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BLUNT MACHETES IN THE PATENT THICKET: MODERN LESSONS FROM THE HISTORY OF PATENT POOL LITIGATION IN THE UNITED STATES BETWEEN 1900 AND 1970

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** Joshua Newberg was an Associate Professor at the University of Maryland when he passed away on March 26, 2007. Joshua was an early visionary in the scholarly examination of the intersection between intellectual property and antitrust, particularly patent pools, and prior to his passing, we had started to collaborate on this historical examination. Since the issues for patent pools not based on technology standards have remained unresolved over the last ten years, perhaps this Article is even more timely as a posthumous tribute to my friend.

I. INTRODUCTION

When organizations in technology industries attempt to advance their innovative activities, they must be cognizant of the intellectual property rights of others. When further innovation is thwarted, however, the situation can be described as a patent thicket. Although the term "patent thicket" seems to have originated in litigation in the 1970s regarding Xerox's dominance of a portion of the photocopier industry,[1] economist Carl Shapiro re-introduced the term in academic discourse in 2000.[2] Shapiro defines a patent thicket more broadly to encompass the intellectual property portfolios of several companies that form "a dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology,"[3] and he points out that "with cumulative innovation and multiple blocking patents, . . . patent rights can have the perverse effect of stifling, not encouraging, innovation."[4]

Despite all that has been written about patent thickets, an objective methodology for verifying the existence of a patent thicket has never been fully developed.[5] Throughout the last 150 years, however, organizations have stumbled into a number of patent thickets and have occasionally responded by constructing patent pools, which Professor Clarkson has defined as "organizational structures where multiple firms collectively aggregate patent rights into a package for licensing, either among themselves or to any potential licensees irrespective of membership in the

1. SCM Corp. v. Xerox Corp., 645 F.2d 1195 (2d Cir. 1981); *In re* Xerox Corp., 86 F.T.C. 364 (1975).

2. Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, *in* 1 INNOVATION POL'Y & ECON. 119–50 (Adam B. Jaffe et al. eds., 2000).

3. *Id.* at 120.

4. *Id.*

5. As part of his doctoral thesis at the Harvard Business School, Professor Clarkson developed a network analytic method of measuring patent thicket density, a first step in objectively evaluating patent pools. *See generally* Gavin Clarkson, *Objective Identification of Patent Thickets: A Network Analytic Approach, in Essays on Intellectual Asset Management* 22–29 (June 2004) (unpublished doctoral thesis, Harvard Business School) (on file with Baker Library Historical Collections, Harvard University) [hereinafter Clarkson Thesis].

pool."[6] Such collaboration among technologically competing firms, however, has often encountered difficulty from an antitrust standpoint, even if the formation of the pool is pro-competitive.[7]

While the existence of a patent thicket is a necessary but insufficient condition for demonstrating that a given collection of patents is a pro-competitive solution to a particular patent thicket problem, the antitrust regime has never had an objective method of verifying the existence of a patent thicket in a given section of patent space. Lacking such an objective measure, the legal history of patent pooling in the United States throughout most of the twentieth century was arguably clumsy with judges and justices often destroying potentially pro-competitive patent pooling structures without a detailed examination of the patents within the pool. This article argues, however, that such blunt machete approach was unnecessary and empirically demonstrates that when the judicial examination of the pool examined the underlying patent thicket,[8] the pool was much more likely to survive. The importance of such an examination has not diminished even though patent pooling has become more palatable. As Professor Barnett has noted, the resurgence of patent pooling in the early twenty-first century closely mirrors the level of pooling activity in the early twentieth century.[9] As our historical examination demonstrates, however, judicial analysis of patent pooling without an examination of the underlying patent thicket can lead to the destruction of pro-competitive pools.

The concern for patent pools based on technology standards is less, however, than it is for pools that are not based on technology standards due to changes in antitrust enforcement policies. Having amassed an impressive set of victories in patent pool enforcement cases prior to 1970, which we discuss at length in Part III, the Antitrust Division of the DOJ articulated what came to be known as the "Nine No-No's" or essentially a watch list of nine specified licensing practices[10] that the division viewed

6. *Id.* at 2.

7. This history is discussed in *infra* Part III.

8. Such an examination, at a minimum, involves answering two proposed "Thicket Questions." First, "Does a given collection of patents constitute a thicket?" Second, "What is the nature of the relationship between the patents in the thicket?"

9. Jonathan Barnett, *From Patent Thickets to Patent Networks: The Legal Infrastructure of the Digital Economy*, JURIMETRICS J. (Aug. 18, 2014); U.S.C. Class Res. Paper No. Class 14-22; U.S.C. Law Legal Studs. 14–23.

10. These licensing practices were described in at least one speech by then Deputy Assistant Attorney General Bruce B. Wilson as practices "which in virtually all cases are going to lead to antitrust trouble because of their adverse effect upon competition" (Bruce B. Wilson, Deputy Assistant Att'y Gen., U.S. Dep't of Justice, Patent and Know-How License Agreements: Field of Use, Territorial, Price and Quantity Restrictions, Remarks Before the Fourth New England Antitrust Conference (Nov. 6, 1970)). The prohibited licensing practices consisted of the following:

as anticompetitive and that would attract the scrutiny of the DOJ.[11] Conspicuously absent from the Nine No-No's, however, was any consideration of patent thicket questions.

The attitude of the antitrust enforcement regime thus remained quite hostile toward patent licensing,[12] and the contractual focus of both the DOJ and the FTC resulted in a presumption of market power to the patent grant without any consideration of the structural characteristics of the marketplace in which the patented products competed, and little weight was afforded to efficiency considerations of any licensing restrictions.[13]

Although the trend started in the 1960s, after the Nine No-No's were issued, the number of pooling cases that were litigated dwindled significantly, and few of the opinions addressed the legality of the pools themselves.[14] As Merges notes,

> federal antitrust policy is the most likely explanation for the small number of patent pools existing today. Ever since myriad forms of inter-firm cooperation were condemned in the "trust-busting era," firms have been reluctant to initiate industry-wide arrangements of every ilk, including pools. . . . [T]he relative scarcity of pools on the present landscape—especially given the increasing presence and strength of patents in many industries—suggests a classic case

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1. Requiring the licensee to purchase unpatented supplies (tie-ins);
2. Requiring the licensee to assign to the patentee patents that may be issued to the licensee after the licensing arrangement is executed (mandatory grant-backs);
3. Imposing post-sale restrictions on resale by purchasers of patented products;
4. Restraining licensees' commerce outside the scope of the patent (tie-outs);
5. Giving licensees veto power over grants of further licenses;
6. Mandating package licensing;
7. Requiring payment of royalties in amounts not reasonably related to sales of the patented product;
8. Restraining sales of unpatented products made by a patented process;
9. Specifying prices licensee could charge upon resale of licensed products.

11. *See generally* Richard Gilbert & Carl Shapiro, *Antitrust Issues in the Licensing of Intellectual Property: The Nine No-No's Meet the Nineties*, 28 BROOKINGS PAPERS: MICROECONOMICS 283-333 (1997); *see also* Willard K. Tom & Joshua A. Newberg, *Antitrust and Intellectual Property: From Separate Spheres to Unified Field*, 66 ANTITRUST L.J. 167 (1997).

12. *See generally* Steven C. Carlson, *Patent Pools and the Antitrust Dilemma*, 16 YALE J. ON REG. 35999 (1999).

13. *See* discussion *infra* notes 16–31.

14. Carlson, *supra* note 12, at 376.

of excessive deterrence.[15]

While the patent pooling case law could thus be appropriately classified as muddled and often hostile to potentially pro-competitive patent pools, a possible regulatory solution was forming over the horizon that would provide a degree of clarity.[16]

As technology progressed in the 1980s, intellectual property rights became more and more important.[17] As patent thickets became denser, the level of economic thought that could be applied to antitrust analysis in the intellectual property arena continued to increase in sophistication.[18] Beginning in the early 1980s, the Antitrust Division of the DOJ began to question the theoretical foundation of the Nine No-No's, in part because of the emerging notion that unconstrained patent licensing might actually increase the value of patents and encourage subsequent licensing and innovation.[19]

The first attempt at revising the official position of the antitrust enforcement regime came in 1988 with the release of the *Antitrust Enforcement Guidelines for International Operations* ("*1988 Guidelines*"). Included in the *1988 Guidelines* was a repudiation of the notion that a patent, copyright, or trade secret automatically created a "monopoly" for its owner, and therefore should be subject to close antitrust scrutiny.[20] Instead the *1988 Guidelines* established a core principal that the owner of intellectual property is entitled to whatever market power exclusive ownership of the property itself confers. Additionally, the *1988 Guidelines* incorporated a concept that recognized that intellectual property licensing allows firms to combine complementary factors of production and is generally a pro-competitive response to the problem posed by patent thickets.[21] The *1988 Guidelines* also provided that intellectual property licenses where the licensor and licensee did not directly compete in the market affected by the license would almost never be challenged.[22] In the case of a horizontal arrangement, where the licensor and licensee did compete in the market for the licensed product, the *1988 Guidelines* called for an analysis of the license under the "rule-of-reason" that allowed for the balancing of the pro-competitive benefits of the license against any potential

15. Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CALIF. L. REV. 1295, 1355–56 (1996).

16. Carlson, *supra* note 12, at 375.

17. *Id.* at 363–64.

18. Merges, *supra* note 15, at 1295.

19. Carlson, *supra* note 12, at 375–76.

20. *Id.* at 375.

21. *Id.*

22. *Id.*

anticompetitive effects, if there were any.[23] Although the *1988 Guidelines* included certain provisions that could be helpful in clearing patent thickets, the focus was still on contractual and marketplace issues and no specific methodology was proposed to identify the existence of patent thickets.

Seven years later, on April 6, 1995, the DOJ and the FTC jointly released the 1995 *Guidelines for the Licensing of Intellectual Property* ("*IP Guidelines*"),[24] which superseded certain portions of the *1988 Guidelines* as they pertained to intellectual property. However, several core principles were retained including:

- An endorsement of the validity of treating intellectual property as essentially comparable to tangible or intangible property for the purposes of antitrust analysis;[25]
- An acknowledgement that intellectual property does not necessarily create market power in the antitrust context;[26] and
- An explicit recognition of the generally pro-competitive nature of licensing arrangements.[27]

The *IP Guidelines* specifically mention patent pools, noting that such arrangements may provide pro-competitive benefits by "integrating complementary technologies, reducing transaction costs, clearing blocking positions, and avoiding costly infringement litigation. By promoting the dissemination of technology, . . . pooling arrangements are often pro-competitive."[28]

While the *IP Guidelines* describe the likely response to various outcomes of an inquiry into thicket questions,[29] they provide no indication of how such an inquiry would be conducted outside of the context of technology standards. Even the most recent scholarship on patent pools focuses exclusively on standards-based pools.[30] Thus, while the antitrust and intellectual property regimes were frequently in tension

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23. *Id.* at 16.

