

PATENT DEDICATION AS ANTITRUST REMEDY: NEW LIGHT ON HARTFORD-EMPIRE*

ANTITRUST decrees are directed toward curing the effects of unlawful conduct and thereby restoring competitive conditions.¹ The aggregation or exploitation of patents may violate the antitrust laws,² and patents are subject to regulation by antitrust decree.³ However, patents are a form of property.⁴ Conflict has therefore developed concerning the power of courts, in the event of proved patent abuse, to decree forfeiture of patent rights by such substantially similar remedies as compulsory royalty-free licensing⁵ or dedication to the public,⁶ even when necessary to restore competition.

In the leading case of *Hartford-Empire Co. v. United States*,⁷ the Supreme Court considered the remedy of compulsory royalty-free licensing. Hartford, a patent development company,⁸ acquired control over 600 patents on glass

*United States v. General Electric Co., 115 F. Supp. 835 (D.N.J. 1953).

1. United States v. Aluminum Co. of America, 91 F. Supp. 333, 340 (S.D.N.Y. 1950); *accord*, United States v. U.S. Gypsum Co., 340 U.S. 76, 88 (1950); United States v. Crescent Amusement Co., 323 U.S. 173, 186 (1944). See Marcus, *Patents, Antitrust Laws and Antitrust Judgments Through Hartford-Empire*, 34 GEO. L.J. 1, 36-51 (1945).

2. United States v. Line Material Co., 333 U.S. 287, 308 (1948); International Salt Co. v. United States, 332 U.S. 392, 396 (1947); Standard Oil Co. of Indiana v. United States, 283 U.S. 163, 169 (1931). For general discussion of antitrust limitations upon the exploitation of patents, see DIGGINS & NITSCHKE, *PATENT PRACTICES UNDER THE ANTITRUST LAWS* (Practising Law Institute, 1951); Meyers & Lewis, *The Patent "Franchise" and the Antitrust Laws*, 30 GEO. L.J. 117, 260 (1941); Seegert, *Patent Licensing by Judicial Action*, 47 MICH. L. REV. 613 (1949); Note, 50 COL. L. REV. 476 (1950).

3. See, *e.g.*, Besser Mfg. Co. v. United States, 343 U.S. 444 (1952) (compulsory licensing at reasonable royalties); Ethyl Gasoline Corp. v. United States, 309 U.S. 436 (1940) (injunction against use of restrictive license agreements); Standard Sanitary Mfg. Co. v. United States, 226 U.S. 20 (1912) (injunction against price fixing).

4. Hartford-Empire Co. v. United States, 323 U.S. 386, 415 (1945); Continental Paper Bag Co. v. Eastern Paper Bag Co., 210 U.S. 405, 425 (1903); E. Cement & Sons v. National Harrow Co., 186 U.S. 70, 90 (1902).

5. Under compulsory royalty-free patent licensing, as under any form of licensing, the patentee retains title to his patents, *see* United States v. General Electric Co., 272 U.S. 476, 489 (1926); Pope Mfg. Co. v. Gormully & Jeffery Mfg. Co., 144 U.S. 248, 252 (1892), but is prevented from realizing any royalties from them, United States v. Vehicular Parking, Ltd., 61 F. Supp. 656 (D. Del. 1945). See 22 GEO. WASH. L. REV. 257, 260 (1953).

6. Under dedication to the public, the patentee permanently loses his entire rights to his patents, the patents becoming public property. *Ibid.* See generally Scott Paper Co. v. Marcalus Mfg. Co., 326 U.S. 249 (1945) (expiration of patents effects dedication to public); 66 STAT. 809, 35 U.S.C. § 253 (Supp. 1952) (statutory procedure for voluntary dedication).

7. 323 U.S. 386, *clarified*, 324 U.S. 570 (1945).

8. *Id.* at 393-4.

machinery.⁹ By restrictive cross-licensing agreements with the leading glass manufacturers,¹⁰ it set up a patent pool which regimented the production and price policies of the glass container industry,¹¹ in violation of Sections 1 and 2 of the Sherman Act.¹² However, the Supreme Court modified a district court decree of royalty-free licensing¹³ to provide for reasonable royalties,¹⁴ on the ground that royalty-free licensing amounted to confiscation of patent property.¹⁵ Following *Hartford-Empire*, district courts refused under any circumstances to decree compulsory licensing without royalties.¹⁶ The case thus came to stand for the proposition that royalty-free licensing was confiscatory *per se*.

9. *Id.* at 400. The district court found that this aggregation of patents had been acquired by the potent threat of patent litigation and the outlay of large sums of money, as part of a concerted scheme to control the industry. 46 F. Supp. 541, 618-19 (N.D. Ohio 1942). Moreover, one of Hartford's most important patents had been obtained by fraud. *Hazel-Atlas Glass Co. v. Hartford-Empire Co.*, 322 U.S. 238, 250 (1944).

10. *Hartford-Empire Co. v. United States*, 323 U.S. 386, 393-9 (1945).

11. Ninety-four percent of the glass containers manufactured on the two principal types of glass-making machinery was produced on machinery licensed under the pooled patents, which thus "effectually controlled the industry." *Id.* at 400. Additional licenses were refused to prevent overstocking of the glassware market and thus achieve price "stabilization." *Id.* at 398. Exclusive production rights to particular types of containers were allocated. *Id.* at 400.

12. 26 STAT. 209 (1890), 15 U.S.C. §§ 1, 2 (1946). *United States v. Hartford-Empire Co.*, 46 F. Supp. 541, 617 (N.D. Ohio 1942), *modified on other grounds*, 323 U.S. 386, 401 (1945).

