessary that a single

63. Convention on the Grant of European Patents, Oct. 5, 1973 [hereinafter EPC], art. 52(1).

64. See generally Cornish, *The Essential Criteria for Patentability of European Inventions: Novelty and Inventive Step*, 14 I.C.C. STUDIES 765 (1983).

65. EPC, *supra* note 63, art. 54(1).

66. PATENT CODE, *supra* note 3, art. 29, paras. 1 and 2.

67. *Id.*, art. 54(2).

document disclose that which is claimed. The EPC guideline⁶⁸ provides:

It should be noted that in considering novelty (as distinct from inventive step), it is not permissible to combine separate items of prior art together.⁶⁹

. . . Novelty and inventive step are different criteria. Novelty exists if there is any difference between the invention and the known art.⁷⁰

In considering whether there is inventive step (as distinct from novelty), it is permissible to combine together the disclosures of two or more documents or parts of documents, different parts of the same document or other pieces of prior art. . . .⁷¹

Thus, the EPC uses the single source/identity rule. Further, the Technical Board of Appeals of the European Patent Office has held it improper to read different portions of the same document together when it was not clear that they were intended to be read together.⁷² Where one document explicitly refers to another document, it is considered proper to read those documents together.⁷³ Of course, a mere difference in expression used to describe an invention does not avoid anticipation.⁷⁴ In short, the EPC uses a strict rule for deciding novelty, and their practice is substantially the same as that under American law.

C. Japanese Law: Substantial Identity Rule

Interpreted literally, the Japanese novelty standard requires that a patentable invention be "new" and nothing more, similar to the novelty standards under American law and the EPC.⁷⁵ However, the meaning of "new" developed by Japanese courts seems to be different from that of the United States and the EPC. The determination of novelty has always involved not only factual decisions but also a legal evaluation: the concept — that is, the technical idea — of an invention described in a claim is evaluated along with the concept of prior art, rather than the language describing the claimed invention with the language of prior art.⁷⁶ Thus, it is natu-

68. *European Patent Office Guidelines*, in SINNOTT, *WORLD PATENT LAW & PRACTICE* (1985).

69. *Id.*, pt. C, ch. IV, para. 7, at 7.1.

70. *Id.*, para. 9, at 9.1.

71. *Id.* at 9.7.

72. *Bayer v. Titanly Sulphate*, T183/184, 1986 E.P.O.R. 174.

73. *Decision of Dec. 1986 (Alternative Claims v. Amoco Corp.)*, T153/85, 1988 E.P.O.J. 1.

74. *Decision of Oct. 29, 1986 (Foam Plastic Filter v. Eriksson)*, T114/86, 1987 E.P.O.J. 485.

75. *PATENT CODE*, *supra* note 3, art. 29, para. 1.

76. *See generally* NAKAYAMA, *CHUKAI TOKKYO HO (DETAILED EXPLANATION OF THE PATENT LAW)* 313 (1983) (since the identity of invention must be decided by the identity of technical idea, two inventions are not necessarily different when the

ral that courts did not feel bound by the language of the claim and adopted the substantial identity rule, under which a claim is rejected for lack of novelty whenever the inventive concept, rather than the claim language, corresponds to that of prior art inventions.

The substantial identity rule is similar to the single source/identity rule because it also involves a determination of whether an invention is identical to another invention disclosed in a single prior art.⁷⁷ However, the Japanese substantial identity rule is a more relaxed standard than the American and EPC novelty standards since every element in a claim need not necessarily be found in a single prior art. That is to say, an invention is anticipated even if some of its elements are missing from prior art as long as the addition or change of the elements is considered minor or obvious to one skilled in the art.

In 1966, the Japanese Patent Office published its examination guidelines relating to the test examining whether two inventions are identical.⁷⁸ Since then, though there have been several revisions of the patent law, the principle whereby it is determined whether two inventions are identical has remained substantially the same. The principle is: Where invention A is substantially the same as invention B, these inventions are identical.⁷⁹

The guideline provides five types of examples of inventions which are considered identical:

1. Inventions whose structures, objects and advantages are the same.
2. Inventions whose structures are the same, but the description of their objects and advantages is different. In this case, the objects and advantages are recognized by the inventor differently. However, it is clear in fact that the objects and advantages must be the same as long as their structures are the same. Thus, these types of inventions are essentially the same as the inventions classified under item 1.
3. Inventions which are considered substantially the same.
 - (a) Inventions whose structures are different, but the differ-

claim language or elements described in claims are different); TAKEDA, TOKKYO SHINKETU TORIKESHI SOSHO TONO JITSUMU (PRACTICE IN TRIAL AGAINST EXAMINER'S DECISION OF REFUSAL) 137 (1988) (an invention is a creation of technical idea by which a law of nature is utilized; the identity of inventions means the identity of technical idea).

77. Takeda, *Hatsumei no Jisshitsuteki Doitsusei ni tsuite (The Substantial Identity of Invention)*, 86 HATSUMEI (INVENTION) 171 (1989) [hereinafter Takeda]; Hayashi, *Hatsumei no Doitsusei o megutte (Comment on the Substantial Identity of Invention)*, 38 TOKKYO KANRI (PATENT MANAGEMENT) 931 (1988).

78. JAPANESE PATENT OFFICE, HATSUMEI NO DOITSUSEI NI KANSURU SHINSA KIJUN (GUIDELINES RELATING TO THE IDENTITY OF INVENTION) [hereinafter JPO GUIDELINES] (Apr. 1978); See also YOSHIMINE, SHINSA KIJUN NO KAISETSU (EXPLANATION OF THE EXAMINATION GUIDELINE) 115-50 (1986) [hereinafter YOSHIMINE].

79. JPO GUIDELINES, *supra* note 78, at [1]-14-7; YOSHIFUJI, TOKKYOHO GAISETSU (OUTLINE OF THE PATENT LAW) 91, 151 (1988).

ence is a simple modification which one skilled in the art could have naturally conceived of and the difference does not result in any significant difference in objects and advantages of the inventions. Simple modifications include 1) changing one old element to another; 2) combining or omitting one or more parts of an old device or process; 3) substituting one material for another; 4) substituting an equivalent for an element of old device or process; 5) changing or limiting the shape, degree or arrangement of an old device or process without resulting in any significant advantage; and 6) limiting or changing the value of elements of an old thing or process without resulting in any significant advantage.