24. *See* Dep't of Justice & Federal Trade Commission (FTC), *Antitrust Guidelines for the Licensing of Intellectual Property* (Apr. 5, 1995), *reprinted in* 4 TRADE REG. REP. (CCH) ¶ 13,132.

25. *Id.* at 3.

26. *Id.*

27. *Id.* at 5.

28. *Id.* § 5.5.

29. Under the *IP Guidelines* patent pools that aggregate substitute patents are immediately suspect while patent pools that aggregate complementary or blocking patents are unlikely to be challenged absent "collateral restraints that would likely raise price or reduce output in the relevant goods market or in any other relevant antitrust market and that are not reasonably related to an efficiency-enhancing integration of economic activity." *Id.* § 5.5 ex. 10.

30. *See*, *e.g.*, Barnett, *supra* note 9; *see also* WORLD INTELLECTUAL PROP. ORG., PATENT POOLS AND ANTITRUST – A COMPARATIVE ANALYSIS (2014).

for most of the 20th century, with patent pooling often facing rather aggressive antitrust enforcement even in situations where the pool was pro-competitive, antitrust activity subsequent to the issuance of the *IP Guidelines* demonstrates the problematic nature of the antitrust regime's inability to verify objectively the existence of a patent thicket and the lack of a methodology for evaluating patent pools outside of the technology standards context.[31]

On June 26, 1997, the DOJ issued a business review letter indicating that a patent pool based on MPEG-2, a technology standard for compactly representing digital video and audio signals for consumer distribution, was not in violation of the antitrust laws of the United States.[32] Less than a year later, however, on March 24, 1998, the FTC filed a complaint against a patent pool formed around photorefractive keratectomy (PRK), or laser eye surgery technology, and ultimately forced the pool to dissolve.[33] After leaving the FTC after being part of the FTC litigation of the PRK pool, Professor Newberg later wrote that the pool in question might actually have been a pro-competitive solution to a patent thicket, but by the time his article was published, the damage was done, and the threat of antitrust enforcement has likely thwarted the development of patent pools that do not follow the MPEG model of patent essentialness based on technology standards.[34] In fact, recent searches have only turned up five surviving patent pools that are not based on technology standards, and all five are royalty free.[35] Research to date has been unable to identify a single, active patent pool that charges royalties and is not based on a technology standard. Despite Clarkson & Dekorte's call for patent pooling in nanotechnology and other emerging technologies, to date, none have been publicly formed.[36]

So, if both the MPEG pool and the PRK pool were formed in response to the patent thicket problem, why did the antitrust regime destroy one pool and allow the other pool to live? What about other patent pools that are not based on technology standards, particularly medical device patent pools or pharmaceutical patent pools? In order to answer those questions, it is necessary to examine the patent thicket phenomenon in depth. Part II

31. *Id.*

32. DOJ letter on file with author.

33. FTC Complaint on file with author.

34. Joshua A. Newberg, *Antitrust, Patent Pools, and the Management of Uncertainty*, 3 ATLANTIC L.J. 1, 26–29 (2000).

35. The Medicines Patent Pool, http://www.medicines patentpool.org/about//. The Pool for Open Innovation Against Neglected Tropical Diseases, http://us.gsk.com/en-us/research/sharing-our-research/researchopen-innovation/. Mattioli identifies two additional pools for CleanTech and one for Gene Fragments. *See* Michael Mattioli, *Power and Governance in Patent Pools*, 27 HARV. J.L. TECH. 421, 451 n.196 (2014).

36. *See generally* Gavin Clarkson & David DeKorte, *The Problem of Patent Thickets in Convergent Technologies*, 1093 ANN. N.Y. ACAD. SCI. 180, 197 (2006).

of this Article reviews the literature and prior research on patent thickets and patent pools, and Part III of this Article reviews the history of patent pool litigation to identify when courts examined those questions in the process of assessing the legality of patent pools in the shadow of the antitrust regime. In addition to examining other recent historical reviews of patent pooling, Part IV analyzes this review and finds a general lack of focus on patent thicket questions in both the judicial and regulatory history. We then empirically demonstrate the importance of patent thicket examination to pool survival with a statistical analysis of the correlation between juridical examination of thicket questions and patent pool survival. Part V concludes this article with a discussion of the personal motivation for this article as a tribute to the memory of Professor Newberg as well as proposing the following Newberg Rule for judicial examination of patent pools outside of the standards-based context:

> any judicial examination of patent pooling must apply the rule of reason and, in the absence of a technology standard to guide a determination of essentialness, must thoroughly examine the technological and economic interrelationships among and between the pooled patents.[37]

This Article argues that such a rule will facilitate the formation of pro-competitive patent pools to solve the problem of patent thickets in industries without dominant technology standards, particularly in biomedical industries, including industries that might have developed a cure for the affliction that plagued Professor Newberg until his untimely and tragic passing.

II. BACKGROUND

A. *The Problem of Patent Thickets*

Patent thickets are not a new phenomenon, and when the total number of owners of the conflicting intellectual property rights is small, the response to the patent thicket problem has often been to cross-license.[38] When more than two parties are involved, however, the transaction costs of cross-licensing between all of the parties can be prohibitive, and

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37. *See infra* Part V.

38. *See generally* Peter C. Grindley & David J. Teece, *Managing Intellectual Capital: Licensing and Cross-Licensing in Semiconductors and Electronics*, 39 CAL. MGMT. REV. 1, 8–41 (1997; *see also* David J. Teece, *Capturing Value from Knowledge Assets: The New Economy, Markets for Know-How, and Intangible Assets*, 40 CAL. MGMT. REV. 55, 55–79 (1998); DAVID J. TEECE, MANAGING INTELLECTUAL CAPITAL: ORGANIZATIONAL, STRATEGIC, AND POLICY DIMENSIONS (reprt. 2002) 2000.

additional economic barriers exist such as hold-ups and double marginalization.[39] In response to these challenges throughout the last 150 years, organizations have attempted to solve the multi-party patent thicket problem by constructing patent pools.[40] Usually, each firm assigns or licenses its individual intellectual property rights to a specific entity that in turn exploits the collective rights by licensing, manufacturing, or both.[41] Different licensing arrangements are then available, depending on whether the licensee is a member of the pool and how the resulting royalties are subsequently distributed among the members of the pool.[42]

While even the U.S. Patent and Trademark Office (USPTO) has suggested patent pooling as a solution to the patent thicket problem, the cooperative formation of patent pools by technologically competing firms has often encountered difficulty from an antitrust standpoint, even if the pool itself has pro-competitive benefits. [43] While few technological spaces have had more concern about patent thickets than biomedical research, despite the fact that the patent thickets in medicine and the life sciences are just as dense if not denser as those in standards-based industries such as telecommunications and consumer electronics, the treatment of the PRK pool seems to have had a chilling effect on subsequent pool formation outside of standards-based industries.[44]

B. *Composition of a Patent Thicket*

In order to further analyze a patent thicket to determine which combinations of patents might be pro-competitive, a classification scheme that describes the different ways that patents can relate to each other is needed. Professor Gilberts Blocking, Complementary, Independent, or Substitute (BCIS) categorization scheme identifies those relationships as follows.[45]

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39. William K. Viscusi & John M. Vernon, *Economics of Regulation and Antitrust* (3d ed. 2000).

40. Grindley & Teece, *supra* note 38, at 1.

41. *Id.* at 2.

42. *Id.*

43. Jeanne Clark et al., *Patent Pools: A Solution to the Problem of Access in Biotechnology Patents*, 20 BIOTECHNOLOGY L. REP. 607, 607–22 (2001).

44. *Id.*; *see also* Gregory J. Glover, *Patent Thickets and Innovation Markets Reviewed*, 24 NAT'L L.J., Oct. 31, 2002, at C10; Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research*, 280 SCIENCE 698 (1998); Larry Horn, *Alternative Approaches to IP Management: One-Stop Technology Platform Licensing*, J. COM. BIOTECHNOLOGY 119 (2003).

45. Gilbert & Shapiro, *supra* note 11.

1. Blocking Patents

When Patent A blocks Patent B, the owner of Patent B cannot practice the invention without a license from the owner of Patent A.[46] For example, an improvement on a patented machine (improved Patent B) can be blocked by the original Patent A on the machine. The owner of Patent A, however, cannot practice the particular improved feature claimed in Patent B without a license from Patent B's owner.[47] Sometimes the blocking can be discerned from the patent citations, but at other times the blocking would only be evident from an evaluation of the text of the respective patents themselves and the application of the so-called "Doctrine of Equivalents."

Professor Newberg notes that the "connection between blocking relationships and innovation bears emphasis because what is paradigmatically 'blocked' in a 'blocking' relationship among patents is the practice of an innovative, patented improvement upon an existing patented invention."[48] Merges & Nelson identify the blocking problem as one of patent scope.

> Two patents are said to block each other when one patentee has a broad patent on an invention and another has a narrower patent on some improved feature of that invention. The broad patent is said to "dominate" the narrower one. In such a situation, the holder of the narrower ("subservient") patent cannot practice the invention without a license from the holder of the dominant patent. At the same time, the holder of the dominant patent cannot practice the particular improved feature claimed in the narrower patent without a license.[49]

2. Complementary

Two patents that provide an additional benefit when used in combination are complements.[50] A catalyzing technology would be considered complementary to the technology that is enhanced by its inclusion. Unlike blocking patents, however, complementary patents can each be practiced independently without requiring a license for the other patent.

Combining complementary patents establishes a vertical relationship

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46. *Id.* at 285.
47. *Id.*
48. Newberg, *supra* note 34, at 4.
49. Robert P. Merges & Richard R. Nelson, On the Complex Economics of Patent Scope, COLUM. L. REV. 839, 860–61 (1990).
50. *Id.* at 285.

and provides many of the benefits of vertical integration, including the reduction of transaction costs and the elimination of double marginalization.

3. Independent

Two patents that do different things and have a different intellectual heritage are independent.[51]

4. Substitute

Two patents that perform substantially identical functions or fulfill the same role but can be practiced independently are considered substitutes.[52] By definition, a pool cannot be pro-competitive if it includes substitutes, as such a situation will reduce competition both in the consumer markets as well as potentially in innovation markets.

The analysis of the relative competitive benefit or harm from a given combination of patents would of course be much easier if all of the potential relationships between patents neatly fell into one these four categories, but such is rarely the case. As Professor Newberg notes, "intellectual property often defies orderly categorization. The relationships among patents may, for example, have both complementary and horizontal aspects. Alternatively, the relationship among some patents may be best described as fundamentally uncertain or indeterminate."[53]

Similarly, while the standard economic theory definition of substitutability suggests that two items are substitutes if increasing the price of one increases the demand for the other, Lerner and Tirole argue that two patents may be complements at low prices but substitutes at high prices.[54]

While the difficulty of categorizing patent interrelationships is apparent, the determination of the actual existence of a patent thicket is a threshold question that needs to be answered first before proceeding with any attempt at categorization.[55] Whether the history of patent pool litigation includes judicial determinations of the existence or non-existence of a patent thicket is examined in the next Part.