13. *Id.* at 621. In addition the court decreed cancellation of existing restrictive leases and licenses, and decreed receivership for Hartford *pendente lite*. *Id.* at 620-21.

14. *Hartford-Empire Co. v. United States*, 323 U.S. 386, 417, *clarified*, 324 U.S. 570 (1945).

15. "Since the provisions . . . in effect confiscate considerable portions of the appellants' property, we think they go beyond what is required to dissolve the combination and prevent future combinations of like character." *Id.* at 414. The Court also terminated the receivership. *Id.* at 411.

Since *Hartford-Empire*, the remedy of compulsory patent licensing at reasonable royalties has been well recognized and frequently employed in antitrust decrees. See, e.g., *Besser Mfg. Co. v. United States*, 343 U.S. 444, 449 (1952); *United States v. U.S. Gypsum Co.*, 340 U.S. 76, 94 (1950). It is sometimes difficult to determine reasonableness, however. *United States v. National Lead Co.*, 332 U.S. 319, 349 (1947). One articulated standard of reasonableness is that royalty figure which permits "continuous competition" between patentee and licensee. *United States v. Hartford-Empire Co.*, 65 F. Supp. 271, 274 (N.D. Ohio 1946). Royalties paid in the past, although not conclusive of reasonableness, provide "guidance." *United States v. National Lead*, *supra* at 350. Most decrees provide that the patentee and licensees may agree on the reasonableness of royalty payments, with the court deciding the question only in the event of disagreement. See, e.g., *United States v. U.S. Gypsum Co.*, *supra*; *United States v. Vehicular Parking, Ltd.*, 74 F. Supp. 4 (D. Del. 1947).

16. *United States v. Imperial Chemical Industries, Ltd.*, 100 F. Supp. 504 (1951) (division of world market in explosives and chemicals by exclusive patent licenses and technological exchange), *final decree entered*, 105 F. Supp. 215, 225 (S.D.N.Y. 1952) (compulsory licensing at reasonable royalties decreed); *United States v. Vehicular Park-*

In *United States v. National Lead Co.*,¹⁷ the Supreme Court suggested a weakening of this apparently sweeping interdiction. National Lead, du Pont, and others were held to have violated Section 1 of the Sherman Act by their division of the world titanium market¹⁸ through cross-licensing of existing and future patents.¹⁹ A district court decree providing for compulsory licensing at reasonable royalties²⁰ was affirmed as an exercise of "sound judicial discretion."²¹ However, the Court implied that royalty-free licensing might be permissible where "necessary and appropriate" for antitrust enforcement.²²

ing, Ltd., 54 F. Supp. 828 (1944) (monopolization of parking meter business by assignment of competing patents to patent holding company followed by restrictive licenses), *final decree entered*, 61 F. Supp. 656 (D. Del. 1945) (compulsory licensing at reasonable royalties decreed). See 14 *FORD. L. REV.* 91 (1945).

17. 332 U.S. 319 (1947).

18. *United States v. National Lead Co.*, 63 F. Supp. 513, 527 (S.D.N.Y. 1945), *aff'd*, 332 U.S. 319 (1947). By means of this division, National Lead and du Pont obtained complete control of the American titanium market. Subsequently they licensed two smaller firms, controlling 10 percent of the domestic market, under royalties and "severe" tonnage limitations. *Id.* at 517, 531-2.

19. *United States v. National Lead*, 332 U.S. 319, 328 (1947). For the terms of the license and technological exchange agreements see 63 F. Supp. 513, 517, 520 (S.D.N.Y. 1945). The "proliferation" of patents controlled by the pool greatly impeded entry into the titanium field. *Id.* at 532.

20. *Id.* at 534. Compulsory royalty-free licensing was apparently refused wholly on the authority of *Hartford-Empire*. *United States v. National Lead Co.*, 332 U.S. 319, 365 n.2 (1947). In addition to being required to grant uniform non-discriminatory patent licenses to all applicants, defendants were enjoined from carrying out their restrictive agreements and were required to divulge their titanium "know-how" for three years at reasonable fees. 63 F. Supp. 513, 534 (S.D.N.Y. 1945).

21. 332 U.S. 319, 338 (1947). The district court's refusal to order divestiture by National Lead and du Pont of half of their titanium producing facilities was also affirmed. *Id.* at 353.

District court decrees in antitrust cases have received varying degrees of appellate review. The Supreme Court has treated several recent decrees on the theory that wide discretion rests with the district court in the formulation of decrees, subject to reversal or modification only if the decree fails adequately to protect the public interest in the light of the violations found. *United States v. Crescent Amusement Co.*, 323 U.S. 173, 185 (1944); *accord*, *Besser Mfg. Co. v. United States*, 343 U.S. 444, 449 (1952); *International Salt Co. v. United States*, 332 U.S. 392, 400 (1947). In several other cases, however, the Court has freely intervened to modify "inappropriate" provisions in the decree. See, *e.g.*, *United States v. U.S. Gypsum Co.*, 340 U.S. 76, 89 (1950); *United States v. Paramount Pictures, Inc.*, 334 U.S. 131 (1948); *Hartford-Empire Co. v. United States*, 323 U.S. 386, *clarified*, 324 U.S. 570 (1945).

22. *United States v. National Lead Co.*, 332 U.S. 319, 349 (1947). The types of circumstances under which royalty-free licensing might be a permissible remedy were not specified. See 32 *MINN. L. REV.* 309, 311 (1948). The majority of four refused to reaffirm *Hartford-Empire* even though it might easily have done so. A minority of three would have overruled it so as clearly to establish the principle that royalty-free licensing was permissible where necessary. Thus the effect of *Hartford-Empire* was weakened. See 36 *Geo. L.J.* 272, 276 (1948).