(b) Inventions one of which is considered a mere new use of the other invention.

(c) Inventions whose difference in structure relate to a modification which is obvious to one skilled in the art, or relate to meaningless limitations or conditions.

(d) Inventions one of which relates to the genus of another invention, and the latter invention could have been considered a species of the former invention based on the state of art at the time of application.

4. Inventions involving only a difference such that includes an alternative limitation, and the other includes one of the alternative limitations.

5. Inventions, one of which is a combination of the other invention and an old invention, and the addition of old invention is considered meaningless.

Among the above five types of identical inventions, only inventions which fall under items 1 and 2 are considered identical under the strict single source/identity rule of American law and the EPC. The important questions are how inventions falling under items 3, 4 and 5 are examined under American law and why they are examined under the novelty standard under Japanese patent law. Thus, it is useful to examine the nature of these inventions to see whether they are in fact inventions which lack novelty.

IV. ANALYSIS OF SUBSTANTIAL IDENTITY RULE

A. Simple Modifications - Example 3(a)

Japanese courts often use the phrases "a simple workmanship modification" or "a simple change or addition of old elements or steps to prior art" to find a substantial identity of inventions.⁸⁰ These phrases originate from the Yamaguchi case, a 1961 Tokyo High Court decision.⁸¹ In *Atomeru Corporation v. Commissioner of*

80. Takeda, *Tokkyo Shinketu Torikeshi Soshō no Shomondai (Problems relating to Law Suits Reversing the Decisions of the Patent Office)*, 37 TOKYO KANRI 1194 (1987).

81. Judgment of Sept. 27, 1954, Tokyo Kosai (Tokyo High Court), Japan, 12 Gyo-sei Reishu 1060 (the court explained "workmanship modification" as follows:

Usually, a modification is to conceive a concrete means which achieves an

Patent Office,⁸² for example, an applicant appealed the JPO's rejection of its patent application for a thermal deposition device for manufacturing a semiconductor wafer. The Tokyo High Court recognized the structural difference between the invention at issue and a prior art invention: in the claimed invention the pressure in the reactor chamber was kept lower than the pressure in the high pressure chamber, while the pressure in the reactor chamber of the cited invention was kept slightly higher than the pressure in the high pressure chamber. However, the court considered the structural difference insignificant, deciding that any difference in effect was not provided by the structural difference with respect to the purpose of the invention, that is, to prevent the chambers from blowing out as a result of the great difference in pressure of both chambers. Thus, the court affirmed the JPO's rejection of the application, holding that the difference was a simple modification which one skilled in the art would have readily adopted to achieve the objective desired.

In another recent case,⁸³ the court reasoned along similar lines to find a simple modification. An applicant's invention related to a method for constructing a pile foundation. In the claimed invention, a hole for the bulb-shaped portion of the pile is bored with a twisted drill rather than an auger head drill. The court recognized the structural difference, but concluded the difference was a simple modification that did not provide any significant advantage.

However, it is doubtful that these differences should have been examined under the novelty standard. The proper measure to evaluate the difference between a claimed invention and a cited invention is the inventive step standard.

Surprisingly, the step of examining the novelty of an invention found in the recent Japanese cases corresponds to one of the steps which American courts once used to strike down an invention involving only a trivial modification under the novelty standard. Before the nonobviousness standard was statutorily adopted, American courts developed the concept of inventive novelty and used negative rules⁸⁴ to reject applications which involved insignificant modifications. The nonobviousness test was one of the judicially developed negative rules; when § 103 was introduced, it was based on

object which has been in existence. Regarding a patent, one can achieve such an object by using old means prior art, substituting new material with that of prior art, or using a well-known design or process for new use. This type of modification is a mere workshop modification, and thus does not constitute an invention.)

82. Judgment of Feb. 23, 1989, Tokyo Kosai (Tokyo High Court), Japan, 244 Tokyo to Kigyo 33.

83. Judgment of Feb. 25, 1986, Tokyo Kosei (Tokyo High Court), Japan, 1986 Hanketsu Torikeshishu 248.

84. WALKER, PATENTS (2d ed. 1889), cited in PATENTS, *supra* note 1 [hereinafter WALKER].

this test. Under the nonobviousness test, the difference between two inventions was regarded as a simple modification or the work of mechanical skill if the difference was obvious to one skilled in the art and would have been adopted by one skilled to achieve the desired objective of the modification.⁸⁵ When an invention involved only a simple modification, American courts and the patent office found lack of novelty. However, American courts no longer evaluate simple modifications under the novelty standard. They evaluate any form of modification under the nonobviousness standard.

Examples of simple modifications provided in the JPO guidelines⁸⁶ substantially correspond to some of the negative rules. This shows that Japanese courts still use judicially developed rules that should have been transformed into subtests of the inventive step standard when the statutory form of the inventive step standard was introduced into Japanese patent law.

The negative rules, that is, the list of modifications which did not constitute invention, are recited by Walker's treatise:⁸⁷

It is not invention:

- (1) to produce an article which differs from some older thing only in excellence of workmanship;
- (2) to substitute superior for inferior materials, in making one or more or all of the parts of a thing;
- (3) to so enlarge and strengthen a machine that it will operate on larger materials than before;
- (4) to change the degree of a thing or of one feature of a thing;
- (5) to produce an 'aggregation;'
- (6) to duplicate one or more of the parts of a machine;
- (7) to omit one or more of the parts of an existing thing, unless that omission causes a new mode of operation of the parts retained;
- (8) to improve a known structure by substituting an equivalent for either of its parts;
- (9) to combine old devices into a new article without producing any new mode of operation;
- (10) to use an old thing or process for a new purpose;
- (11) to reverse parts, combine two parts into one, or divide one part into two.

Referring again to the list of modifications in the JPO guidelines,⁸⁸ the modification listed in (1) corresponds to the definition of

85. *Hotchkiss v. Greenwood*, 52 U.S. (11 How.) 248, 267 (1850) ("[U]nless more ingenuity and skill . . . were required . . . than were possessed by an originality mechanic acquainted with the business, there was an absence of that degree of skill and ingenuity which constitute essential elements of every invention. In other words, the improvement is the work of the skillful mechanic, not that of the inventor.").