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51. *Id.*

52. *Id.*

53. Newberg, *supra* note 34, at 5–6.

54. Josh Lerner & Jean Tirole, *Efficient Patent Pools*, 8 (Nat'l Bureau of Econ. Res., Working Paper No. 729, 2002).

55. *Id.* at 3 (discussing that patents can be substitutes or compliments and the challenge of determining which is which).

C. *Prior Research on Patent Thickets and Patent Pools*[56]

Since the issuance of the *IP Guidelines*, the problem of patent thickets caught the attention of much of the scientific and engineering community in a number of technological arenas.[57] For example, firms in the semiconductor industry "find it all too easy to unintentionally infringe on a patent in designing a microprocessor, potentially exposing themselves to billions of dollars of liability and/or an injunction forcing them to cease production of key products."[58] Heller and Eisenberg lament the "anticommons" in biomedical research due to the problem of patent thickets.[59] Particularly in the biopharmaceutical industry, patent thickets threaten the process of cumulative innovation because they act as "barriers to entry [that prevent new entrants] from using the technologies protected by such patent thickets."[60]

A 2003 FTC report notes that in certain industries the large number of issued patents makes it "virtually impossible to search all the potentially relevant patents, review the claims contained in each of those patents, and evaluate the infringement risk" or the need for a license.[61] For the software industry, the report cites testimony about the hold-up problems and points out "that the owner of any one of the multitude of patented technologies constituting a software program can hold up production of innovative new software."[62] For many firms, the only practical response to this problem of unintentional and sometimes unavoidable patent infringement is to file hundreds of patents each year so as to have something to trade during cross-licensing negotiations.[63] In other words, the only rational response to the large number of patents in a given field

56. An earlier version of this literature review can be found in Clarkson Thesis, *supra* note 5, at 4. A variation of that literature review was subsequently incorporated into Clarkson et al., *supra* note 36.

57. *See e.g.*, Clark, *supra* note 43, at 617; FTC, *Patent Pools and Cross Licensing, in* FTC HEARINGS ON COMPETITION AND INTELLECTUAL PROPERTY LAW AND POLICY 61 (2002); FTC, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY (2003); Glover, *supra* note 44, at 1; Heller & Eisenberg, *supra* note 44, at 698; Horn, *supra* note 44, at 120; Lerner & Tirole, *supra* note 54; ROBERT P. MERGES, INSTITUTIONS FOR INTELLECTUAL PROPERTY TRANSACTIONS: THE CASE OF PATENT POOLS (rev. 1999); Newberg, *supra* note 34, at 4 (discussing patent blocking).

58. Shapiro, *supra* note 2, at 121.

59. Heller & Eisenberg, *supra* note 44, at 698 (stating that the anticommons issue is economically and socially costly).

60. Glover, *supra* note 44, at 1.

61. FTC, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 28 (2003).

62. *Id.* at 3, ch. 2.

63. *Id.* at 26, ch. 2 (recognizing that some firms file hundreds of patents to avoid any infringement).

may be to contribute to it.[64]

Patent pools are perhaps an alternative response, but although the revenues generated from sales of devices based in whole or in part on patent pool technologies are at least $100 billion US per year, the patent pooling phenomenon received few scholarly treatments, and most of those have been historical and/or anecdotal in nature.[65] Vaughan describes patent pool formation in the late nineteenth and early twentieth century and examines a number of early pools.[66] Three examinations of the phenomenon have been in the form of case studies. Cassady examines the formation and operation of a patent pool by Thomas Edison that aggregated all of the important patents for the early motion picture industry. [67] Thompson describes the first patent pool, which was formed in the nineteenth century around intellectual property conflicts in the sewing machine industry.[68] Bittlingmayer examines the formation of an aircraft patent pool during World War I.[69] While many scholars have written favorably about patent pool formation,[70] others have focused on potential competitive problems posed by patent pools.[71]

A number of economists have also written on patent pools. Both Choi[72] and Shapiro[73] examined patent pools in the context of patent litigation settlements constrained by antitrust law. In a different article specifically examining patent pools, Shapiro uses Cournot's original analysis of the "complements problem" to argue that patent pools raise welfare when patents are perfect complements and harm welfare when they are perfect substitutes.[74] Work by Lerner and Tirole extends the analysis by examining the strategic incentives to form a pool in the

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64. *Id.* at 30.

65. Clarkson, *supra* note 5, at 5.

66. Floyd L. Vaughan, *Patent Pools*, ECONOMICS OF OUR PATENT SYSTEM 34, 34–68 (1925).

67. Ralph Cassady, Jr., *Monopoly in Motion Picture Production and Distribution: 1908–1915*, 32 S. CAL. L. REV. 325 (1959).

68. Ross Thomson, *Learning by Selling and Invention: The Case of the Sewing Machine*, 47 J. OF ECON. HIST. 433–45 (1987).

69. George L. Bittlingmayer, *Property Rights, Progress, and the Aircraft Patent Agreement*, 31 J.L .& ECON., 227–48 (1988).

70. *See, e.g.*, Merges, *supra* note 15; Newberg, *supra* note 34; Vaughan, *supra* note 65.

71. *See, e.g.*, Carlson, *supra* note 12; George L. Priest, *Cartels and Patent Licensing Arrangements*, 20 J.L. & ECON. 309–77 (1977); David S. Taylor, *The Sinking of the United States Electronics Industry Within Japanese Patent Pools*, 26 GEO. WASH. J. INT'L L. & ECON. 181–212 (1992).

72. Jay P. Choi, *Patent Pools and Cross-Licensing in the Shadow of Patent Litigation*, (Ctr. for Econ. Stud., Working Paper No. 1070, 2003).

73. Carl Shapiro, *Antitrust Limits to Patent Settlements*, 34 RAND J. ECON. 391–411 (2003).

74. Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, 1 INNOVATION POL'Y & ECON. 119–50 (2001).

presence of current and future innovations that are either substitutes for or complements to the patents in the pool.[75] Their model allows examination of the full range between the polar cases of perfectly substitutable and perfectly complementary patents.[76] Their paper concludes that while much research is yet to be done, the construction of procompetitive pools is certainly possible.[77] Organizations can form stable pools by clearly defining patent essentialness and by scrutinizing the economic incentives provided to patent holders through pool membership versus independent licensing.[78] As Clarkson notes, however, the determination of essentialness is far easier for pools based on technology standards.[79]

Their second paper on patent pools empirically examines the positive aspects of these arrangements, developing a set of theoretical predictions concerning the pool structure.[80] They predict how the attributes of the pool vary with their key characteristics, such as the number of members of the pool and the rate of technical advances in the industry.[81] They sampled sixty-three pools established between 1895 and 2001 from the dockets of court cases, the archives of congressional hearings, and many other sources, to determine the actual structure of the pooling agreements.[82] Their study concluded that the dynamics of management become more centralized as the pool grows larger.[83] As pool membership increases, third-party licensing becomes more common.[84] Such a finding is significant because restrictions on third-party licensing have historically been a trigger for antitrust scrutiny.[85]

Gilbert reviews the antitrust treatment of patent pooling over the same time period and examines the factors that the courts identified as pertinent to the antitrust outcome.[86] He concludes that until recently, the competitive relationship of the patents was not a major determinant of the antitrust outcome in most cases.[87] Instead, he suggests that the courts

75. Josh Lerner & Jean Tirole, *Efficient Patent Pools* (Nat'l Bureau of Econ. Res., Working Paper No. 9175, 2002).

76. *Id.*

77. *Id.*

78. *See* Clarkson Thesis, *supra* note 5.

79. *Id.*

80. John Lerner et al., *Cooperative Marketing Agreements Between Competitors: Evidence from Patent Pools* (Nat'l Bureau of Econ. Res., Working Paper No. 9680, 2003), http://www.nber.org/papers/w9680.pdf.

81. *Id.* at 2–3.

82. *Id.* at 13–14.

83. *Id.* at 22.

84. *Id.* at 3.

85. *Id.*

86. Richard J. Gilbert, *Antitrust for Patent Pools: A Century of Policy Evolution*, 2004 STAN. TECH. L. REV. 3, 118 (2002).

87. *Id.*

have focused on restrictive licensing terms that affect downstream prices.[88] Our statistical analysis, discussed in Part IV, takes Professor Gilbert's analysis one step further and empirically demonstrates the necessity of judicial examination of thicket questions in terms of pool survival.

D. *Antitrust, Patent Pools, and the Management of Uncertainty*

The origins of this Article can be found in Professor Newberg's article that appeared in the somewhat obscure Atlantic Law Journal in 2000. Although repeatedly cited by patent pool researchers, its lack of availability via Lexis and Westlaw meant that many legal researchers, including judicial law clerks, may not have access to its insights.

In that article, Professor Newberg provides a rather devastating critique of much of the historical patent pooling jurisprudence, even when pools were upheld.[89] In particular, Newberg critiques the *Standard Oil* case as reading "more like a cautionary tale of how easy it is to mishandle the basic analytical questions presented by patent pools."[90] He characterizes the opinion as "a frustrating series of useful principles articulated and missed opportunities for their application."[91] He chastises the court for properly identifying the problem of blocking patents but then failing to actually "analyze the patents at issue in the case as blocking."[92] Newberg describes the Court as being "like the drunk who searches for his lost keys only under the light of the street lamp [because it] looked in the wrong place for anticompetitive effects and found none."[93]

He does compliment the court, however, for establishing the proposition that patent pools should be analyzed under the rule of reason.[94] As he notes, the "purpose of the rule of reason is to inquire into all relevant facts in order to determine whether the procompetitive benefits of a business arrangement outweigh its anticompetitive effects. In the case of patent pools, which will often be efficient combinations of complementary assets, such analysis of costs and benefits is likely to be an appropriate use of judicial resources."[95] Additionally, despite his assertion that the court misapplied it, Newberg nonetheless compliments

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88. *Id.*

89. Newberg, *supra* note 34, at 8–9. (Newberg demonstrates that the *Bement* decision was "fundamentally flawed," He also excoriates the courts failure to examine the underlying technology market for "patents covering the manufacture of float spring tooth harrows" that was separate and distinct for the goods market for the harrows themselves.).

90. *Id.* at 11.

91. *Id.* at 12.

92. *Id.*

93. *Id.* at 13.

94. *Id.* at 12–13.