In the recent case of *United States v. General Electric Co.*,²³ a district court, taking up the Supreme Court's suggestion, decreed patent dedication for the first time.²⁴ GE, by virtue of its dominant position in the incandescent lamp industry,²⁵ forced its licensees under expiring basic lamp patents to take out licenses on its improvement patents.²⁶ The licenses prohibited GE's principal competitor, Westinghouse, from selling lamps below the GE price,²⁷ and granted each licensee a production quota based on a percentage of GE's net sales.²⁸ In addition, the licensees paid substantial royalties²⁹ and agreed to grant licenses to GE on any of their own improvement patents.³⁰ As a result, GE and its licensees presented an "almost impregnable front" against

23. 115 F. Supp. 835 (1953) (decree), *implementing* 82 F. Supp. 753 (D.N.J. 1949) (decision on merits).

24. 115 F. Supp. 835, 843 (D.N.J. 1953). See 54 COL. L. REV. 278 (1954). *United States v. Aluminum Co. of America*, 91 F. Supp. 333 (S.D.N.Y. 1950), was the case heretofore most closely approaching the result of royalty-free licensing by judicial decree. There, improvement grant-back provisions which may have been the sole consideration for royalty-free patent licenses on aluminum processes issued by Alcoa to Reynolds and Kaiser were declared unenforceable as part of a decree implementing a holding of monopolization in 148 F.2d 416 (2d Cir. 1945). The court felt that retention of the grant-back provisions would give Alcoa a marked technological advantage over its competitors. *United States v. Aluminum Co. of America*, 91 F. Supp. at 410. *But see* *United States v. Imperial Chemical Industries, Ltd.*, 105 F. Supp. 215, 224 (S.D.N.Y. 1952), interpreting *Alcoa* as not being precedent for royalty-free licensing because Alcoa received other consideration in addition to the grant-backs.

Remedies of both dedication and royalty-free licensing have frequently been utilized in consent decrees. See, e.g., *United States v. Sand Spun Patents Corp.*, 1948-1949 TRADE CASES ¶ 62,462 (D.N.J. 1949) (patent dedication); *United States v. U.S. Pipe & Foundry Co.*, *id.* ¶ 62,285 (D.N.J. 1948) (same); *United States v. Rail Joint Co.*, 1944-1945 *id.* ¶ 57,287 (N.D. Ill. 1944) (same); *United States v. Parke, Davis & Co.*, 1950-1951 *id.* ¶ 62,914 (D. Mich. 1951) (royalty-free licensing); *United States v. Owens-Corning Fiberglas Corp.*, 1948-1949 *id.* ¶ 62,442 (N.D. Ohio 1949) (same); *United States v. Bendix Aviation Corp.*, *id.* ¶ 62,349 (S.D.N.Y. 1948) (same).

25. *United States v. General Electric Co.*, 82 F. Supp. 753, 900 (D.N.J. 1949).

26. *Id.* at 776, 813, 883. In *United States v. General Electric Co.*, 272 U.S. 476 (1926), relied upon strongly by GE in the instant case, GE's three basic incandescent lamp patents were held sufficiently controlling to justify a GE license to Westinghouse providing for fixing of lamp prices and sales restrictions.

As used in the opinions, the term "lamp" refers only to the incandescent filament lamp bulb. See *United States v. General Electric Co.*, 115 F. Supp. 835, 840 (D.N.J. 1953).

27. 82 F. Supp. 753, 809 (D.N.J. 1949). GE's licenses to the smaller lamp manufacturers specifically provided against price restrictions, *id.* at 880, but any significant departure from the GE price would have been "disastrous" to the firms involved. *Id.* at 881.

28. *Id.* at 776, 875. The smaller firms were limited to the manufacture of either large or miniature lamps; Westinghouse was permitted to manufacture both types. *Id.* at 809.

29. Royalties paid by Westinghouse and the smaller lamp firms were set at 1 percent and 3½ percent, respectively, of their net sales of lamps covered by their licenses. *Id.* at 809, 874.

30. *Id.* at 874. Westinghouse was exempted from this requirement. *Id.* at 767.

the other firms in the incandescent lamp field.³¹ The court found that GE with its licensees had both acquired³² and utilized³³ patents in violation of Sections 1 and 2 of the Sherman Act, thereby monopolizing the industry.³⁴ In the light of these violations, defendants were enjoined from carrying out any of their existing licenses³⁵ and from agreeing to allocate markets, limit production, or fix prices.³⁶ In addition, the decree required dedication of all existing patents³⁷ on lamps and lamp parts,³⁸ together with the furnishing by GE of technological information for three years.³⁹ However, the court refused to divest GE of one-half of its incandescent lamp facilities.⁴⁰ It found

31. *Id.* at 893.

32. GE's aggregation of patents in order to perpetuate its control over the incandescent lamp industry after its basic patents had expired was not only an unlawful monopolization in itself but was one of the instruments through which GE monopolized the industry. *Id.* at 816-17.

33. GE's improvement patents were held insufficient to sustain its license restrictions on the completed lamps. *Id.* at 815, 901. GE and its licensees were held to have conspired to restrain competition in the incandescent lamp industry. *Id.* at 873, 883. The smaller manufacturers, as favored beneficiaries of GE, were held to be co-conspirators even though there was evidence that they had not acceded willingly to GE's license restrictions. Acquiescence in an illegal scheme violates the antitrust laws as much as the promotion of one. *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 161 (1948) (theater chains forced discriminatory contracts on movie producers).