86. JPO GUIDELINES, *supra* note 78.

87. WALKER, *supra* note 84, at 26-36, cited in PATENTS, *supra* note 1, § 5.04[5].

88. See JPO GUIDELINES, *supra* note 78.

workmanship modification Japanese courts often use. The modification listed in (2) corresponds to example 3.(a) 3) of the guidelines. The modifications listed in (3), (4), (6), and (7) substantially correspond to the example 3.(a) 5) of the guidelines. The modification listed in (8) corresponds to example 3.(a) 4) of the guidelines. As for the other examples in the guidelines, example 3.(a) 6) corresponds to one commentator's statement that "there is ordinarily no invention in changing the proportions of the ingredients of a well-known composition, or the amount of the reagents used in a well-known chemical process."⁸⁹

Even though most of these negative rules of invention function as inferences in the determination of nonobviousness, when § 103 was introduced, American courts discarded all these rules to achieve uniform results of patentability. However, these rules survived under Japanese patent law as subtests for the novelty standard, even after the introduction of Article. 29, Paragraph 2.

Furthermore, after recognizing a structural difference between the claimed invention and a prior art invention, Japanese courts tend to evaluate this difference based on the advantage of the difference.⁹⁰ A similar test evaluating an invention based on its advantage over prior art can be found in the history of the development of the German inventive step standard.⁹¹ However, as American courts discarded all tests other than the nonobviousness test, German courts also discarded the so-called "advance test" because of its inability to reject trivial modifications. When they tried to find an objective standard for the patentability of an invention, they adopted the "inventive height" standard, a German version of non-obviousness, as the primary standard for patentability.⁹² In fact, the inventive height standard was imported from American courts by one German scholar.⁹³ Under the current EPC inventive step standard and the American nonobviousness standard, the advance test is employed only if the difference is minor and is not obvious to one skilled in the art. However, the advance test that German courts found ineffective is still used by Japanese courts as a subtest

89. REVISE & CAESER, PATENTABILITY 148 (1936), cited in PATENTS *supra* note 1, § 5.04[5].

90. *E.g.*, Atomeru Corp., 244 Tokkyo to Kigyō 33; see generally TAKEDA, TOKKYO SHINKETU TORIKESHI SOSHO TONO JITSUMU (PRACTICE IN TRIAL AGAINST THE EXAMINER'S DECISION OF REFUSAL) 168-69 (1988) [hereinafter PRACTICE IN TRIAL] (Even though courts formally recognize a structural difference between an invention and prior art, the inventions may be considered identical if the difference in effect and operation of the inventions are insignificant).

91. See generally ULLRICH, *supra* note 32.

92. *Id.* at 25, 26.

93. Wirth, *Das Maß der Erfindungshöhe*, 1906 G.R.U.R. 57; see also Wirth, *Die Nützlichkeit der Erfindung*, 1905 MITTEILUNGEN DER DEUTSCHEN PATENTANWÄLTE 93 (1905); Takanaka, *supra* note 36.

for the novelty standard.⁹⁴

In the Japanese system, where structural and operational differences between a claimed invention and prior art are minor, they are examined under the novelty standard — i.e., the substantial identity rule. Such minor structural differences are considered insignificant enough to ignore in determining whether two inventions are identical. In other words, a finding that two inventions are not substantially the same — i.e., a finding that they satisfy the Japanese novelty standard — sometimes entails a determination that the difference between the inventions is nonobvious to one skilled in the art — i.e., the difference satisfies the United States nonobviousness or the EPC inventive step requirement. Thus, Japan's inventive step standard, if it is the same as that under U.S. law and the EPC, is superfluous because the substantial identity test of the novelty standard subsumes the nonobviousness requirements.

When the nonobviousness standard was introduced in statutory form, Professor Kitch predicted that courts would have to adopt the single identity/source rule for the novelty standard; otherwise the introduction of § 103 would be meaningless.⁹⁵ The plural tests of the substantial identity rule tend to develop their own standards independent of the nonobviousness test.⁹⁶ As long as the substantial identity rule employs plural tests to examine the novelty of an invention, its results will be unpredictable and variable. The maintenance of plural tests only inhibits the development of an objective patent standard in the Japanese patent system.

Why did the Japanese system maintain the substantial identity rule under the novelty standard after the inventive step standard was introduced? To justify the presence of the rule, it is possible to view Japanese law as using two kinds of standards. That is, under the novelty standard the determination whether two inventions are identical is made by the advance test, and the inventive step is decided by the nonobviousness test. However, examples of inventions which lack an inventive step under Japanese patent law show other-

94. See generally PATENTS, *supra* note 1; see also ULLRICH, *supra* note 32.

95. Kitch, *supra* note 27, at 327. Professor Kitch made the following observation: [S]ome courts consider the inventive novelty test to derive from § 101 rather than § 103. The answer to this position must be that in a statute that contains § 103, "new" in § 101 should be interpreted as it was in *Earle v. Sawyer* [54 Fed. Cas. 254 (no. 4,247)(C.C.D. Mass. 1825)]. The whole metaphysical apparatus that developed to distinguish the new from the trivially new would never have been necessary in a statute that contained a non-obviousness test. Now that the statute does contain such a test, the apparatus can be dispensed with and new can once again be interpreted as meaning new. The only good reason for inserting § 103 in the statute was to choose one of the three competing tests of invention. If tests implicitly rejected by § 103 are to reappear in § 101, these statutory changes will prove fruitless.

96. PATENTS, *supra* note 1, § 5.04[5], at 2-280.

wise. The guidelines list examples of inventions which lack the inventive step: (1) an invention which is a mere aggregation of old inventions, and which does not provide a significant advantage by the combination of the old inventions; (2) an invention involving the transfer of prior art in one area to another area without providing any significant advantage; (3) an invention involving the replacement of one element of a prior art invention with another publicly known element without providing any significant advantage by the replacement; (4) an invention involving the new use of a prior art device without providing any significant advantage by the new use; (5) an invention involving remodeling and rearrangement of prior art structure which does not provide any significant advantage over the prior art; (6) an invention involving value limitation of prior art invention which does not provide any significant advantage by the limitation.⁹⁷

As is apparent from the examples, since the significant advantage provided by the modification is an important factor in meeting the inventive step standard, the inventive step standard employs not only the nonobviousness test but also the advance test. In other words, these examples suggest that the structural difference between the invention in question and a prior art invention is considered to be significant and not readily conceived by one skilled in the art whenever a significant advantage is provided by the difference. Thus, analysis under the Japanese inventive step standard depends heavily on the advance test. Inventions which are considered substantially identical are barely distinguishable from inventions that lack the inventive step.