95. *Id.* at 13.

the court on establishing the notion that "a patent pooling agreement among competitors that does not confer market power, can be, like some horizontal mergers, competitively benign or even procompetitive."[96]

Newberg then turns his acerbic wit toward the next Supreme Court case on patent pooling, *United States v. Line Materials Co.*,[97] which he characterizes as "the blocking patents case that is rarely cited for what it says about blocking patents."[98] He points out that, despite being repeatedly cited by the courts, the holding "that a patent pool established to resolve a blocking relationship between a dominant patent and a far more efficient improvement patent is *per se* unlawful -- is defended by no one."[99] Newberg also laments that despite eschewing "any serious inquiry"[100] into whether the patent pool may have been procompetitive, the Court's misguided *per se* analysis "remains the law of the land."[101] Although the *IP Guidelines* facilitate the formation of patent pools based on technology standards,[102] if patent pools outside of the technology standards context are to survive, or "if the Supreme Court's antitrust analysis of patent pools resolving blocking relationships is to facilitate wealth maximization and technical advance, *Line Materials* must be overruled."[103]

Professor Newberg's admonition led to the collaboration for this Article. But in order to truly justify the elimination of any *per se* rule for patent pool analysis, we needed to examine the historical importance of the examination of patent thicket questions of the rule of reason in terms of pool survival.

III. THE HISTORY OF PATENT POOLING IN THE UNITED STATES

In order to construct a legal history of the patent pooling phenomenon, the research team identified a number of instances of litigation involving patent pools.[104] The search for cases began with the Lexis databases GENFED and Mergers and Acquisitions (M&A) Cases – Federal. The

96. *Id.*
97. United States v. Line Material Co., 333 U.S. 287 (1948).
98. Newberg, *supra* note 34, at 15.
99. *Id.*
100. *Id.* at 20.
101. *Id.* at 15.
102. *Id.*; *see also* Clarkson Thesis, *supra* note 5, at 25.
103. Newberg, *supra* note 34, at 18.
104. Again, Professor Clarkson is deeply indebted to the research staff at both the Harvard Law School Library and the University of Michigan Library. Professor Clarkson's doctoral thesis advisor, Professor Josh Lerner of the Harvard Business School, not only guided his initial forays into patent pooling research, but also share the initial methodology used to identify and collect patent pooling data.

GENFED search resulted in 361 hits and the M&A search resulted in 126 hits (all of these turned out to be repeats of the GENFED results). The searches were then repeated in the Westlaw databases ALLCASES and ALLCASES-OLD. The ALLCASES search resulted in 282 hits and the ALLCASES-OLD search resulted in 45 hits.

The next step was to inspect the results and remove cases where patent pooling was not a major theme (in some instances, the courts cited a case involving patent pooling for reasons unrelated to the pool itself). The resultant set of cases was compared to the "Pooling and Interchange" section of the CCH Trade Regulation Reports, and a few cases were added that were not previously identified in the Westlaw/Lexis searches. So as not to miss potentially relevant cases, Professor Clarkson's formal definition of a patent pool was relaxed slightly in terms of the search for historical cases. While an organizational structure existed where multiple firms collectively aggregate patent rights in a number of instances, the distinction between certain cross-licensing regimes and a formal patent pool was not readily discernable in some cases. This exhaustive search yielded 124 cases of patent pools accused of antitrust violations by either the Antitrust Division of the Department of Justice, the Federal Trade Commission, or private antitrust actions.[105]

Although the set of pools identified is limited to those that were litigated, it is sufficient to provide a degree of insight into the evolution of antitrust enforcement and the criteria used to evaluate such pools. I also supplemented this list with a patent pool that I was aware of that had not been litigated but had been written about in other sources by the scholars identified in Part II.B above. In examining the cases, I specifically looked for instances where the historical pools were formed for purposes of adhering to a standard or for reasons of interoperability, as well as instances where the pools were formed to clear blocking patents or for other procompetitive reasons.

It should be noted that to be included in the list, a case merely had to raise the issue of patent pooling. A comparison of the actual agreements, such as those identified by Lerner, would certainly facilitate a further refinement of this list of cases, as it is possible for one party to raise allegations regarding the operation of a pool without a patent pool actually existing.[106]

A. *Early Patent Pool Formation: 1856–1910*

As the rate of inventive activity progressed in the nineteenth century,

105. Note that several of the identified cases involved the same patent pool. At times a given pool was the subject of multiple litigation proceedings, while at other times unfavorable decisions were appealed and the appellate proceeding was then separately identified in the search for cases.

106. Lerner et al., *supra* note 80.

it was inevitable that patent rights would eventually block competing firms from further development. The sewing machine, first invented in 1846, soon encountered such a blocking situation.[107] In response to several infringement suits and countersuits, the four main manufacturers established a patent pool in 1856.[108] Although the required royalties declined over time, this pool dominated the market until after 1877, when most of the fundamental patents expired.[109] Throughout the life of this pool, the legality of the pool itself was never challenged, perhaps because no formal antitrust enforcement regime yet existed.[110]

While the creation of the formal antitrust regime originated with the passage of the Sherman Antitrust Act in 1890, patent pools continued to enjoy protection from antitrust scrutiny for two more decades.[111] Beginning in 1895, however, a series of cases involving spring-tooth harrow agricultural implements were the first identified cases of patent pool litigation; these cases occasionally referenced the Sherman Act.[112] The National Harrow patent pool was formed in 1890 after several years of a proliferation of patent infringement litigation involving multiple companies. National Harrow was thus formed to receive by assignment all patents relating to spring-tooth harrows held by all major harrow producers.[113] Under the pooling agreement, National Harrow did not manufacture or sell harrows but rather licensed other firms, collected one dollar in royalties for each harrow manufactured, and sold and organized the legal defense of the patents. The agreement gave National Harrow the power to regulate the members' sale prices. Over time, the pooling agreement grew to include twenty-two parties.[114] Each member of the pool agreed to cooperate with National Harrow, assign all patents to it, pay royalties for each harrow produced or sold. In return, each member received stock in National Harrow equal to the value of their assignment as determined through arbitration. Eventually more than 90% of the industry fell within the pool members' operations.[115]

The first case, *National Harrow Co. v. Quick*, discussed the legality of the pool.[116] While combinations were not *per se* illegal, the district

107. Thomson, *supra* note 67, at 434.

108. FLOYD L. VAUGHAN, THE UNITED STATES PATENT SYSTEM: LEGAL AND ECONOMIC CONFLICTS IN AMERICAN PATENT HISTORY 41 (Norman: University of Oklahoma Press eds., 1st ed. 1956).

109. *Id.*

110. *Id.* at 40–41.

111. *Id.* at 39–40.

112. Nat'l Harrow Co. v. Quick, 67 F. 130 (C.C.D. Ind. 1895); Nat'l Harrow Co. v. Hench, 83 F. 36 (3d Cir. Pa. 1897); Nat'l Harrow Co. v. Hench, 84 F. 226, 227 (C.C.N.D.N.Y. 1898).

113. *Quick*, 67 F. at 131.

114. *Hench*, 83 F. at 37.

115. *Id.*

116. *Quick*, 67 F. at 131–32.

court was reluctant to embrace an agreement that had the effect of leading to "the creation of combinations, trusts, or monopolies."[117] Therefore the law could not give aid to such an illegal combination by supporting National Harrow's claim against licensees for infringement. The court also concluded that a strict reading of the relevant patents indicated that the particular improvement in question did not constitute an "invention" and was therefore not entitled to patent protection.[118]

The next case involving the National Harrow patent pool, *National Harrow Co. v. Hench*, revisited the issue of the pooling agreement.[119] The court noted that the original agreement forming National Harrow required each manufacturer to assign the patents they "respectively owned or should thereafter acquire"[120] to the new corporation. The agreement obligated each member to pursue the manufacture or sale of spring-tooth harrows only as licensees; they could produce or sell no unlicensed harrows. The court held that the purpose of pooling patents did not insulate National Harrow from the scope of the Sherman Act.[121] "Patents," the court wrote, "confer no right upon the owners of several distinct patents to combine for the purpose of restraining competition and trade."[122] The court held the agreement in violation of the Sherman Act.[123]

In a companion case from the Northern District of New York, the court underscored the reasoning in the Indiana district court opinion in *National Harrow Co v. Quick*.[124] Unlike the prior case relating to licensing, National Harrow pressed an infringement claim against Samuel Hench and others in this case.[125] The court upheld the lower court, arguing in a brief but strongly worded opinion that each step of the pooling, from assignment through licensing, were "part of one illegal scheme" to control an industry and enable price setting.[126] The court declared National Harrow was not entitled to enforce its claim against pool members because it had "no title except such as it got through this agreement."[127] Because the entire scheme was held illegal, both the assignment and the licensing were held void.[128]

When the Supreme Court examined the patent pool in *E. Bement &*

117. *Id.* at 132.
118. *Id.* at 133.
119. *Hench*, 83 F. at 36.
120. *Id.* at 37.
121. *Id.* at 38.
122. *Id.*
123. *Id.* at 39.
124. Nat'l Harrow Co. v. Hench, 84 F. 226, 227 (C.C.N.D.N.Y. 1898)
125. *Id.* at 226.
126. *Id.*
127. *Id.*
128. *Id.* at 227–28.

Sons v. National Harrow Company, however, it upheld the legality of the pool even though the licensing restrictions clearly restrained competition.[129] In this first patent pooling case to appear before it, the Supreme Court essentially established that rights under patent law trumped other concerns, including antitrust concerns under the Sherman Act of 1890. This decision reversed the trend established by many lower courts, particularly the numerous prior cases involving the same National Harrow pool. After a failed effort to join the pool in 1890, E. Bement & Sons successfully negotiated an agreement with National Harrow in 1891.[130] The agreement involved transferring all its issued patents in exchange for capital stock in National Harrow and the right to license for use the eighty-five then-pooled patents on certain conditions.[131] These conditions included a requirement that E. Bement & Sons pay an annual royalty of one dollar, provide regular business reports, prohibit selling at prices below a schedule provided in a companion contract, and sell only harrows using patents covered under the pool, without changes in design or challenges to existing patents.[132] The price-fixing portions of the agreement stipulated that E. Bement & Sons could offer a maximum discount of 42% on the sale of harrows throughout the Northeast and Mid-Atlantic states.[133]

When National Harrow sued E. Bement & Sons for refusing to follow the price schedule, E. Bement & Sons argued that the contract violated the Sherman Act and was therefore unenforceable.[134] The Court disagreed, stating that

> The general rule is absolute freedom in the use or sale of rights under the patent laws of the United States. The very object of these laws is monopoly, and the rule is, with few exceptions, that any conditions which are not by their very nature illegal with regard to this kind of property, imposed by the patentee and agreed to by the licensee for the right to manufacture or use or sell the article, will be upheld by the courts. The fact that the conditions in the contracts keep up the monopoly or fix prices does not render them illegal.[135]

Justice Peckham wrote that the agreement between E. Bement & Sons and National Harrow was in "all respects legal and valid [and] embodied no illegal restraints, were not repugnant to any rule of public policy as in

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129. E. Bement & Sons v. Nat'l Harrow Co., 186 U.S. 70 (1902).
130. *Id.* at 78.
131. *Id.*
132. *Id.* at 72–74.
133. *Id.* at 74–75.
134. *Id.* at 70–71.
135. *Id.* at 91.

restraint of trade, and were not intended to create a monopoly, trust or illegal combination."[136] Viewing the matter narrowly, the Court restricted itself to the facts established by the court below which did not link the licensing contracts formed between National Harrow and E. Bement & Sons to those contracts held in violation of antitrust regulations.[137] More broadly, Justice Peckham wrote on behalf of the Court that the "first important and most material fact" in assessing whether or not the pool violated the Sherman Act, was the fact that it was a patent.[138] Justice Peckham argued the Constitution and Court precedent (citing Chief Justice Marshall's opinion in *Grant v. Raymond*[139]) conferred strong monopoly rights to patent holders in order to provide incentives for innovation.[140] Answering all the various arguments advanced as to the illegality of the agreement, Justice Peckham argued it was a necessary remedy to pervasive and pernicious litigation, that price setting was a valid action by a patent holder, and that requiring members to offer only products covered by patents in the pool did not prevent improvements but protected the rights of other pool members.[141] In short, the decision provided the strongest support for the permissibility of patent pools.