34. *United States v. General Electric Co.*, 82 F. Supp. 753, 817, 902 (D.N.J. 1949).

35. 115 F. Supp. 835, 842 (D.N.J. 1953).

36. *Id.* at 860.

37. The term "patents" was broadly defined to include existing patents plus pending patent applications. *Id.* at 840.

38. *Id.* at 843. Pursuant to the terms of the decree, GE dedicated 177 existing patents and 38 pending patent applications on lamps and lamp parts. Dedication to the Public of General Electric Incandescent Lamp and Lamp Parts Patents, recorded, United States Patent Office (January 1954), Civil Action No. 1364, *United States v. General Electric Co.*, (D.N.J. 1953). The decree was effective primarily with respect to patents acquired by GE since the commencement of the suit, since the most recent parts patent upon which GE based its original licenses was to expire in January 1954. 82 F. Supp. 753, 803 (D.N.J. 1949).

GE and its licensees were also ordered to grant licenses to all applicants at reasonable royalties on their lamp machinery patents. 115 F. Supp. 835, 846 (D.N.J. 1953). The court held that the monopoly of the incandescent lamp industry had been maintained largely by GE's improvement patents on lamps and lamp parts rather than by its machinery patents. *Id.* at 844.

A consent decree similar to the *General Electric* decree was entered against Westinghouse in 1942. BRIGHT, *THE ELECTRIC-LAMP INDUSTRY* 289 (1949).

39. 115 F. Supp. 835, 853 (D.N.J. 1953). This "know-how" was to include blueprints and descriptions of incandescent lamp processes and machinery, and was to be made available at cost. *Ibid.* Compulsory granting of "know-how," often as important as the patents to which it relates, has customarily been decreed in conjunction with compulsory patent licensing. See, e.g., *United States v. Imperial Chemical Industries, Ltd.*, 105 F. Supp. 215, 227 (S.D.N.Y. 1952); *United States v. National Lead Co.*, 63 F. Supp. 513, 534 (S.D.N.Y. 1945), *aff'd*, 332 U.S. 319 (1947).

40. *United States v. General Electric Co.*, 115 F. Supp. 835, 871 (D.N.J. 1953).

divestiture unnecessary to restore competitive conditions in the lamp industry, since the principal antitrust violations would be corrected by other provisions of the decree.⁴¹

While *General Electric's* mandate of dedication goes farther than the decrees in the two Supreme Court cases,⁴² it seems well justified by the economic structure of the incandescent lamp industry.⁴³ GE, earning 90 percent of industry profits,⁴⁴ towered above its competitors in size and market control.⁴⁵ In view of the narrow profit margin in lamp production,⁴⁶ the payment of even reasonable royalties by its weaker competitors would significantly decrease their profits and increase GE's already sizable competitive advantage.⁴⁷ Thus royalties could well be a critical factor in the growth or limitation of competition. Moreover, GE had a substantial advantage over the other lamp manufacturers in research and technology.⁴⁸ Granting them patents and "know-how" would provide the means for the smaller firms to catch up to GE in these respects.⁴⁹ Once having caught up, they could more

41. *Ibid.* Other factors cited by the court in refusing divestiture were the existence of healthy competitors, the impracticability of splitting up GE's fully integrated manufacturing facilities, and the harmful effects which divestiture might have upon lamp research and national security. *Id.* at 870-1.

42. The district court was affirmed when it decreed reasonable royalties, *United States v. National Lead Co.*, 332 U.S. 319, 351 (1947), and reversed when it decreed royalty-free licensing, *Hartford-Empire Co. v. United States*, 323 U.S. 386, 417 (1945).

43. An injunction against continuation of past restrictive practices is a necessary adjunct to a patent antitrust decree. See, e.g., *United States v. National Lead Co.*, 63 F. Supp. 513, 534 (S.D.N.Y. 1945), *aff'd*, 332 U.S. 319 (1947); *United States v. Imperial Chemical Industries, Ltd.*, 105 F. Supp. 215, 220 (S.D.N.Y. 1952). However, such an injunction would not eliminate GE's patent monopoly or its technological and research advantage. *Cf. Schine Chain Theatres v. United States*, 334 U.S. 110, 128 (1948); *United States v. American Tobacco Co.*, 221 U.S. 106, 185 (1911).

44. *United States v. General Electric Co.*, 115 F. Supp. 835, 863 (D.N.J. 1953).

45. In 1949, for example, GE's percentage share of dollar sales of incandescent lamps within the United States was 57.1 percent, compared with 23.0 percent for Westinghouse, 9.8 percent for Sylvania, and 3.4 percent for Tung-Sol, its nearest competitors. *Id.* at 882. However, its 1949 lamp profits before taxes were \$36,000,000, compared with \$1,400,000 for Westinghouse, \$230,000 for Sylvania, and \$680,000 for Tung-Sol. *Id.* at 869.

46. *Id.* at 844.

47. Assuming that the royalty schedules established by GE, note 29 *supra*, were operative in 1949, GE would have received \$1,100,000 in total royalties from its licensees. Westinghouse would have paid \$340,000 and Tung-Sol, \$170,000 in royalties, equivalent to approximately 25 percent of the profits of each before taxes. Sylvania would have paid \$480,000 in royalties, over 200 percent of its profits before taxes. See Table 1, *id.* at 882.

48. *Id.* at 848. GE's expenditures for research between 1927 and 1940 of more than \$25,000,000 dwarfed all the efforts of its competitors. 82 F. Supp. 753, 858 (D.N.J. 1949).