However, the theory that the nonobviousness of a structural improvement should be evaluated by the advantage provided by the improvement is unsound. Advances are made in many ways by inventions of varying usefulness as well as by the development of important technological know-how or by intelligent engineering and construction. The technological value of these inventions justifies a patent monopoly in some cases, but not in others.

Thus, an objective standard to measure the value of an invention is needed. The only method available for testing the value is to insert a minimum requirement into the advance test.⁹⁸ Otherwise, every trivial modification would be patentable as long as the modification resulted in something new.

Japanese court decisions also show that there is no clear distinction between the Japanese novelty standard and the inventive

97. YOSHIMINE, *supra* note 78; JPO GUIDELINES, *supra* note 78.

98. See ULLRICH, *supra* note 32, at 97. In the conclusion of his comparative studies of American and German histories of standards of patentability, Professor Ullrich pointed out the ineffectiveness of the advance test as a primary standard of patentability.

step standard. The Tokyo High Court often reverses the Patent Office's rejections of claims, stating that the rejected modification is not a simple replacement of one element of an invention with a commonly-used means as long as the modification results in a significant advantage.⁹⁹ Japanese practitioners are aware that courts tend to find a significant difference between two inventions whenever the difference results in a significant advantage over a prior art invention.¹⁰⁰ This was the inventive novelty doctrine established by Japanese courts before the introduction of article 29, paragraph 2.¹⁰¹ Nonetheless, the Japanese courts did not use the language of the nonobviousness test in article 29, paragraph 2, which sets forth the inventive step standard, when examining the difference between a claimed invention and prior art under the novelty standard. Instead of concluding that the modification would have been obvious to one skilled in the art, the courts began to reject modifications for lack of novelty, on the ground that they were "workmanship modification" or "commonly used art or means." The courts have continued to use the same old standard which is a mixture of the novelty requirement and the inventive step requirement.

In *In re F. Hoffmann LaRoche und Aktiengesellschaft*,¹⁰² the applicant argued that the patent office erred in rejecting its application because the patent office cited another prior art reference which was allegedly technical common sense. The patent office's argument was that the missing element of the invention was old and well known, and thus it was too easy to add the element: because the difference was so insignificant the two inventions could be considered substantially identical. The patent office considered that the invention had been disclosed in a single prior art in which only the insignificant element was missing.

The Hoffmann court upheld the substantial identity rule applied in this way, stating that an invention disclosed in a prior art

99. Judgment of June 30, 1986, Tokyo Kosei (Tokyo High Court), Japan, 60 Gyo Ke 162 (unpublished case).

100. Tokkyo iinkai, *Tokkyoho Dai 29 Jo no 2 ni kansuru Hanketsurei no Kento (Discussion on Decisions regarding the Patent Law, Art. 29, Para. 2)*, 37 TOKKYO KANRI 981, 983 (1987) (analyzes above unpublished case).

101. *E.g.*, Judgment of May 21, Daishin'in (Great Court of Judicature), Japan, 20 Horitsu Gakusetsu Hanrei Hyoron Zenshu, Shoho 615 (court upheld the patentability of invention using the advance test to find that the improvement of the invention was not obvious to those skilled in the art. The particular words of the court were:

Accordingly, the industrial advantage obtained by the claimed invention and that of the prior art invention are different. Thus, the claimed invention should not be considered one which could have been conceived without using any inventive genius, and thus easily conceived by a person skilled in the art. In conclusion, the claimed invention cannot be anticipated by the existence of the prior art . . .).

102. Judgment of Sept. 20, 1986, Tokyo Kosei (Tokyo High Court), Japan, 215 Tokkyo to Kigyo 72.

publication should be read with the technical common sense of one skilled in the art. The court reasoned that it is impossible to disclose every embodiment of an invention in an application. Thus, the court concluded that it is reasonable to compare one invention with another while making reference to the technical common sense for one skilled in the art. Although the court's reasoning itself sounds persuasive, it renders the inventive standard and the novelty standard indistinguishable.

Commentators have tried to distinguish these standards.¹⁰³ Judge Takeda, a Tokyo High Court judge who often overturned the Patent Office's decisions, stated that a difference between two inventions must be examined under the inventive step standard if the difference was made by replacing a well-known means or art with an element of prior art, whereas a difference must be examined under the novelty standard if the difference was made by replacing a commonly-used means with an element of prior art.¹⁰⁴ He defined "well-known means" as the means that everyone skilled in the art knows very well, or the means well known in the art;¹⁰⁵ "commonly-used means" as the means that everyone skilled in the art knows very well and which is commonly used by everyone skilled in the art.¹⁰⁶

The definitions of these terms are clear to only to Judge Takeda: it is practically impossible to distinguish whether art falls under the "commonly used means" or under the "well-known means." The Japanese courts themselves have been confused by these unclear definitions and the close relationship between the inventive step and novelty standards. In *In re Yokokawa Hokushin Denki Seisakusho*,¹⁰⁷ the court used the phrase "well-known or commonly used means" as well as the phrase "technical means which are commonly used" at the same time, and upheld the PTO's rejection of an application based on lack of inventive step. Judge Takeda, in his book, concluded that the determination should be based on the technical quality of the difference in two inventions. Judge Takeda did not mention what sort of measure should be used, which suggests judges can choose their own measure. The most important aim of a patent system is to provide an objective standard to evaluate the technical quality of inventions.¹⁰⁸ If judges can choose

103. *E.g.*, Inoue, *Sekkei Henko no nintei (Finding of Workshop Modification)*, *Besatsu Jurist* 37.

104. Takeda, *supra* note 77, at 1475.

105. Judgment of July 30, 1975, Tokyo Kosei (Tokyo High Court), Japan, 1975 *Torikeshishu* 73.

106. *Kogyo Shoyuken Yogo Jiten Henshu Inkaei, KOGYO SHOYUKEN YOGO JITEN (THE DICTIONARY OF INTELLECTUAL PROPERTY TERMS)*.

107. Judgment of Oct. 18, 1984, Tokyo Kosei (Tokyo High Court), Japan, 1984 *Torikeshishu* 718.

108. Takeda, *supra* note 77, at 1476.

their own measure, an applicant has no way to predict the patentability of an invention.