Notably, the Court did not examine the economic relationship between the patents in the pool. Perhaps because of its expansive view of the patent grant, the Court found it unnecessary to examine those relationships. Lower courts, however, did conduct such examinations and found that most or all of the National Harrow members held patents that covered competing methods or designs. Although the pool may have provided an economic benefit by clearing certain blocking positions, the pool membership appears to have included a combination of complementary and substitute patents. Additionally, since pool members could only use the technology they had originally licensed to National Harrow, they were unable to realize the potential economic benefit from combining complementary technologies.

One year later a lower court cited the *E. Bement & Sons*, decision in upholding a similar patent pool for the seeding and processing of raisins, however, the license terms were perhaps a bit less anticompetitive as they allowed for the combination of any potentially complementary technologies.[142] After nearly two years of litigation, in June 1900, all raisin producers had entered into a patent pooling agreement that the

136. *Id.* at 81–82.
137. *Id.* at 83–84.
138. *Id.* at 88.
139. Grant v. Raymond, 31 U.S. 218 (1832).
140. *E. Bement & Sons*, 186 U.S. at 89.
141. *Id.* at 93.
142. U.S. Consol. Seeded Raisin Co. v. Griffin & Skelley Co., 126 F. 364 (9th Cir. Cal. 1903).

Ninth Circuit examined in *U.S. Consolidated Seed Raisin Co. v. Griffin & Skelley Co.*[143] Consolidated held two patents and the other parties collectively held at least eight others that they assigned to Consolidated as the pool administrator.[144] The agreement provided for Consolidated to defend the various patents, grant licenses, and collect royalties (minus expenses) allocated among the various parties according to a particular formula.[145] The agreement also included a shared management structure comprised of four members with the authority to grant licenses and determine terms and conditions.[146] Each member received a license to use the covered patents in their operations, paying one eighth of one-cent per pound of processed raisins in royalties from 1900–1901 and one-fourth cent per pound thereafter.[147] The agreement also required parties to exclusively employ machines covered by the agreement and precluded licensing to third parties for less than half a cent per pound.[148]

A central issue of the case was whether or not the members assigned their patents to Consolidated under the agreement to achieve domination of the industry or to end expensive litigation of potentially blocking patents.[149] In light of *E. Bement & Sons*, the judges concluded the contract at issue here was not "obnoxious to the provisions of the Sherman antitrust act."[150]

The next patent pooling case was *Indiana Mfg. Co. v. J.I. Case Threshing Mach. Co.*, in which the court considered the legality of an agreement pooling patents related to pneumatic straw stackers.[151] The main patent in the pool combined old and new inventions in a generally useful and novel way that set the standard for the industry.[152] The two other subordinate patents were only minor improvements thus, making the pooling of all three permissible.[153] By agreement, licensees were required to sell above a set price, affix a patent label, and pay a royalty per unit sold.[154] After addressing several other issues, the court addressed the question of whether or not the pooling arrangement violated the Sherman Act.[155] The court concluded that even if, "as a condition of enjoying the inventions," the entity holding the patents coordinated

143. *Id.*
144. *Id.* at 364.
145. *Id.* at 364–65.
146. *Id.* at 365.
147. *Id.*
148. *Id.*
149. *Id.* at 370–71.
150. *Id.* at 360.
151. Indiana Mfg. Co. v. J.I. Case Threshing Mach. Co., 154 F. 365 (7th Cir. Wis. 1907).
152. *Id.* at 366.
153. *Id.*
154. *Id.*
155. *Id.* at 369.

licensees for the purpose of controlling prices, it would not necessarily violate the Sherman Act.[156] The court also stressed that the unique combination of prior arts constituted an important advance worthy of patent protection.[157] Unlike in *Bement*, their analysis focused on the economic interrelationships between the patents. The concurring opinion was even more explicit in stressing that the pool was permissible in noting that because one patent was dominant and the others wholly dependent, a pooling of these patents was not anticompetitive but an advance in innovation.[158]

B. *Early Antitrust Restraint of Patent Pools: 1910–1938*

This seeming immunity from antitrust enforcement only lasted for another decade. In 1912 the Supreme Court again addressed patent pools in *Standard Sanitary Manufacturing Co. v. United States*, reversing course and invalidating the pool even though the terms of the license were much less anticompetitive than those in *Bement*.[159] In the first case brought by the U.S. government against a patent pool, manufacturers of sanitary enameled hardware including tubs, drinking fountains, wash bowls, sinks, and other related products were found to have entered into an illegal combination.[160] In 1899, the Arrott process of enameling iron ware by means of a mechanically-vibrated sieve delivering a continuous, even flow of enamel powder producing a superior, more uniform product more quickly and with less waste was invented.[161] Some competitors used inferior, older, processes while others were infringing the Standard Sanitary patent, yielding poor products, and significant litigation.[162] Alarmed by the inferior quality of products entering the market from producers, Edwin L. Wayman, Secretary of the Association of Standard Enameled Ware Manufacturers, persuaded Standard Sanitary to contribute its patent to a patent pool along with patents from two other manufacturers.[163] While this agreement required licensees to forego the marketing of any and all "seconds" (or products with defects), each party agreed to a standard price and royalty payments.[164] On March 30, 1910, the Manufacturer's Association formed a committee to fix prices and review licensing agreements.[165] At the same gathering, Association

156. *Id.* at 370.
157. *Id.* at 368–69.
158. *See id.* at 372.
159. Standard Sanitary Mfg. Co. v. United States, 226 U.S. 20 (1912).
160. *Id.*
161. *Id.* at 35.
162. *Id.* at 35–36.
163. *Id.* at 37.
164. *Id.* at 36.
165. *Id.* at 42-43.

members adopted a resolution proposing the formation of an agreement to license the three patents and to regulate sale price and conditions of ironware produced under these licenses for jobbers.[166] The final licensing agreement accomplished giving manufacturers the right to use the three patents, releasing all from prior infringement claims, fixing royalties at five dollars per day per furnace, setting preferential discounts and limiting them to approved jobbers, and establishing certain labeling requirements.[167] A second agreement for jobbers limited their rights to sell only at prices set by the committee, including the discount rate, and required them to refrain from purchasing, advertising, or soliciting orders for any sanitary enamel ware not licensed by Wayman's association.[168]

In affirming the lower court's decision, the Court observed that the agreement ended the competitive independence among the various existing manufacturers and jobbers that prevailed prior to its formation: fixing prices and controlling their position in the industry from manufacturer to consumer through the licensing conditions established.[169] The Court opined that the agreement went far beyond reasonable steps to protect the gathered patents contemplated in *Bement*.[170] While rights under patent law are very "definite and extensive," the Court noted, "they do not give any more than other rights a universal license against positive prohibitions" in the Sherman Act.[171] Where these rights produce illegal consequences, the Court held that those rights can be restrained.

Another patent pool case brought by the federal government, *United States v. Winslow*, reached the U.S. Supreme Court in 1913, the year after *Standard Sanitary*.[172] At the time of the case, nearly all shoes made by machine in the U.S. used lasting machines, welt-sewing machines, outsole-stitching machines, heeling machines, and metallic fastening machines.[173] In February 1899, the individual owners of three companies formed the United Shoe Machinery Company and assigned to it the stocks and business of all the corporations they together owned.[174] Following the formation of the agreement, the three agreed to cease the sale of shoe-making machinery in favor of leasing, on the condition that lessees refrain from using machines produced by competitors on pain of removal of all the United Shoe Machinery machines.[175]

166. *Id.* at 43.
167. *Id.* at 44.
168. *Id.* at 46.
169. *Id.* at 47.
170. *Id.* at 48.
171. *Id.* at 49.
172. United States v. Winslow, 227 U.S. 202 (1913).
173. *Id.* at 215.
174. *Id.* at 216.
175. *Id.*

The United States alleged that the defendants used their market position and the terms of the agreement to punish competitors, discourage innovation by others, and deepen their control of the trade.[176] The appeals court limited the scope of review to the legality of the original combination agreement of February 7, 1899, excluding the leasing arrangements incorporated later.[177] Because each essentially operated in different spheres, the court below and the Supreme Court saw no restraint in competition stemming from the original combination.

The United States challenged two additional patent pools in 1913 that did not fare well. In the first case, *United States v. Krentler-Arnold Hinge Last Co.*, a shoe lasts manufacturer was perpetually enjoined from engaging in certain practices used in its licensing agreements alleged to violate antitrust statutes.[178] The license contained several onerous provisions. Section 2 of the licensing agreement compelled licensees to purchase hinges, lasts, and their parts only from Krentler-Arnold to refrain from manufacturing other hinged lasts, and to agree to a pricing schedule applied equally to all licensees set by an adjuster. Section 6 required licensees to agree never to challenge any of the patents it held in any way or at any time. Additionally, Section 7 attempted to extend licenses beyond the point at which the patents expired.