49. See note 39 *supra*. Another device to overcome GE's technological momentum and more nearly equalize research facilities was the requirement that GE alone grant licenses at reasonable royalties for all patents acquired within the next five years. *United States v. General Electric Co.*, 115 F. Supp. 835, 848 (D.N.J. 1953). *Cf. United States*

easily maintain or improve their competitive position since, in the technologically mature incandescent lamp industry, future development is likely to be limited.⁵⁰ Finally, dedication could accomplish these results with a minimum of loss to GE, certainly less than divestiture would entail.⁵¹ GE was primarily a manufacturer, to whom the income from lamp patent royalties was not of critical importance.⁵² Moreover, many of the dedicated patents were unimportant or unused.⁵³ And GE had already suspended its licenses and royalties voluntarily eight years before the decree was handed down.⁵⁴

Analysis of *National Lead* provides sound reasons for holding that its decree of compulsory licensing at reasonable royalties is not inconsistent with *General Electric*. The patents in *National Lead* had been validly acquired and later misused in the patent pool; there was no illegal aggregation of patents in one firm upon cancellation of the licenses, as there was in *General Electric*.⁵⁵ Moreover, in contrast to *General Electric*, the two principal titanium producers, National Lead and du Pont, were strong enough to counterbalance each other and were in active competition,⁵⁶ while the two smaller firms were healthy and growing.⁵⁷ Therefore, in terms of both the character of the offense and conditions in the industry, royalty payments were probably justified.⁵⁸

v. Aluminum Co. of America, 91 F. Supp. 333, 410 (S.D.N.Y. 1950) (improvement grant-backs to Alcoa declared unenforceable so as to stimulate the research of its competitors.)

50. BRIGHT, *THE ELECTRIC-LAMP INDUSTRY*, 453-4 (1949).

51. See *United States v. General Electric Co.*, 115 F. Supp. 835, 870-1 (D.N.J. 1953).

52. See notes 45, 47 *supra*.

53. 82 F. Supp. 753, 809, 813 (D.N.J. 1949).

54. BRIGHT, *op. cit. supra* note 50, at 294-5. The pending antitrust action against GE probably had a significant effect in bringing about this suspension. From 1946 to 1950, after the license restrictions had been removed, GE's share of the domestic incandescent lamp market declined from 58.8 to 54.1 percent, while the share of its three nearest competitors increased from 28.5 to 39.1 percent. 115 F. Supp. 835, 882 (D.N.J. 1953).

The fact that defendants have abandoned their illegal practices does not prevent courts from enjoining such activity or ordering such other decrees as will prevent their recurrence. *United States v. Crescent Amusement Co.*, 323 U.S. 173, 186 (1944); *United States v. Pullman Co.*, 50 F. Supp. 123, 136 (E.D. Pa. 1943), *aff'd*, 330 U.S. 806 (1947); *United States v. Hartford-Empire Co.*, 46 F. Supp. 541, 617-18 (N.D. Ohio 1942), *modified on other grounds*, 323 U.S. 386 (1945).

55. *United States v. National Lead Co.*, 63 F. Supp. 513 (S.D.N.Y. 1945), *aff'd*, 332 U.S. 319 (1947).

56. 332 U.S. 319, 348 (1947). National Lead, with assets of \$100,000,000, produced 46.4 percent of TiO₂ and 76.5 percent of composite titanium pigments produced in the United States. du Pont, with assets of over \$1,000,000,000, produced 45.1 percent of TiO₂ and 23.5 percent of composite pigments. *Id.* at 339.

57. *Id.* at 348. The growth of the two smaller firms had taken place in spite of their royalty payments. *Id.* at 351. Moreover, each of them was a subsidiary of a larger corporation. *Id.* at 352.

58. There are, however, some reasons for believing that royalty-free licensing might legitimately have been decreed in *National Lead*. There were, in the first place, no royalty payments involved in the original cross-licensing agreements. 63 F. Supp. 513,

Hartford-Empire's decree of reasonable royalties, viewed in the context of the glass container industry, is also reconcilable with *General Electric*. Hartford, a patent holding and development company, had no substantial sources of income except patent royalties.⁵⁹ The severe weakening of Hartford through royalty-free licensing would have hurt the smaller glass manufacturers, which relied heavily on its research facilities and machinery. In contrast, the two largest glass manufacturers, Owens and Hazel-Atlas, were fully integrated in this respect.⁶⁰ Even though Hartford's coercive practices in acquiring and utilizing its patent monopoly might have justified royalty-free licensing, such a remedy would probably have hindered competition in the industry.

In view of the foregoing economic analysis, the three decrees appear both consistent and reasonable. *Hartford-Empire* may well have held royalty-free licensing confiscatory not because it exceeded the limits of remedial power *per se* but because it went beyond what was required under the circumstances.⁶¹ competition in the glass container industry could have been, and therefore should have been restored by remedies less severe than royalty-free licensing.⁶² Decrees imposing unnecessary or inappropriate impairment of

517, 527 (S.D.N.Y. 1945). However, after the district court decree, see text at note 20 *supra*, du Pont demanded royalties from National Lead. This caused National Lead, as well as the Government, to request royalty-free licensing on appeal. 32 MINN. L. REV. 309 (1948). Reasonable royalties might well have had the effect of placing all titanium producers at a competitive disadvantage with respect to du Pont. See 332 U.S. 319, 367-9 (1947) (dissenting opinion). See Zlinkoff & Barnard, *The Supreme Court and a Competitive Economy: 1946 Term*, 47 COL. L. REV. 914, 941-2 (1947). Any economic inequities in *National Lead* may be partly explained by the broad view of district court discretion taken by the Supreme Court. See note 21 *supra*.