Japanese courts, in assessing claims under the novelty standard, have used the term "state of the art" in their opinions,¹⁰⁹ but this has nothing to do with novelty. It refers to the level of technology in an art when applying the nonobviousness or inventive step standard. Courts also use the phrase "technical common sense" to discuss novelty. Courts have not interpreted the phrase "technical common sense" consistently. Some courts use the term to indicate means or art which is well-known to everyone skilled in the art.¹¹⁰ Other courts use the same term to indicate means or art which is well-known to people who have no skill in the art.¹¹¹ The substantial identity rule is unclear and its result uncertain, because what constitutes a simple modification varies from court to court.

B. New Utility - Example 3(b)

For a product claim, the difference between two inventions must be examined not only in terms of structure or methodology, but also in terms of functions and advantages (comparative utility).¹¹² "New utility" refers to the features and advantages of the product of the prior art that were not disclosed in the prior art. An inventor does not need to know why his invention works, or explain all the uses of his invention; it is accepted that an invention claiming a new use and advantage is patentable.

Under Japanese patent law, a so-called "mere new use" of an old invention is considered identical to the old invention and thus relates to the novelty standard. However, under American patent law, a new use is also evaluated by the nonobviousness standard.¹¹³

109. *E.g.*, Judgment of Sept. 29, 1986, Tokyo Kosei (Tokyo High Court), Japan, 215 Tokkyo to Kigyo.

110. *E.g.*, Judgment of Nov. 29, 1989, Tokyo Kosei (Tokyo High Court), Japan, 1982 Torikeshishu 747.

111. *E.g.*, Judgment of Jan. 29, 1987, Tokyo Kosei (Tokyo High Court), Japan, 220 Tokkyo to Kigyo 46.

112. PATENTS, *supra* note 1, § 5.03[5]; Chisum, "Afterthoughts" and Undisclosed Advantages as Evidence of Patentability From Salt Dredges to Polystyrenes, 57 J.P.O.S. 438 (1975).

113. PATENTS, *supra* note 1, § 5.03[5], at 5-190 to 5-191 (Professor Chisum explains the theory behind examining comparative utility as evidence of nonobviousness as follows:

The theory behind the use of comparative utility is one of inference based on motivation. If an invention is advantageous but obvious, it is likely that persons skilled in the art would have been led by normal economic incentives to develop it sooner. Contrariwise, if the invention was no more advantageous than existing products, or processes, a reasonable explanation exists for its dormancy even though it was obvious. Naturally, this inference based on motivation is subject to rebuttal. For example, the invention may have become advantageous only shortly before the invention due to collateral changes in technology or consumer demand.)

The JPO guidelines explain that a new use is a "mere new use" and therefore unpatentable if: 1) the new use is obvious from the other features of the invention, or 2) the inventor limited the claim to the new use of the prior art.¹¹⁴ American courts examine the new use with respect to the motive of the inventor of the new use.¹¹⁵ Similarly, when evaluating whether a new use is patentable, Japanese courts inquire into the inventor's motive to determine whether a claim including a limitation of new use is a patentable new use or a mere new use. The JPO guidelines explain that to find two inventions identical, the new use of an invention should be obvious from the structure and advantage of the prior invention.¹¹⁶ This explanation clearly shows that the determination of substantial identity regarding mere new use entails the nonobviousness test. In other words, JPO uses an evaluation similar to the one that Professor Chisum explained regarding the nonobviousness standard.¹¹⁷ It is questionable whether there exists a patentable invention which is not a mere new use, but lacks an inventive step. Thus, so long as the substantial identity rule is used to determine novelty, the inventive step analysis does not help determine the patentability of a new use invention.

C. Obvious or Useless Limitation - Example 3 (c)

It is unclear from the JPO guidelines which limitations are obvious and useless, and which can be distinguished from the inventions listed in 3(1). The JPO guidelines state the following:

- A. A cap for a fountain pen including slip stopping means on the lower end of clip (1), said stopping means *protruding inwardly* and having a rough surface.
- B. A cap for a fountain pen including slip stopping means on the lower end of clip (1), said stopping means having a rough surface.

The limitation underlined is obvious to one skilled in the art. Even without the explicit limitation, one skilled in the art naturally thinks that the stopping means protrudes inwardly. If there is a drawing of the fountain pen attached to the specifications, claim B is readily understood to include the limitation. Thus, these types of inventions are considered identical even under the strict single source/identity rule of American patent law and the EPC.

D. Species Invention - Example 3(d)

The question whether a prior genus invention anticipates a

114. JPO GUIDELINES, *supra* note 78, at [1]-14-8.

115. See Professor Chisum's comment, *supra* note 113.

116. YOSHIMINE, *supra* note 78, at 127.

117. See Professor Chisum's comment, *supra* note 113.

later species invention is complicated.¹¹⁸ It is well-settled that a valid patent may issue for a nonobvious improvement, even though the improvement falls within the claims of the prior patent.¹¹⁹ For such improvements, under Japanese patent law, article 72 provides a definition of improvement which utilizes the concept of prior patent.¹²⁰ Under the strict standard of United States patent law, a genus invention of prior art which does not explicitly disclose a species does not anticipate the later species invention.¹²¹ However, later species are compared with the prior genus for the purpose of the nonobviousness standard.¹²²

Under the Japanese novelty standard, the genus invention anticipates a later species invention if the invention is considered a species of the prior genus based on the state of the art at the filing date of the later species invention.¹²³ If the species is obvious to one skilled in the art even though the species is not explicitly disclosed in the genus prior art, the invention is considered a species of the prior art. Thus, this examination is precisely the determination of the inventive step, because it determines whether the species could have been readily conceived by those skilled in the art. The guidelines apparently use the term "obvious" to indicate the substantial identity rule so that it is distinguished from the phrase "invention which could have been easily conceived," which indicates the inventive step. However, the meanings of these terms are essentially the same. Accordingly, with respect to species inventions, the substantial identity rule of the novelty standard and the inventive step standard are indistinguishable. It is meaningless to examine the nonobviousness of an invention under both the novelty standard and the inventive step standard. Species inventions should be examined only under the inventive step standard.

E. Later Invention Which Has One Element Identical to an Alternative Element in a Prior Invention - Example 4

One example of an alternative limitation is where one element of a prior invention is described as rubber or plastic, and one element of a later invention is described only as rubber. If there is no significant difference between the two inventions, this example falls

118. A genus invention is an invention relating to a general concept such as a class of chemical compounds, and a species invention is an invention relating to a more particular concept such as one of the chemical compounds.