In the second district court case, *United States v. New Departure Mfg. Co.*, six corporate defendants and eighteen individuals together controlled about 85% of the domestic market for bicycle and motorcycle coaster brakes and accessories using different types and designs under different and distinct patents.[179] The government charged that the defendants engaged in a variety of anti-competitive practices, including price setting; offering non-competitive discounts; refusing to sell brakes except on limited terms; requiring purchasers to refrain from trading with competitors; intimidating competitors with threats of patent litigation; advancing a deceptive licensing arrangement in which New Departure became the licensor of patents held by the other defendants as licensees; requiring New Departure to obtain approval of these licensees prior to offering additional licenses; granting only licenses with attached price schedules; discontinuing pending litigation among the various parties; paying royalties to New Departure that were credited back for its use of other licenses; establishing an arbitrator to settle disputes and supervising a guaranty fund insuring against breach of the agreement; setting prices for sale to jobbers; limiting sales only to proscribed jobbers; and using

176. *Id.*
177. *Id.*
178. United States v. Krentler-Arnold Hinge Last Co., 1 D. & J. 407 (E. D. Mich. 1913).
179. United States v. New Departure Mfg. Co., 204 F. 107 (W.D.N.Y. 1913), CCH '52 #129.

litigation to prevent parties from selling to competitors.[180]

The court held that the agreement was a conspiracy or combination under the language of Sections 1 & 2 of the Sherman Act.[181] The court also rejected the defendant's argument that the agreements were legal instruments legally entered into by all parties by noting that otherwise legal means and the intent to achieve illegal ends are violations.[182] The defendants' claim that they were merely licensees and that New Departure was the patent holder was rejected by the court as a defense because each held competing, not complimentary patents, and New Departure received patents only to parts, not the entirety of the processes.[183] In the eyes of the court, the licensing arrangement involving New Departure and the other defendants was merely designed to provide legal cover under patent law to collusive behavior. By the commingling of "separate interests in separate patent[s]" in an agreement that fixed prices and imposed other restrictive conditions in restraint of trade, the court found that the agreement violated the Sherman Act.[184]

The aggressive antitrust enforcement continued with the government bringing another case against a patent pool in 1915, *United States v. Motion Picture Patents Co.*[185] In that case, the Motion Picture Patents Company had been formed by numerous corporations holding patents related to the production and distribution of movies. The total number of patents pooled together came to sixteen, of which ten were minor to the industry.[186] The remaining six were wholly owned by single parties and covered distinct innovations. An agreement was reached in 1908 between the makers, distributors, and importers of motion pictures. Following the consummation of the agreement, an additional provision was added to consolidate film distribution, and the number of independent distributors declined from 116 to a single such purveyor.[187] The defendants argued that a "single directing and regulating head" was good for the industry.[188] The core issue discussed in this opinion relates to the motives and conscious purposes of the defendants. Conceding the possibility of their declared intent to promote the industry, the court nevertheless held that no violation of the law becomes permissible owing to noble intent.[189] Finding illegal intent in the scheme was not mitigated for the court by the fact the defendants claimed or believed to be promoting the industry,

180. *Id.* at 109–10.
181. *Id.* at 114.
182. *Id.* at 110.
183. *Id.* at 110–12.
184. *Id.* at 115.
185. United States v. Motion Picture Patents Co., 225 F. 800 (E.D. Penn. 1915).
186. *Id.* at 810.
187. *Id.* at 809.
188. *Id.* at 806.
189. *Id.* at 806–08.

protecting public morals, or promoting the dramatic arts.[190] Nor was the agreement a legitimate effort to protect monopoly rights under U.S. patent law, but rather a naked effort to use the control of patents as part of a "scheme, in the belief, or at least the hope, that this would render the scheme (otherwise illegal) not open to the condemnation of the law."[191]

Three years after *Motion Picture Patents,* and five years after *United States v. Winslow*, the Supreme Court revisited that particular pool again in *United States v. United Shoe Machinery Co. of New Jersey*.[192] As in *Winslow*, the government alleged United Shoe represented an illegal restraint on interstate commerce, and as in *Winslow*, the Court rejected that assertion and affirmed a decree for the defendants in the court below. This Court found that the antecedent corporations were not competitors, and therefore, their combination was not *per se* impermissible. In the view of the Court, the expansive rights under the monopoly of patents held by the various corporations did not lose their distinctiveness upon combination and, therefore, particularly in light of the twelve-year delay in enforcement action, were acceptable.[193] In this case, the Court found a mutually blocking relationship: United Shoe held a blocking underlying patent, but the optimal shoe-bottoming machine required improvements patented by Plant; neither could operate free of the demands of the other. Certain other rights were acquired and justified in the name of avoiding excessive litigation. The Court also failed to see any great illegal design in sheer number of patents acquired, and even where competition might have been slightly reduced, in light of countervailing exigencies or conveniences, the Court permitted the licensing arrangement.

Reviewing the leases United Shoe offered, the Court concluded none of the specific clauses exceeded the powers lawfully available to patentees.[194] The clauses reviewed include a uniform term: a requirement that if the lessee has more work than his current supply of leased machines can handle, he must lease more machines; use them exclusively; prohibit the use of leased machines to produce work, also relying on machines not leased from United Shoe adhere to the right of termination; and charge an assessment upon return of leased equipment.[195] Because the Court saw no particular intent in the forming of the combination to dominate the industry, indeed that the various parties individually relied on the same terms in their lease agreements prior to the pooling agreement, none of these conditions were especially novel or problematic. For the Court, they were the normal powers

190. *Id.*

191. *Id.* at 811.

192. United States v. United Shoe Mach. Co. of N.J., 247 U.S. 32 (1918).

193. *Id.* at 43–44.

194. *Id.* at 63–64.

195. *Id.* at 61–63.

extended to holders of issued patents.

In 1922, the government brought another antitrust action, *United States v. Wickwire Spencer Steel Corp*, that resulted in a consent decree ending a business association that combined manufacturers of flour sifters, dish covers, and kitchen utensils in both a patent pool and an agreement as to uniform freight allowances.[196] Association members were enjoined from any further operations in combination. The next year the government successfully challenged another pool in *United States v. United Gas Improvement Co*.[197] United Gas, two other corporations, and eight persons were alleged to have formed a conspiracy to monopolize trade in incandescent lights bulbs, fixtures, and appliances by controlling numerous patents, prohibiting licensing outside the pool, and acquiring and intimidating competitors. The court issued a decree of discontinuance, dissolving the pool.

The next government challenge to a patent pool was filed in 1925. In *United States v. Porcelain Appliance Corp*., the government successfully alleged an effort to monopolize trade in assembled, two-part porcelain insulators by pooling competing patents and licensing to pool members on condition of agreement to price-fixing.[198] In 1930, the court entered a consent decree terminating the pooling arrangement, enjoining further operation, and returning the individual patents to their pre-pool owners.[199]

The next patent pool case, *Dial Toaster Corp. v. Waters-Genter Co*., was a private action rather than government enforcement.[200] This case arose from a pooling agreement formed on March 19, 1927, between Dial Toaster Corporation and the Waters-Genter Company for patents related to electric toasters.[201] The agreement was to lapse March 1, 1928 if no licenses were secured.[202] Dial Toaster sought relief following a Waters-Genter veto of a licensing contract. They asserted that the royalty fees negotiated reflected reasonable market rates: a claim which was disputed by Waters-Genter.[203] The agreement did not set royalty rates except to require they be "on the best royalty basis obtainable."[204] Dial Toaster argued that the defendant acted improperly and should be compelled to

196. United States v. Wickwire Spencer Steel Corp., Trade Cas. (CCH) ¶ 255 (S.D.N.Y. 1922).

197. United States v. United Gas Improvement Co., Trade Cas. (CCH) ¶ 252, 258 (S.D.N.Y 1923).

198. United States v. Porcelain Appliance Corp., Trade Cas. (CCH) ¶ 305 (N. D. Ohio 1926).

199. *Id.*

200. Dial Toaster Corp. v. Waters-Genter Co., 233 N.W. 870, 870 (Minn. 1930).

201. *Id.* at 870.

202. *Id.* at 871.

203. *See id.* at 873.

204. *Id.* at 871.

honor the Fitzgerald contract with the additional effect of preventing the lapse of the original agreement.[205] The court held that the lack of specificity in the agreement regarding royalty rates required a rejection of the plaintiff's claim for relief.[206] The court believed that to intervene against Waters-Genter would constitute, in effect, a court mandated contract that the two parties were unable to reach by themselves.[207] This opinion was upheld upon rehearing, with slight modification.[208] With an eye toward recent Supreme Court decisions, including *Bement*, the Minnesota court added that the original agreement did not violate antitrust requirements because other agreements more restrictive of trade were permitted by the Supreme Court.[209]

A number of cases involving a large pool of patents related to gasoline refining came before various courts in the early 1930s. The first case, *Gasoline Products Co. v. Champlin Refining Co.*, was a private antitrust action.[210] On February 26, 1926, Gasoline Products and Champlin entered into a contract in which the non-exclusive patents held by the plaintiff under a cross-licensing arrangement with Standard Oil of Indiana and of New Jersey, the Standard Oil Development Corp., and the Texas Company (the primary defendants in *Standard Oil Co. v. United States*, the next case to be discussed), coupled with other patents it held, were licensed by Champlin Refining for use in two cross cracking plants.[211] In return, Champlin committed to pay royalties of ten cents per barrel.[212] Gasoline Products sued to collect royalties of nearly $200,000 it believed it was owed.[213] Champlain argued that the original agreement was invalid because Gasoline Products and the other companies were engaged in a price-fixing scheme that was illegal under Sections 1 and 2 of the Sherman Act.[214] The defendant also argued the agreement essentially compelled Champlin to seek licenses from Gasoline Products, making it a party to an illegal scheme against their wishes, a claim the court rejected, noting that the defendant considered several different licensing options and was free to choose among them all.[215] Regarding the Sherman Act claim—the Gasoline Products countered, and the Court agreed—even if pooling agreements were illegal, there was nothing

205. *Id.* at 872.
206. *Id.*
207. *Id.*
208. *Id.* at 872.
209. *Id.* at 873.
210. Gasoline Prods. Co. v. Champlin Ref. Co., 46 F.2d 511, 511 (De. Me. 1931).
211. *Id.* at 511.
212. *Id.* at 511–12.
213. *Id.* at 511.
214. *Id.* at 512.
215. *Id.* at 514.

illegal about its sublicensing agreement with Champlin.[216] Because Champlin was not a party to the cross-licensing, the court reasoned it was not a party to a potentially illegal combination.