59. Comment, *Compulsory Patent Licensing by Antitrust Decree*, 56 YALE L.J. 77, 102-104 (1946). Moreover, many of Hartford's patents were basic patents on glass-making machinery. *Hartford-Empire Co. v. United States*, 323 U.S. 386, 393-400 (1945). In addition, royalty payments could not give Hartford a competitive advantage over its licensees since it did no manufacturing.

60. Comment, *supra* note 59. Several of Hartford's licensees filed a brief in the Supreme Court as *amici curiae*, claiming that Hartford's continued services both as a supplier of machinery and research organization were essential to them in their competition with the larger companies. Brief on Behalf of Certain Medium Sized Glass Manufacturing Companies, with Respect to the Remedy, pp. 9, 11, *Hartford-Empire Co. v. United States*, 323 U.S. 386 (1945).

61. *Hartford-Empire Co. v. United States*, 323 U.S. 386, 414 (1945). The court admittedly did not substantiate its view that the combination in *Hartford-Empire* could be dissolved without requiring forfeiture of patent property by a factual analysis of the glass container industry. For an argument that if royalty-free licensing had been necessary there to enforce the antitrust laws, it should have been decreed, see Note, 45 COL. L. REV. 601, 623 (1945).

62. The rationale that a harsh remedy may not be invoked when other measures are sufficient for antitrust enforcement has been used to deny remedies of both royalty-free licensing, *United States v. National Lead Co.*, 332 U.S. 319, 349 (1947), and divestiture, *Timken Roller Bearing Co. v. United States*, 341 U.S. 593, 601, 603 (1951); *United States v. Aluminum Co. of America*, 148 F.2d 416, 446 (2d Cir. 1945); 91 F. Supp. 333, 418 (S.D.N.Y. 1950).

property rights are subject to reversal as much on the constitutional grounds of confiscation of property without due process as on abuse of discretion.⁶³ *General Electric* construes *Hartford-Empire*, read together with *National Lead*, as making no sweeping prohibition of dedication or royalty-free licensing. It establishes a double requirement for dedication: if the essence of anti-trust violation is monopolization of patents,⁶⁴ and if the complete elimination of that monopoly is the key to restoration of competitive conditions,⁶⁵ then dedication is a permissible remedy.

Interpreting *Hartford-Empire* to mean that a deprivation of royalties is *per se* confiscatory seems unsound.⁶⁶ A court can decree divestiture or dis-

63. Compare *Hartford-Empire Co. v. United States*, 323 U.S. 386, 412-14 (1945) (royalty-free licensing and compulsory machinery sale provisions confiscatory), with *Timken Roller Bearing Co. v. United States*, 341 U.S. 593, 601, 603 (1951) (divestiture unnecessary). See also *Standard Oil Co. of New Jersey v. United States*, 221 U.S. 1, 81 (1911); *Northern Securities Co. v. United States*, 193 U.S. 197, 358 (1904) (district court decrees upheld, therefore stockholders not deprived of property rights).

Recent defendant antitrust appeals have usually ignored the confiscation issue, arguing solely that particular district court decrees were improperly decreed. See, *c.g.*, *Schine Chain Theatres, Inc. v. United States*, 334 U.S. 110, 126 (1948) (divestiture); *International Salt Co. v. United States*, 332 U.S. 392, 398 (1947) (compulsory sale and leasing of machinery). *But see* *Besser Mfg. Co. v. United States*, 343 U.S. 444, 447 (1952) (method for determining royalties claimed confiscatory).

64. *General Electric* apparently limits its approval of dedication to cases finding violations of both sections 1 and 2; *ICI*, *supra* note 16, was distinguished on the ground that it involved only section 1 violations. *United States v. General Electric Co.*, 115 F. Supp. 835, 844 (D.N.J. 1953). However, from the standpoint of those firms who are forced to accept restrictive licenses, it little matters whether the patent restrictions are being practiced by a combination of firms operating out of a patent pool as in *National Lead*, or whether the patents have been illegally monopolized by a single firm and the restraints practiced by it alone as in *General Electric*. In both instances dedication should be available if necessary to restore competition.

65. The severity of patent abuses in the form of illegal aggregation or license restraints is a relevant factor in determining whether dedication is required as a means of deterring a repetition of the unlawful conduct. *Cf. United States v. Crescent Amusement Co.*, 323 U.S. 173, 186 (1944); *United States v. Swift & Co.*, 286 U.S. 106, 117 (1932). However, since the civil sanctions of the Sherman Act are remedial rather than punitive, *United States v. National Lead Co.*, 332 U.S. 319, 333 (1947), dedication would not be decreed, regardless of the severity of the patent abuses, where it would be unnecessary or detrimental to the restoration of competition. See text at notes 59-60 *supra*.

66. District courts are vested with broad powers under section 4 of the Sherman Act to "prevent and restrain" violations of the act. 26 STAT. 209 (1890), 15 U.S.C. § 4 (1946). Under these powers a court may make any order necessary to bring about the dissolution or suppression of an illegal combination. *Northern Securities Co. v. United States*, 193 U.S. 197, 357 (1904). And the impairment of other types of property rights has been held to be no bar to the fashioning of an effective decree. *United States v. Union Pacific R.R.*, 226 U.S. 470, 477 (1913). *Cf. United States v. Joint-Traffic Ass'n*, 171 U.S. 505, 571 (1898). See Marcus, *Patents, Antitrust Laws and Antitrust Judgments Through Hartford-Empire*, 34 Geo. L.J. 1, 43 (1945).