119. PATENTS, *supra* note 1, § 3.02[2], at 3-19 to 3-20.

120. *See generally* NAKAYAMA, CHUKAI TOKKYOHO (DETAILED EXPLANATION OF THE PATENT LAW) 565 (1983).

121. *E.g.*, Utter v. Hiraga, 845 F.2d 993 (1988).

122. *E.g.*, Gardner v. TEC Sys., Inc., 725 F.2d 1338 (1984); *see generally* PATENTS, *supra* note 1, §§ 5.03[5][a], 5.04[6][e], 5.06[1].

123. JPO GUIDELINES, *supra* note 78, at [1]-14-9.

under item 4 of the guideline. These two inventions can be considered a species invention of another invention. Therefore, the problem with this type of invention corresponds to the problems with genus and species inventions.

F. Combination of Old Inventions - Example 5

According to the JPO guidelines, an invention which is a combination of an old and a new invention is properly rejected when the prior invention that is added to the later invention is well-known,¹²⁴ and where the addition does not result in any significant advantage.¹²⁵ This type of invention corresponds either to one of Walker's negative rules to produce an "aggregation,"¹²⁶ or to the requirement that a combination of old elements produces a significant advance.¹²⁷ Although this example is limited to inventions which are combinations of an old invention and a well-known invention, it is difficult to decide whether an invention is well-known or not. The guidelines state that an invention which was disclosed in only one publication may not be considered well-known. However, how many publications are sufficient to make an invention well-known? As long as there is no clear rule, this determination is inevitably subjective.

Under United States patent law, the combination of old inventions has been examined under the nonobviousness standard of § 103, since this section's introduction. With respect to combination inventions, the advance test and the new result test¹²⁸ both survived even after the introduction of § 103.¹²⁹ However, a different standard should not be used for combination inventions than for other inventions. The proper test for combination inventions should relate to the determination whether the combination is non-obvious from the combined elements, even where the elements are old.¹³⁰

Under the guidelines, this type of combination of old inventions is considered identical if there is no significant technical advance resulting from the combination.¹³¹ In practice, the existence of a significant technical advance is mainly determined by the existence of a new result. In other words, the Japanese patent office and

124. All inventions listed in the Patent Code, art. 29, para. 1 do not constitute well-known inventions.

125. JPO GUIDELINES, *supra* note 78, at [1]-14-9.

126. See *supra* note 84 (negative rules).

127. PATENTS, *supra* note 1, § 5.04[5][b], at 2-282.

128. The test that Professor Ullrich called "the advance in the art test" is called "the new result test" by Professor Chisum. PATENTS, *supra* note 1, § 5.04[b][c], at 2-282.

129. See generally PATENTS, *supra* note 1, at § 5.04(5).

130. *Id.*, § 5.04[5][c].

131. JPO GUIDELINES, *supra* note 78, at [1]-14-20.

courts are still applying the advance test to check the substantial identity of a combination invention. Since the advance test survived even in American courts, it is not surprising that Japanese courts continue to use the advance test for combination inventions.

Further, it appears that this kind of examination is also conducted to determine whether the combination invention satisfies the inventive step.¹³² Thus, with respect to combination inventions as well, there is no distinction between the standards of novelty and inventive step in that both standards are met based on the advantage obtained by the combination.

V. Proposal

Inventions which have been deemed substantially identical to a prior art invention under the Japanese novelty standard are in fact those which should have been evaluated under the inventive step standard. In fact, as long as the prior art was published before the filing date of the later invention, the Japanese Patent Office will reject the later invention on the ground of lack of inventive step.¹³³ Under the substantial identity rule of the novelty standard, applications which involve minor modifications are rejected only where prior art is a co-pending, unpublished application.¹³⁴

The Japanese patent office and courts have not abandoned the substantial identity rule because they do not want to grant a patent for a trivial modification which was obvious from a prior art invention disclosed in a co-pending application unpublished at the filing date. As explained above, the language in art. 29 bis does not permit examiners to reject an invention when the invention is not *prima facie* identical to a prior art invention disclosed in a co-pending, unpublished application. However, in practice the Japanese patent office and courts have struck down such inventions using the substantial identity rule.

Thus, like American patent law, in Japanese practice, prior art inventions in an unpublished co-pending application are considered under the novelty standard as well as the inventive step standard. For instance, it is not clear which Japanese patent office practice Fusion Systems Corporation opposes.¹³⁵ American industry can make a strong argument that trivial modifications made in the pe-

132. See Takenaka, *supra* note 36 (an invention is considered a mere aggregation if there is no unexpected result caused by the combination of old elements).

133. Takeda, *supra* note 77, at 1081, table 3-1.

134. PATENT CODE, *supra* note 3, art. 29. As with the EPC, Japanese patent law allows use of the content of copending unpublished application only for the purpose of novelty, but not for inventive step. 35 U.S.C. § 102(e) (1988).

135. See *supra* note 5. Mr. Spero, in his article, did not specify which practice, such as novelty or inventive step standards, or the granting of utility model registration, allows grant of patents for trivial modifications.

riod between the filing date and the date of laying open for publication can be patented under Japanese patent law, and such a practice makes the Japanese patentability standard lower than the American standard. However, this argument fails to give due consideration to the substantial identity rule in practice. Contrary to the view of Fusion Systems Corporation,¹³⁶ the Japanese Patent Office has read well-known information into single prior art to strike down minor modifications under the substantial identity rule.

On the other hand, in determining whether an invention meets the novelty and inventive step requirements, the Japanese patent office and courts tend to pay undue attention to the advantage of the invention compared with a prior art invention. Even when evaluating a structural difference between two inventions, they find both novelty and inventive step whenever the invention provides a significant advantage over a single prior art. As explained above, a test relying on the advance over prior art does not effectively sort out valuable inventions from trivial modifications. Japanese patentability requirements are rather easy to satisfy, because an invention is patentable if an applicant shows a significant advantage over a prior art invention even where there are no significant structural improvements over prior art inventions. Thus, it may be true that the Japanese Patent Office allows patents for minor structural modifications which provides a significant advantage, and this results in a lower patentability standard than the American standard.¹³⁷

The Japanese patent system should abandon the practice of using the nonobviousness test and advance test to decide the inventive step of an invention. Without any objective measure to evaluate the degree of advantage, an advance test cannot provide an objective standard to determine the value of an invention. As long as the Japanese patent system depends on the advance test to evaluate novelty and inventive step, there will be uncertainty in the patentability of inventions.