The issue of the gasoline refining pool reached the Supreme Court in 1931. In *Standard Oil Co. v. United States*, the Court reversed a decision from the Northern District of Illinois holding that an agreement pooling the gasoline cracking patents of four large companies ("primary defendants") and fifteen smaller companies violated the Sherman Act.[217]

As demand for gasoline increased rapidly with the explosion of the automobile industry, cracking produced more valuable petroleum products per unit of crude oil input.[218] From 1913 to 1920 the Standard Oil of Indiana held a patent on the only cracking process used in the country.[219] The company manufactured gasoline and licensed its process to others, receiving in excess of fifteen million dollars in royalties by 1921.[220] Because Indiana held patents to a particular cracking process and not the underlying phenomenon, other operators created new processes throughout this period.[221] Early in the 1920s litigation proliferated over the scope and validity of the various patents held by these companies.[222]

The primary motivation behind the formation of the pool was to avoid litigation over blocking patents. The pooling agreement acquired through seventy-nine contracts included seventy-three patents related to gasoline cracking.[223] Three of the four primary defendants in the case were large producers of cracked gasoline and held patents arising from their original innovations. The fourth company was merely a holder of patents, licensing them to manufacturers. Forty-six companies ("secondary defendants") manufactured cracked gasoline under license from one or more of the primary defendants.[224] By 1923 the primary defendants had entered into a number of agreements that released pool members from liability arising from prior or possible future infringement claims, and that secured from each licensee the right to use the others' patents.[225] Each pool member shared in a fixed proportion of royalty fees derived under the cross-licensing contracts.[226] New innovations built on the individual patents that were previously controlled were not subject to the agreement. Moreover, the agreement created an open pool in which

216. *Id.* at 512
217. Standard Oil Co. v. United States, 283 U.S. 163, 163 (1931).
218. *Id.* at 167.
219. *Id.*
220. *Id.*
221. *Id.*
222. *Id.* at 168.
223. *Id.* at 166.
224. *Id.*
225. *Id.* at 168.
226. *Id.*

members could license to third parties.

Citing *Standard Sanitary*, the Court noted that the monopoly powers conferred by patent law were limited and generally subject to Sherman Act provisions.[227] The Court also held, however, that this limitation did not mean that the patent pools *per se* violated the Sherman Act, but that each "patent interchange agreement"[228] needed specific scrutiny to determine whether such an agreement is "part of a larger plan to control interstate markets."[229] The government asserted, for example, that inclusion of royalty sharing itself indicated a conspiracy to restrain competition and raise prices to licensees.[230] The Court held that where blocking patents give rise to "legitimately conflicting" interference claims, settling these disputes by agreement rather than litigation did not necessarily violate the Sherman Act.[231] By noting that such agreements could, in theory, remove blockages to innovation and encourage companies to direct scarce resources to innovation rather than additional litigation, the Court argued that patent pools could enhance innovation and competition, and that they might be "necessary if technical advancement is not to be blocked by threatened litigation."[232] This portion of the *Standard Oil* opinion established a precedent that the rule of reason should be applied to the analysis of patent pools.

The government also argued that the agreement was anticompetitive in that it waived fees for three primary defendants while fees were collected from all other current and potential licensees.[233] The Court held, however, that unless the parties dominated the industry or directly limited interstate commerce, such benefits were the legitimate fruits of innovation and patenting that seem appropriate given that the three primary defendants were the source of most of the pooled patents. Even very high licensing fees did not by themselves violate the Sherman Act.[234] The government further asserted that because the arrangement fixed royalty rates for competing patented processes (the product itself was not patented), it constituted an illegal combination.[235] The Court acknowledged that royalty sharing when pooling competing patents and when the pool members in fact enjoy a dominant position would violate antitrust agreements.[236] The Court noted, however, that prior to the agreement, one member of the pool exercised greater control over the

227. *Id.* at 169.
228. *Id.* at 170.
229. *Id.* at 168.
230. *Id.* at 171.
231. *Id.*
232. *Id.*
233. *Id.* at 172
234. *Id.*
235. *Id.* at 173.
236. *Id.* at 174.

industry than was enjoyed by the members of the pool taken together upon successful execution of the agreement.[237] The four parties to the agreement owned and licensed together only 55% of the national cracked gasoline capacity.[238] The Court concluded that whether or not the intent to control the market motivated the agreement, pool members were not in a position to impose their desires on the market.[239] Regarding the final charge of collusion by the government, the opinion held the court below erred as a factual matter in the evidence it used to discern price-fixing effects stemming from the royalty-sharing provisions of the arrangement.[240]

The next private action, *F.A.D. Andrea, Inc. v. Radio Corp. of America*, involved a pool that had formed during World War I.[241] F.A.D. Andrea approached RCA and attempted to obtain licenses to produce radio receivers on the same terms given to others but was rebuffed.[242] F.A.D. Andrea sued, asserting that RCA entered into an illegal conspiracy in 1919 with other companies to monopolize the domestic and international trade in radio devices, particularly the production, sale, and shipment of radio receivers.[243] The plaintiff asserted that the pooling agreement made it impossible for another party to secure a license to the patents held by the any of the pool members except through RCA, in violation of the Sherman Act.[244] The court dismissed the claim for two reasons. First, it held that even if the pooling agreement afforded a position of sufficient dominance for questions about whether a pool was anti-competitive could arise under *Standard Oil Co. v. United States*, it did not follow that the anti-competitive party was compelled to share its property with anyone who longed for it.[245] Second, the court held that the remedies available under the Sherman Act and the Clayton Act were exclusive and did not imagine a right to a license.[246]

Another radio technology case, *Lynch v. Magnavox Co.*, was decided two years later.[247] Plaintiff Lynch, the bankruptcy trustee for Jackson Bell Company, a California manufacturer, argued that in 1932 four companies illegally pooled their respective patents for the purpose of monopolizing the manufacture, sale, and distribution of radio loud speakers and

237. *Id.* at 175.
238. *Id.*
239. *Id.* at 176.
240. *Id.* at 182–83.
241. F.A.D. Andrea, Inc. v. Radio Corp. of Am., 14 F. Supp. 226 (D. Del. 1936).
242. *Id.* at 227
243. *Id.*
244. *Id.*
245. *Id.* at 229; *see also Standard Oil Co.*, 283 U.S. at 163.
246. *F.A.D. Andrea, Inc.*, 14 F. Supp. at 229.
247. Lynch v. Magnavox Co., 94 F.2d 883 (9th Cir. 1938).

controlling prices.[248] The plaintiff alleged that the agreement required each party to cross-license its patents to the others, coordinate litigation strategies to compel other companies to license only with pool members, drive non-pool members from the industry, and force others to acquire rights at fees generally raising the market price of loudspeakers.[249] In October 1932, Lektophone and Utah filed 29 suits alleging patent infringement in the Southern and the Eastern Districts of New York against retailers selling radios with speakers not covered under the pool.[250] Magnavox filed at least 26 similar suits alleging infringement of its patent.[251] Lynch also alleged that pool members mailed hundreds of letters threatening infringement suits specifically targeting key accounts of competing manufacturers.[252]

Lynch sought judgment for damages of $1,000,000 and $100,000 in attorney fees, but the court below dismissed the case.[253] In this case the Ninth Circuit Court reasoned that even if the individual acts alleged were themselves legal, if the "agreement has an unlawful purpose, it is a conspiracy."[254] The court also rejected the appellees' claim that the appellant failed to sufficiently prove the matter affected interstate or intra-national commerce, not merely intrastate.[255] Justice Matthews' dissent accepted the appellees' view that no combination or conspiracy was proven but merely the existence of a plan or scheme, thus denying the appellant standing under the language of the Sherman Act.[256]

The Supreme Court also decided a radio technology case in 1938. In *Gen. Talking Pictures Corp. v. W. Elec. Co.*, the Court affirmed a lower court decree for plaintiffs Western Electric in a suit alleging that General Talking Pictures Corporation had violated a licensing agreement it signed to secure the right to use seven pooled patents related to vacuum tube amplifiers.[257] The patents related to this amplifier technology were used in wire and radio telephony, movies, and for various other purposes.[258] These patents were pooled and licensed exclusively to the other respondents to manufacture amplifiers for the commercial field of recording and reproducing sound, including equipment used in movie theaters.[259] Another class of licenses permitted licensees to manufacture

248. *Id.* at 886.
249. *Id.* at 887.
250. *Id.*
251. *Id.*
252. *Id.*
253. *Id.*
254. *Id.* at 888.
255. *Id.* at 890.
256. *Id.* at 291–92.
257. Gen. Talking Pictures Corp. v. W. Elec. Co., 304 U.S. 175, 176 (1938).
258. *Id.*
259. *Id.* at 179–80.

amplifiers for the *private* field, that is radio broadcast reception, radio amateur reception, or for radio experiments.[260] The Court summarily dismissed several questions raised in the petition for writ.[261] The first asserted that in collecting royalties paid by the defendants consented to the use to which the patents were directed.[262] The second asked the Court to rule that the patents in question were invalid for want of sufficient improvement over prior arts.[263]

After admonishing General Talking Pictures for asking the Court to visit issues not directly raised in their petition, Justice Butler, writing for the majority moved the heart of the opinion. General Talking Pictures argued that the owners of the patents could not "restrict the use" of a device manufactured under license once it had come into its possession under the normal course of commerce and for which it had paid.[264] Rejecting this assertion, the Court declared that the knowing violation of license restriction did not constitute "ordinary" trade.[265] It also declared that consistent with the monopoly powers extended to patent holders, they were entitled to impose licensing conditions.[266] Both General Talking Pictures and American Transformer were guilty of patent infringement. The final issue raised by General Talking Pictures was that certain other inventions described but not explicitly claimed in patent applications, could not obtain valid patents after some two years of use by others merely through a 'divisional' or 'continuation' application.[267] The Court deferred to the court below that determined for the first two patents, no proof existed of public use of the invention.[268] For the other two, the Court held that the inventions were claimed in a timely manner.[269]

Justice Black, in his dissent, argued that the majority granted broad new powers to the holders of patents, departing from established precedent on the permissible reach of patent monopoly powers to color subsequent exchanges or prices.[270] He asserted that the proliferation of patents subverted the common good.[271] Toward the end of his dissent, he turned directly to the question of patent pools, arguing that patent law was designed to permit only one patent monopoly per one patentable

260. *Id.*
261. *Id.* at 177.
262. *Id.*
263. *Id.*
264. *Id.* at 180.
265. *Id.*
266. *Id.* at 181.
267. *Id.* at 188–89.
268. *Id.* at 182–83.
269. *Id.* at 183.
270. *Id.* at 184–85.
271. *Id.*

invention.[272] Citing *Motion Picture Co. v. Universal Film Co.*, Justice Black argued that Congress conferred no power to specifically authorize the pooling of patents.[273] Finally, in noting the majorities' view that the "public use" of the invention prior to the filing of the continuation was in fact by the patentee and not an exception to the "public use" language of relevant legislation.[274] To permit such an outcome would embolden patent holders to crush potential opponents through the deceptive use of "continuation" or "divisional" applications.[275]

C. *Inter Armas Clamor Leges: 1939–1945*

While the Latin phrase *inter armas silent leges* suggests that during war the law is silent, the opposite appears to be the case for patent pools. The onset of war in Europe seemed to bias the antitrust enforcement regime and the courts against a number of patent pools, including some pools whose technologies were not directly related to the war effort.