The argument has been advanced that royalty-free licensing is not a permissible remedy since Congress has rejected a number of proposals to cancel patents which have been used to violate the antitrust laws. *Hartford-Empire Co. v. United States*, 323 U.S.

solution in appropriate cases despite hardship and economic loss.⁶⁷ It seems clear that patent dedication is a less severe remedy than divestiture.⁶⁸ Therefore to argue that the former is confiscatory while the latter is permissible is to set artificial limits on district court remedial power. There is no reason why a patent monopolist should have the vested right to receive the benefits of his unlawful acts through royalties.⁶⁹ Moreover, since the Supreme Court has indicated that reasonable royalties may be fixed at nominal amounts,⁷⁰ the step to royalty-free licensing is a small one.⁷¹ In the sense that all anti-trust decrees deprive violators of their power to earn monopoly profits, all are confiscatory. The issue raised by the dedication of GE's monopolized patents is therefore not a novel one except in form. In view of the other alternatives, patent dedication was the least severe and least confiscatory approach to the restoration of competition in the incandescent lamp industry.⁷²

386, 416 (1945). In view of the broad remedial powers which courts already possess, the refusal to enact a specific remedy does not seem persuasive either way. Moreover, the failure of Congress to enact proposals for compulsory patent licensing at reasonable royalties has not prevented courts from decreeing this remedy. See note 15 *supra*.

67. *United States v. Crescent Amusement Co.*, 323 U.S. 173, 189 (1944) (divestiture affirmed even when harsh and inequitable income tax wise); *United States v. Corn Products Refining Co.*, 234 Fed. 964, 1018 (S.D.N.Y. 1916), *appeal dismissed*, 249 U.S. 621 (1918) (dissolution ordered in spite of loss to stockholders). For a general discussion of the cases in which divestiture or dissolution have been decreed, see 6 TOULMIN, *ANTI-TRUST LAWS OF THE UNITED STATES* 972-1070 (1951).

68. *United States v. General Electric Co.*, 115 F. Supp. 835, 843, 865, 871 (D.N.J. 1953) (dedication decreed, more drastic remedy of divestiture denied). *Accord*, *United States v. National Lead Co.*, 332 U.S. 319, 338, 352 (1947) (compulsory licensing at reasonable royalties decreed, domestic divestiture denied).

69. *Cf. Schine Chain Theatres, Inc. v. United States*, 334 U.S. 110, 128 (1948) (divestiture of unlawfully acquired property); *United States v. Paramount Pictures, Inc.*, 334 U.S. 131, 171 (1948) (same); *United States v. Crescent Amusement Co.*, 323 U.S. 173, 186-90 (1944) (same). Patent dedication is an application of the "fruits of the conspiracy" doctrine to an unlawful aggregation of patents. See Zlinkoff & Barnard, *supra* note 58, at 943.

70. *United States v. National Lead Co.*, 332 U.S. 319, 349 (1947), 32 MINN. L. REV. 309, 311 (1948).

71. Even under compulsory licensing at reasonable royalties the patentee forfeits his property interest in the patent monopoly and his ultimate right to set the amount of the royalty. See *United States v. National Lead Co.*, 332 U.S. 319, 366 (1947) (dissenting opinion). If this is not confiscatory, royalty-free licensing and dedication should not be so considered either, since they are but extensions of the same principle. *United States v. General Electric Co.*, 115 F. Supp. 835, 844 (D.N.J. 1953), 54 COL. L. REV. 278, 281 (1954).

72. Far from being confiscatory, patent dedication may well have been too mild a decree. There was evidence that GE's monopoly power emanated not only from its patents but from its size with respect to its competitors and its control of the manufacture of essential lamp parts and machinery. *United States v. General Electric Co.*, 82 F. Supp. 753, 893, 900 (D.N.J. 1949). Dedication would have no effect upon these other sources of monopoly power. See BRIGHT, *THE ELECTRIC-LAMP INDUSTRY*, 466 (1949). Moreover, since there have been no significant improvements in incandescent lamps since 1937,

Dedication is no more confiscatory than royalty-free licensing,⁷³ or than an injunction against the enforcement of patent rights.⁷⁴ Although, under the latter two remedies, the patentee retains formal title to his patents,⁷⁵ he is effectively barred from asserting any right under them, including the right to receive royalties.⁷⁶ Dedication results in permanent forfeiture of patent rights,⁷⁷ while a decree of royalty-free licensing might theoretically be modified⁷⁸ to allow royalties upon a showing of changed conditions.⁷⁹

BRIGHT, *op. cit. supra* at 453-4, the dedicated patents probably were not of crucial importance.

Nevertheless, dedication destroys GE's remaining patent monopoly and prevents GE from exercising its other monopoly powers by means of restrictive patent licenses. With the grant of "know-how," it should stimulate the research development of its competitors. It should also have a salutary effect upon the practices of GE and its licensees in the rapidly-expanding fluorescent lamp industry, in which an antitrust suit has been suspended pending the termination of the incandescent lamp litigation. See BRIGHT, *op. cit. supra* at 438-9, 461 (1949).

73. For an argument that dedication amounts to confiscation while royalty-free licensing merely operates as a suspension of a patentee's rights, see 22 GEO. WASH. L. REV. 257, 260 (1953). However, the decree which was declared "confiscatory" in *Hartford-Empire* called for royalty-free licensing, not dedication. See text at note 15 *supra*. Moreover, courts have used royalty-free licensing and dedication interchangeably. See, *e.g.*, *Hartford-Empire Co. v. United States*, 323 U.S. 386, 413, 415 (1945); *United States v. General Electric Co.*, 115 F. Supp. 835, 843-4 (D.N.J. 1953). See also 54 COL. L. REV. 278, 279 (1954).

