

Mineko Mohri

**Maintenance, Replacement
and Recycling – Patentees' Rights
in the Aftermarkets**

Germany, the U.S. and Japan



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Law and Economics

Herausgegeben von

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Chapter 1. Introduction

1.1 Interested Parties in the Aftermarket and Patent Exhaustion Doctrine

Intellectual property law is increasingly used to implement the business strategies of enterprises. If manufacturers of original products can monopolize the market in spare parts or prohibit recycling of their products by invoking their patent rights, they can devise a strategy that involves selling patented original products at a relatively low profit margin in order to profit by selling spare parts for these products. Combination patents concerning machines or equipment are often enforced to prevent third parties from producing replaceable parts or recycling original equipment. Patented products vary from products for daily use, such as ink cartridges or disposable cameras, to special equipment used in laboratories, mines and railways, or by the military. Maintenance and recycling are economically and ecologically important. Therefore, patent law needs to establish general principles governing maintenance, replacement and recycling.

Patent law grants an inventor a “right to exclude” others from using, selling or importing the invention for a limited period in the country where the patent is granted¹. Under the domestic exhaustion doctrine (“exhaustion doctrine”), the patentee’s monopoly effectively ends at the first lawful, unconditional sale of the patented products. Thus, purchasers of patented products may use or resell them without interference from patentees. The patent is then said to be “consumed” or “exhausted”². A purchaser’s right to “use” includes a right to make any “repair” to a patented product that is necessary for its continued use³. Yet the term “repair”

¹ Such effects of the patent right are provided for in the TRIPS Agreement Art. 28 (1994), the German Patent Act § 9(i) (1981 as amended), EPC Art. 2(2) (European patent “The European patent shall ... have the effect of and be subject to the same conditions as a national patent granted by that State”), and Art. 64 (rights conferred by a European patent “Any infringement of a European patent shall be dealt with by national law”) (1973 as amended), in the U.S. under 35 U.S.C. § 154(a)(1) (provides for grant of the patent right) and § 271(a) (defines patent infringement) (1952), and the Japanese Patent Act § 2(3)(i) and § 68 (Law No. 121 of 1959, as amended). *See id.*

² *Benkard G.*, “Patentgesetz”, 10th. ed., at 372 (CH Beck, Munich 2006), *Kraßer R.*, “Patentrecht”, 6th ed., at 793 (CH Beck Munich 2009), *Adelman M.J.*, *Rader R.R.*, and *Thomas J.R.*, “Cases and Materials on Patent Law” 3rd ed., at 799 (West 2009).

³ *See id.* *Benkhard G.*, at 387; *Adelman M.J.*, at 753 refers to “implied right to repair”; *Chisum*

does not include a full reconstruction of a completely spent or worn-out product⁴. The basic rule of the exhaustion doctrine seems simple; however, distinguishing between permissible repair and impermissible reconstruction is difficult.

The criteria for “permissible repairs” are not always transparent for either patentees or third party vendors in the after-sales market (“aftermarket”).⁵ For purposes of clarification, patentees sometimes make special agreements with respect to sales, such as maintenance agreements or single-use agreements (“post-sales restriction”), which involve competition law issues. Although consumers are rarely subject to the patent infringement litigation, their choice between genuine products or third party vendors’ products in the aftermarket directly affects the profits of patentees. The attitude of consumers varies from country to country⁶. Japanese consumers generally prefer brand products to third parties’ products despite the relatively higher price of original goods, and view the safety and quality of third parties’ products with suspicion.

1.2 Status Quo in Germany, the U.S., and Japan

Currently, case law and mainstream theory concerning maintenance, replacement of spare parts and recycling differs somewhat in each jurisdiction. Each theory is worth a closer look.

D.S., “5 Chisum on Patents”, at 16.03 [3], at 16–158 (1998); *Yoshifuji K. & Kumagai K.*, “Tokkyohō Gaisetsu” (Outline of Patent Law), 13th ed., at 434 (Yūhikaku, Tokyo 1998).

⁴ *See id.*

⁵ The word “aftermarket” refers to a market for a product or service that is complementary to another product or service. *Jones A. & Sufrin B.*, “EC Competition Law”, at 278 (Oxford University Press, New York 2001).

⁶ A survey was conducted and published by Business Computer News on 13 April 2004 at at <<http://www.itmedia.co.jp/survey/0404/13/svn02.html>>(last visited on 22 February 2010). Japanese consumers tend to use “genuine” ink cartridges distinguished by trademarks, but German and U.S. consumers more freely employ the available alternative ink cartridges from third party vendors. In Japan, 90% of respondents surveyed use “genuine” products provided by the manufacture of the printer. The reasons were: “easy to find appropriate product (4.3%)”, “good quality (41.7%)” and “easy to locate in the store (31.4%)”. 28% of respondents were not aware of the availability of the third party vendors’ generic products at all. The other survey showed that, in the U.S., 44% of consumers purchase “alternative generic” ink cartridges, 47% use “genuine” products, and 8% of the respondents were not aware of the availability of alternative generic products. Think Ink: The 2005 U.S. Ink Jet Cartridge User Survey, *Lyra Industry Reports* (24 August 2005).