The United States and European countries employ a single source/identity rule under the novelty standard. They evaluate the patentability of an invention under the nonobviousness or inventive step standard if any element of an invention is missing from a single prior art. The advance test is no longer a primary test for evaluating modifications over prior art in either Germany or the United States. Thus, considering the ineffectiveness of the advance test, the

136. *Id.*

137. *But see*, PATENTS, *supra* note 1, § 5.03[5]. Under American patent law the fact that the claimed invention achieves superior results and advantages as compared to the closest prior art product or process tends to show that it was not obvious. In particular, to show the nonobviousness of improvement over its pioneer invention, it is common to rely upon evidence of the results of tests which compare the improvement and pioneer invention.

Japanese patent system should cease using the advance test to conclude that a modification is nonobvious from prior art, or that a modification is substantially identical to a prior art invention. As discussed above, the substantial identity rule renders the inventive step standard useless. Additionally, the practice of striking down an invention on grounds of substantial identity with a prior art invention presents several problems.

First, the substantial identity rule can be very disadvantageous to patent applicants. In practice, the Japanese Patent Office may decide that a difference is a simple modification of a basic prior reference without citing any prior art to show the "simplicity" of the modification.¹³⁸ Without a prior art citation, it is difficult to argue the nonobviousness of the modification by explaining the distant relationship between the two prior art references.¹³⁹

Furthermore, even when prior art is cited to show that the modification is obvious and does not require more than mere workman-like skill, it is not clear to whom the modification is obvious. Some courts use the standpoint of one skilled in the art, while other courts use that of ordinary people unskilled in the art.¹⁴⁰ Furthermore, there is no objective standard to distinguish between "mere prior art inventions" and "well-known inventions." Where an application is rejected under the substantial identity standard, the issue whether a modification is well-known art or commonly used art often becomes the main source of contention. Without a clear standard, how can applicants convince a judge that the modification is not a simple change of well-known art?¹⁴¹ In Japan, courts seldom accept an affidavit from an expert witness to show that the modification is not obvious. An expert opinion stating that the modification

138. Judgment of July 17, 1985, Tokyo Kosei (Tokyo High Court), Japan, Tokkyo News 6679. See generally Aragaki, *Shuchi Kanyo Gijustu no Rissho (Proof of Well Known Art and Commonly Used art)*, TOKKYO SOSHO NO SHOMONDAI 499.

139. See generally Tokkyo Iinkai, *Tokkyo ho 29 Jo no 2 ni kansuru Unyono Jittai ni tsuite (Survey of the Examination Practice Regarding Art. 29, Para. 2.)*, 32 TOKKYO KANRI 93 (1982); Tokkyo Iinkai, *Tokkyoho 20 jo no 2 ni kansuru hanketsurei no kento (Analysis of Case Decisions Regarding Art. 29, Para 2.)*, 37 TOKKYO KANRI 981 (1987). Tokkyo Iinkai pointed out the difficulty of overcoming a rejection based on the substantial identity of the novelty standard. They recommend that an applicant request citations when an examiner rejects an application without citing any documents to show that the difference is a simple modification.

140. See *supra* notes 110 and 111; see also, PRACTICE IN TRIAL, *supra* note 90, at 152.

141. See generally, Takeda, *supra* note 77, at 1477. Judge Takeda thinks that judges can decide whether a difference in two inventions is a simple modification without any expert witness. See also Aragaki, *Shuchi kanyo gijustu no risho (The Proof of Well Known or Commonly Used Means)*, TOKKYO SOSHO NO SHOMONDAI 499; Honma, *Sosho ni okeru Keikensoku no Kino (The Function of Experience Rule in Suit)*, 5 KOZA MINJI SHOSHO 80.

is not obvious does not persuade Japanese examiners and judges of the nonobviousness of an invention.

The unclear boundary between the novelty standard and the inventive step standard provides another reason that the Japanese patent system should discard the substantial identity rule. Under American law, the burden of proof for the Patent & Trademark Office (PTO) under the novelty standard is different from that under the nonobviousness standard. Under the novelty standard, the PTO has to show that every element of the claimed invention is disclosed in a single prior art. In contrast, under the nonobviousness standard, the PTO must produce factual evidence indicating the prima facie obviousness of the claimed invention.¹⁴² The evidence needed to establish prima facie obviousness is illustrated by *In re Linter*:¹⁴³

In determining the propriety of the Patent Office case for obviousness in the first instance, it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination or other modification.

In *Graham v. Deere*,¹⁴⁴ the U.S. Supreme Court listed four factual inquiries a court should make in determining nonobviousness: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) so-called "secondary" considerations. Both structural and operational differences should be evaluated.¹⁴⁵ The relationship of prior art references to the claimed invention is evaluated with respect to the doctrine of analogous and nonanalogous art.¹⁴⁶

Thus, American examiners' burden of proof for showing non-obviousness is much heavier than that for showing lack of novelty. As a result, American examiners tend to reject a claimed invention on the ground of lack of novelty rather than nonobviousness if the difference between a claimed invention and prior art is minor.¹⁴⁷ In contrast, since Japanese examiners are not constrained by such a distinction in the burden of proof, they prefer to reject an invention

142. PATENTS, *supra* note 1, § 5.06[1], at 5-438 to 5-439.

143. 458 F.2d 1013, 173 U.S.P.Q. 560 (1972).

144. 383 U.S. 1, 17-18 (1965).

145. *E.g.*, *In re Hoch*, 428 F.2d 1341, 1344 n.6, 166 U.S.P.Q. 406, 409, n.6 (CCPA 1970).

146. *See generally* PATENTS, *supra* note 1, § 5.03[1][a], at 5-73 to 5-99.

147. *Kitch*, *supra* note 27, at 345. Professor Kitch stated, "A rejection for lack of novelty is relatively stable ground. If something is not new, it is hard for the applicant to argue that it is. But a rejection on grounds of nonobviousness is shakier because it may involve differences in judgment between the examiner and the review board."

based on the lack of inventive step as long as the prior art was published before the filing date of the invention.