74. For an argument that an injunction against the bringing of infringement suits would not have involved the constitutional issue of property confiscation inherent in dedication, see 54 COL. L. REV. 278, 282 (1954). There is precedent for granting such an injunction. See, *e.g.*, *United States v. Vehicular Parking, Ltd.*, 61 F. Supp. 656 (D. Del. 1945). However, the injunctive remedy and royalty-free licensing have been discussed interchangeably. See *United States v. National Lead Co.*, 332 U.S. 319, 335-51 (1947); see also 22 GEO. WASH. L. REV. 257, 260 (1953).

75. See *United States v. General Electric Co.*, 272 U.S. 476, 489 (1926); see also note 5 *supra*.

76. See Note, 45 COL. L. REV. 601, 618 (1945); 22 GEO. WASH. L. REV. 257, 260 (1953). *But cf.* *United States v. Vehicular Parking, Ltd.*, 61 F. Supp. 656 (D. Del. 1945) *semble*.

77. *Scott Paper Co. v. Marcalus Mfg. Co.*, 326 U.S. 249 (1945) (dedication upon statutory expiration of patent); *Pennock v. Dialogue*, 2 Pet. 1, 15 (U.S. 1829) (voluntary dedication); see note 6 *supra*.

78. Courts in many recent antitrust cases have retained jurisdiction to modify or vacate the terms of the decree. See, *e.g.*, *United States v. U.S. Gypsum Co.*, 340 U.S. 76, 95, 105 (1950); *Sugar Institute, Inc. v. United States*, 297 U.S. 553, 605 (1936) (jurisdiction reserved for indefinite period); *United States v. Imperial Chemical Industries, Ltd.*, 105 F. Supp. 215, 220 (S.D.N.Y. 1952); *United States v. Aluminum Co. of America*, 91 F. Supp. 333, 418 (S.D.N.Y. 1950) (jurisdiction reserved for five years). Even without specific retention of jurisdiction, a court of equity has the power to modify its decree. *United States v. Swift & Co.*, 286 U.S. 106, 114 (1932); *Western Union Telegraph Co. v. Int'l Brotherhood of Electrical Workers*, 133 F.2d 955, 957 (7th Cir. 1943).

79. See 22 GEO. WASH. L. REV. 257, 260 (1953); 32 MINN. L. REV. 309, 313 (1948). Such modification would be in accord with those cases holding that while a violation of

However, the degree of proof required to demonstrate that a long period of monopolization or collusive conduct has been eliminated and competition restored is so substantial that there is almost no chance of such a decree being modified⁸⁰ before the expiration of the patents.⁸¹ With respect to each of these remedies, the consequences are identical: immediate free access by all competitors to the offending patents. Courts should have the power to decree any of them in appropriate cases.

the antitrust laws by a patentee is a defense against a suit by him to restrain patent infringement, *Mercoid Corp. v. Minneapolis-Honeywell Regulator Co.*, 320 U.S. 680 (1944); *Mercoid Corp. v. Mid-Continent Investment Co.*, 320 U.S. 661 (1944); *Morton Salt Co. v. G. S. Suppiger Co.*, 314 U.S. 488 (1942) (patented devices tied in to use of unpatented products), the patentee may maintain his action once his violation has ceased, *Sylvania Industrial Corp. v. Visking Corp.*, 132 F.2d 947, 958 (4th Cir. 1943). See *B. B. Chemical Co. v. Ellis*, 314 U.S. 495, 498 (1942); *Standard Oil Co. v. Clark*, 163 F.2d 917, 927 (2d Cir. 1947). In contrast to patent monopolization, see note 80 *infra*, patent abuses such as tie-in clauses can easily be purged by the patentee. See, e.g., *Park-In Theatres, Inc. v. Loew's Drive-In Theatres, Inc.*, 70 F. Supp. 880, 887 (D.R.I. 1947).

80. See Zlinkoff & Barnard, *The Supreme Court and a Competitive Economy: 1946 Term*, 47 *COL. L. REV.* 914, 943 (1947). A clear showing of grievous wrong evoked by new and unforeseen circumstances is necessary before what was decreed after years of litigation will be changed. *United States v. Swift & Co.*, 286 U.S. 106, 117, 119 (1932) (modification of injunction against dealings by meat packers in wholesale groceries denied, in spite of large growth of grocery chains); *United States v. Discher*, 255 Fed. 719 (S.D.N.Y. 1919) (modification of injunction against granting joint license on auto bumper patents denied in absence of convincing proof that this would not restrain competition). A significant passage of time is necessary before courts will be persuaded that a competitive pattern of relationships has been reestablished. *Bigelow v. Balaban & Katz Corp.*, 199 F.2d 794 (7th Cir. 1952) (modification of injunction against discriminatory movie clearances denied); *United States v. Vehicular Parking, Ltd.*, 61 F. Supp. 656 (D. Del. 1945) (modification of injunction against prosecution of patent infringement suits denied). See Comment, *Compulsory Patent Licensing by Antitrust Decree*, 56 *YALE L.J.* 77, 78 (1946). But cf. *Ford Motor Co. v. United States*, 335 U.S. 303 (1948) (modification granted of contingent injunction in consent decree against acquisition of control of any finance company, when similar injunction against GM not obtained).

81. A patentee's exclusive right to make, use, and sell his invention expires after 17 years. 66 *STAT.* 804 (1952), 35 *U.S.C.* § 154 (Supp. 1952). The *General Electric* litigation, from complaint to decree, consumed 13 years.