German courts have adopted the criterion “essential element of the invention” in order to find patent infringement. The Federal Supreme Court in *Flügelradzähler* (Federal Supreme Court, 4 May 2004, Case No. X ZR 48/03, 2004 GRUR 758, 36 IIC 963 (2005)) applied the “essential element” criterion to affirm indirect infringement and deny the exhaustion doctrine. The word “essential” seems to be a decisive factor in determining the exhaustion of a patent right in Germany. This study investigates the origin of this “essential” criterion. German courts have a long tradition of relying on the central form of claim interpretation. The courts determine what part embodies the inventive function in the first place, and then consider patent infringement based on whether or not such part has been altered. The history of claim interpretation and the development of the institution of indirect patent infringement will serve as a guide.

In the U.S., a common law country, a volume of cases illustrates how the U.S. courts have been dealing with this issue. The distinction between (permissible) repair and (impermissible) reconstruction already appeared in the 1800s. However, there are still some questions. Firstly, the courts seem to favour permissible repair, and have expanded its scope by introducing the concept of “akin to repair”. Was that appropriate? Secondly, the majority in *Aro I* (*Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336 (1961)) established “a product was spent” as the sole criterion, but some courts apply the multifactor test. Thirdly, after *Mallinckrodt* (*Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992)), it was said that “the exhaustion doctrine might be contracted out”. Licensing under contract law has been appearing in patent infringement cases. The Supreme Court in *Quanta* (*Quanta Computer, Inc. v. LG Electronics, Inc.*, 533 U.S. ____ (2008)) left this question open. Finally, licensing also raises the issue of antitrust, i.e. patent misuse. Private contract law plays a greater role than ever in the field of intellectual property (“IP”) today.

In Japan, in the past 10 years, major Japanese companies, such as Fuji Film and Canon, have brought patent infringement suits against recycling companies. The exhaustion doctrine has become the key issue. Japanese courts and scholars have heatedly debated where to draw the line between illegal and legal acts in the aftermarket. The newly created Intellectual Property High Court (“IP High Court”) heard the *Canon ink cartridge* (IP High Court, 31 Jan. 2006, 1922 Hanrei Jihō 30) case *en banc* and established two exceptions to patent exhaustion. But

the Japanese Supreme Court (The Supreme Court of Japan, 8 Nov. 2007, 1990 Hanrei Jihō 3) invoked the criterion of the “comprehensive standpoint”. This criterion might be convincing when it appears in a court decision, but does it provide a reliable standard and legal certainty for the parties in the aftermarket?

The rationale of patent law, which gives the patentee a monopoly, will serve to guide us⁷. The four known grounds for patent protection are: “natural-law”, “reward-by-monopoly”, “monopoly-profit-incentive”, and “exchange-for-secrets”. In the real world, however, a patent is also considered as “the means to recoup the investment”. Thus, many manufacturers develop a strategy to earn profits by selling compatible replacement parts for a patented invention⁸. However, the ability to “recoup the investment” has not been stipulated under a patent law regime so far.

Tracing back the history of the exhaustion doctrine, this study aims to highlight the current problems and to seek desirable solutions.

1.3 Overview of this Research

Chapter 2 considers patent law issues on the scope of the exclusive right to “make”, the historical development of the institution of indirect patent infringement, and the doctrine of exhaustion. Indirect patent infringement enables patentees to take legal measures to suspend a third party’s acts, without bringing a direct infringement claim. Such a strong legal measure is especially useful when third party vendors are providing replacement parts. The exhaustion doctrine is inseparable from the theory of enforcement of patent rights against maintenance, replacement and recycling in the aftermarket.

In Chapter 3, this study examines cases from Germany, the U.S. and Japan, in order to clarify the current scope of patent protection in the aftermarket. The

⁷ *Machlup F.*, “An Economic Review of the Patent System, Committee on the Judiciary”, United States Senate, 85th Congress, 2nd session, Study No. 15 (Washington 1958).

⁸ In the U.S., *Kendall Co. v. Progressive Med. Tech., Inc.*, 85 F.3d 1570, 1576 (Fed. Cir. 1996). “Kendall’s counsel made a ‘sky is falling’ plea, pointing out that an affirmation of the district court’s decision would make it uneconomical for companies to invent and develop devices like that involved in this case, because much of the profit arises from sale of the replaceable sleeves rather than from sale of the original device”.

cases are categorized into i) maintenance, ii) replacement of unpatented parts, and iii) recycling. The case studies feature the attitudes and theories of courts towards the exhaustion doctrine. Case studies are meaningful here, since a wide range of legal issues and facts have been argued before the courts. Each case tests the functionality of legal principles, and a comparative study will help to outline the weaknesses of the theories in each jurisdiction.

Chapter 4 explores the contract and competition aspects in the aftermarket. This paper analyzes the enforceability of common post-sales restrictions from the perspective of patent law, primarily in U.S. cases. Private contracts might increase the leverage of patentees. In the E.U., several active third party competitors have brought lawsuits against IP right (“IPR”) owners, claiming the illegality of the refusal to license. This argument led to the heated discussion of the “repair clause” in design law⁹. In the automobile industry, spare parts manufacturers have brought lawsuits against car manufacturers over the liberalization of spare parts in the aftermarket based on competition law. Does the liberalization in design law have any implications for patent law?

Finally, Chapter 5 concludes this research with findings, as well as thoughts about the road ahead.

⁹ See. Proposal of 14 September 2004 for a Directive of the European Parliament and of the Council amending Directive 98/71/EC on the legal protection of designs, COM (2004) 582 final.

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