The theory underlying the practice requiring examiners to show *prima facie* nonobviousness also can be found in the history of the German patent system. Wirth, who introduced the nonobviousness standard into the German patent system, put forth the idea that once an invention is shown to be novel, the challenger, not the applicant or patentee, must show that the new invention fails to satisfy the nonobviousness standard.¹⁴⁸

Patent law separated the standards of novelty and inventive step to properly distribute the burden of proof and to provide applicants with the means to deal with the somewhat subjective standard of inventive step or nonobviousness. Otherwise, there would be no necessity for two separate standards.¹⁴⁹ One standard, the inventive step, could be used to reject all inventions which do not deserve a monopoly patent, as is done currently in the Japanese Patent Office.

Therefore, the substantial identity rule, which exists between the inventive step and novelty standard, should be removed, and Japanese examiners should be more sensitive to the distinction between the two standards. An examiner should be made aware that if he recognizes any difference between the claimed invention and any single prior art reference, he bears a heavier burden of proof to show lack of inventive step than he would to show lack of novelty.

One last reason remains for removing the substantial identity rule. Identity of invention is one of the most basic concepts in the Japanese patent system. One of the most important issues regarding not only the novelty standard, but also the scope of permissible amendments and the interpretation of the scope of a patent, is the determination whether one invention is identical to a prior art invention, to an amended invention, or to an invention underlying an accused device or process.¹⁵⁰ However, the scope of permissible amendments and the scope of claim interpretation seem much smaller than the scope of the substantial identity rule under the novelty standard. As such, there is an internal inconsistency in the concept of invention identity in the Japanese patent system.¹⁵¹ The concept of invention identity, however, should be consistent; remov-

148. ULLRICH, *supra* note 32, at 32-33.

149. In American practice, the "new use" doctrine, or something old but used for a purpose entirely unrelated to its old use, may be exceptions. A product or process claim can be anticipated even if it is decided to be nonobvious. See generally PATENTS, *supra* note 1, § 3.02[3]. In Japanese practice, the new use is discussed with respect to inventive step, rather than novelty. As long as there is an unexpected advantage, an invention may be patentable.

150. Hayashi, *Hatsumei no Doitsusei o megutte (Comment on the Substantial Identity of Invention)*, 38 TOKKYO KANRI (PATENT MANAGEMENT) 931 (1988).

151. Umase, *Tokkyo ni okeru Gainen to Sotaisei (Relativity of Concepts Under Patent Law)*, MUTAIZAISANKENHO NO SHOMONDAI 59 (1980).

ing the substantial identity rule would remedy this problem.¹⁵²

Patent infringement involves interpretation of the claim and determination whether the claim so construed reads on the accused device or process.¹⁵³ To find infringement, American courts examine whether the literal meaning of the claim covers the accused device and further examine whether the claim covers the accused device under the doctrine of equivalents.¹⁵⁴ Under American law, there is a rule which holds, "that which should literally infringe if later in time anticipates if earlier than the date of invention."¹⁵⁵ Thus, the test for novelty corresponds to the test for literal infringement. The test under the doctrine of equivalents, which expands the literal scope of a patent, is similar but not identical to the test for nonobviousness.¹⁵⁶ In short, American courts use a test similar to the test for the novelty standard to find literal infringement, and a test similar to the test for the nonobviousness standard to find infringement under the doctrine of equivalents.

In contrast, Japanese courts use the test for finding infringement inconsistently. Japanese courts traditionally compare the concept of the invention, which is construed from the claim, and the concept underlying the accused device or process. Since the concept, rather than the limitation in a claim, is compared to the accused device or process, minor modifications should be included in the scope of the patented invention. As infringement inquires whether two inventions are identical, a test similar to the substantial identity rule is used to decide infringement. If Japanese courts use the substantial identity rule, they need not use the doctrine of equivalents. Thus, some courts find infringement, stating that a claimed invention and the concept underlying an accused device are substantially identical even where there are minor modifications, without using the word "equivalents."

Furthermore, one might assume that Japanese courts employ the same two-step interpretation as American courts: the substantial identity test to find literal infringement, and the test for inventive step standard to find infringement under the doctrine of equivalents. This is not the case, however. Some courts find infringement without using the substantial identity rule, stating that a claimed invention and a technical idea underlying an accused device

152. MATSUMOTO, TOKKYO HATSUMEI NO HOGOHANI (THE SCOPE OF PROTECTION FOR PATENTED INVENTIONS) (1981).

153. See generally PATENTS, *supra* note 1, § 18.01, at 18-2.

154. *Id.* § 18.04, at 18-67 (The doctrine of equivalents prevents a person from practicing a fraud on a patent by substituting obvious equivalents for elements in the claims in order to avoid their literal language).

155. *Lewmar Marine, Inc. v. Bariant, Inc.*, 827 F.2d 744, 747, 3 U.S.P.Q.2d 1766, 1768 (Fed. Cir. 1987); see generally PATENTS, *supra* note 1, at 3.02[1], 3-14.

156. *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 4 U.S.P.Q.2d 1737 (Fed. Cir. 1987).

are different but deemed equivalents. Therefore, Japanese courts and scholars are confused as to whether the doctrine of equivalents relates to the identity of invention or to the similarity of two different inventions.¹⁵⁷

To resolve this confusion, the substantial identity rule must be completely removed from the Japanese patent system. The rules established by the Japanese courts which relate to the evaluation of two different inventions, such as workmanship modification, the addition of a useless step to avoid infringement (*ukai hoho*), and the exchange of equivalents, should be reorganized under the doctrine of equivalents. Because Japanese courts tend to handle problems under the invention identity rule which should be decided under the doctrine of equivalents, American attorneys tend to be misled into thinking that Japanese courts interpret claims too narrowly.

VI. CONCLUSION

The substantial identity rule provides unique character to the novelty standard in the Japanese patent system. Unfortunately, this unique rule makes the Japanese novelty standard and inventive step standard inseparable as well as unpredictable. To clarify the confusion between the two standards, as well as to set up an objective standard for Japanese patentability, the substantial identity rule must be completely removed from the Japanese patent system. In particular, from the time the inventive step standard was statutorily introduced, the substantial identity rule has been nothing more than a useless vestige of the historical influence of American and German courts. The Japanese patent system should have abandoned the substantial identity rule long ago.

157. See generally UCHIDA, *supra* note 38, at 100 *et seq.*