In contrast to its general pro-pool ruling two years earlier in *General Talking Pictures*, in 1940 the Supreme Court held that a licensing agreement that included price-setting conditions violated the Sherman Act in *United States v. Ethyl Gasoline Corp*.[276] The Ethyl Gasoline held patents over a fuel mixture of gasoline and a lead-based compound and the means of burning this fuel within high compression internal combustion engines.[277] Ethyl Gasoline held two patents for the fuel additive compound and a third for the optimal blended mixture.[278] Ethyl Gasoline also held a patent on a method of using the fuel.[279] Ethyl Gasoline sold the patented fluid directly to oil refiners producing the desired mixed fuel.[280] It also issued licenses to both refiners and jobbers (resellers to individual gasoline retailers) to use the patented process, without fee, deriving its sole source of revenue related to these patents from the sale of the ethyl fluid additive.[281] The licensing agreement required licensees to sell only to other licensed refiners, jobbers, and retailers, requiring them to use the mix of ethyl fluid only in approved equipment and in ways consistent with Surgeon General Regulations.[282] Licensees were required to terminate sales to refiners and jobbers upon

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272. *Id*. at 189
273. *Id.* at 188.
274. *Id*. at 189.
275. *Id*. at 190.
276. United States v. Ethyl Gasoline Corp., 309 U.S. 436 (1940).
277. *Id.* at 445–46.
278. *Id.*
279. *Id.*
280. *Id.* at 446.
281. *Id.*
282. *Id.* at 447.

notice that these other licenses were cancelled.[283] Another condition required licensees to market fuels with a maximum content of the additive for their second-best fuel at a maximum seventy octane rating.[284] The license further specified the minimum ethyl content and a seventy-six octane rating for premium brand fuels and fixed the price of this product relative to the average net price for the second-best product.[285] Finally, the agreement governed the use of the Ethyl Gasoline trademark and trade names in advertising to promote the blended fuel product.[286] Conditions that were imposed on jobbers included a requirement to secure licenses from designated refiners and an identification of specified territories in which they could market to retailers.[287]

The Court noted the market power of fuels sold including the patented fluid, noting that it reached between 70–80% of the market, including 85% of all high-octane gasoline.[288] It noted that 11,000 of 12,000 jobbers sold gasoline under license from Ethyl Corporation, which reserved the right of arbitrary revocability.[289] Ethyl Gasoline advanced two primary defenses against the decree reached in the court below nullifying the licenses. First, the various licensing conditions were necessary to ensure suitable return on investment consistent with the powers of patent monopoly.[290] Second, Ethyl Gasoline argued its conditions were permissible to enable it to guarantee consistent high quality in fuel products and thereby protect the growing market for the fuel.[291] The Court affirmed the broad monopoly powers conferred to control the use of a patented commodity possessed by the jobbers, particularly the regulation of prices and the suppression of competitors.[292] The Court agreed with court below that sufficient evidence existed to reveal the exercise of these powers by Ethyl Gasoline. The Court argued that if the market position Ethyl Gasoline then enjoyed was secured without reliance on its patents, little question of its illegality under the Sherman Act would exist.[293] Then the Court reasoned that while the powers conferred to patent owners was great, it did not include the power to "condition his license" so as to limit the use of other processes, devices, or materials not directly covered under the licensor's patent.[294] It also

283. *Id.*
284. *Id.* at 448.
285. *Id.* at 447–48.
286. *Id.* at 448.
287. *Id.*
288. *Id.* at 449.
289. *Id.* at 452.
290. *Id.* at 451.
291. *Id.*
292. *Id.* at 453.
293. *Id.* at 455.
294. *Id.* at 456.

held, relying on *Motion Picture Patents Co. v. Universal Film*, among others, that the license could not condition the conduct of licensees in ways not covered by the patent monopoly.[295] Finally, the Court reasoned that licenses could not impose conditions of resale prices.[296] Through each of these practices, Ethyl Gasoline used the "leverage of its licensing contracts resting on the fulcrum of its patents [to create a] combination capable of use, and actually used, as a means of controlling jobbers' prices and suppressing competition."[297] Finally, the Court held that the legitimate purpose of ensuring that gasoline containing the patented additive met relevant public health guidelines and could be achieved without resort to illegal licensing conditions.[298]

The government was successful in four separate antitrust enforcement actions in 1941. In *United States v. Johns-Mansville Corp.*, seven manufacturers of mineral wool used in insulating materials had pooled their respective patents and under a licensing scheme that sought to control the industry.[299] The government successfully alleged that under the agreement, the defendants restricted both production and distribution of mineral wool, set prices, compelled licensees to sign exclusive agreements, and attempted to drive unlicensed competitors from the market.[300]

In *United States v. Kearney & Trecker Corp.*, three companies owned by assignment five claims on a "Milling Machine Spindle and Tool."[301] Under the terms of a consent decree entered here, the defendants agreed to divest themselves of all rights and interests in the patent and transfer such rights to the public without royalty or other consideration. The decree also obligated the defendants to make readily accessible to duly authorized representatives of the Department of Justice any records in which it may have interest and to require that they issue regular reports necessary for enforcement of the decree.[302]

In *United States v. Synthetic Nitrogen Products Corp.*, Synthetic Nitrogen had been formed to import nitrogen-based fertilizer produced by German fertilizer giant I.G. Farben into the United States.[303] Under the trademark "Cal-Nitro," Synthetic Nitrogen marketed Ammonium Nitrate-Dolomitic Limestone (A.N.-D.L.) fertilizers across the

295. *Id.*
296. *Id.* at 457.
297. *Id.*
298. *Id.* at 460–61.
299. United States v. Johns-Mansville Corp., 67 F. Supp. 291 (N.D. Ill. 1941).
300. *Id.* at 293–94
301. United States v. Kearney & Trecker Corp., 1940–43 Trade Cas. (CCH) ¶ 56,147 (N.D. Ill. 1941).
302. *Id.*
303. United States v. Synthetic Nitrogen Prod. Corp., [1940–1943] Trade Cas. (CCH) ¶ 56,170 (S.D.N.Y. 1941).

country.[304] The alleged illegal practices can only be inferred from the list of activities prohibited under the decree. Synthetic Nitrogen was alleged to have conspired with I.G. Farben in a scheme to set prices and restrict the use of specific patents.[305] Under the terms of a consent decree, Synthetic Nitrogen was prohibited from entering into an agreement with any other producer or distributor of A.N-D.L., Nitrate of Soda, Ammonium Sulphate, or Synthetic Ammonia Solutions for the purposes of fixing prices, fixing terms and conditions of sale, designating sales territories, limiting shipments, exchanging marketing information, setting nitrogen content, or classifying buyers.[306] The decree also stipulated other requirements, including full disclosure to the Attorney General the details of any past or future agreements.[307]

In *United States v. Schering Corp.*, four manufacturers of hormones and hormone products, had entered into a series of agreements governing the production and sale of hormones imported to or exported from the United States.[308] Judging by the prohibitions enumerated in the decree, defendants were alleged to have engaged in a far-reaching scheme to control the domestic market in hormones and hormone products.[309] Again, judging by the list of enjoined activities, it would appear the parties conspired to fix prices, restrain competitors, allocate market territory, and share internal pricing data and audit access to accounts. Other patent-related activities that were enjoined included limiting the number of licenses under a particular patent, designating licensees, receiving royalties from unrelated patents, and requiring defendants to exchange future patents.[310] The decree also enjoined any effort to use licenses to set territory, to maintain condition, or to determine prices charged by licensees.[311] Two classes of agreements, the "Schering Agreements" and the "Roche-Organon Agreements," all formed in 1938, were adjudged unlawful and declared void under antitrust laws.[312] The decree ended the collusive elements of their agreements, including the incorporation of future patentable innovations but left undisturbed the ownership of current or future patents.[313]

In *United States v. Aluminum Co. of America*, a consent decree cancelled the licenses of four companies covering patents for reducing or

304. *Id.*
305. *See id.*
306. *See id.*
307. *Id.*
308. United States v. Schering Corp., [1940–1943] Trade Cas. (CCH) ¶ 56,179 (D.N.J. 1941).
309. *See id.*
310. *Id.*
311. *Id.*
312. *Id.*
313. *Id.*

smelting magnesium ores or chemical compounds by any machine or process for the purpose of producing magnesium and patents for the working and treating of magnesium or alloys of 50% or more magnesium.[314] In addition to canceling their existing licensing agreements, the decree compelled each of the four to offer non-exclusive, non-assignable patents to all applicants without fee for the duration of hostilities against German and Japan.[315] After the end of the war, they would be allowed to charge a reasonable and non-discriminatory royalty, provided that all licenses and accounts remained open to inspection by an independent auditor.[316] Specifically enjoined under the decree, however, were efforts to pool patents with I.G. Farben or its subsidiaries.[317]

While anticompetitive practices were found in several of the patent pooling cases, according to the Supreme Court, they paled in comparison to what the Court found in *United States v. Hartford-Empire Co*.[318] In that case twelve corporations and 101 of their officers were charged with conspiring to monopolize the glass container industry by acquiring all patents related to the manufacture, licensing, and sale of glass-making machinery, and excluding others from engaging in the trade of glass-making machinery or glass products.[319] The Glass Container Association (Delaware) consisted of every glass company in the country except two.[320] Glass Container was a statistical and research company making neither glass nor glass-making equipment.[321] The government claimed these twelve corporations dominated all aspects of the glass ware industry in America via their control of the two principal automated glass manufacturing process (suction and gob fed), the forming process and machines, and the lehr ("closed tunnel") process and machinery to cool glass and prevent cracking.[322] Under its exclusive license to the suction machine, Owens licensed the use of its machine for specific uses by other manufacturers (*e.g.*, fruit jars, milk bottles).[323] The Court observed that as a result of the licensing strategies of Owens, other glass manufacturers were forced to search for alternative methods or to meet Owens' price. After the gob feeding process proved effective for highly variable production lines, Owens began to purchase certain patents related to the

314. United States v. Aluminum Co. of America, [1940–1943] Trade Cas. (CCH) ¶ 56,200 (S.D.N.Y. 1942).

315. *Id.*

316. *Id.*

317. *Id.*

318. United States v. Hartford-Empire Co., 46 F. Supp. 541 (N.D. Ohio 1942), *aff'd as to violation, vacated on other grounds*, 323 U.S. 386 (1945) & 324 U.S. 570 (1945).

319. *Id.* at 545.

320. *Id.* at 547.

321. *Id.*

322. *Id.*

323. *Id.* at 548.

gob fed process.[324]

Between 1916 and 1924 two companies engaged in a series of infringement suits regarding the gob feeding process, occasionally drawing in other parties.[325] Settlement conferences between 1921 and 1924 ultimately produced a written agreement in which one company gave an exclusive license for the use of its patents for feeders and forming machines to another and in return received the right to use the second company's glass manufacturing patents.[326] With the carrot of money and the stick of litigation threats, the two succeeded in acquiring patents held by a variety of feeder manufacturers over the next few years.[327] Until 1932 the two companies were locked in intense litigation struggles with two other companies. One infringement suit was resolved favorably for each party in different circuits.[328] In July of 1932 these three parties concluded a number of agreements to cross-license their various patents subject to particular conditions.[329] In the face of the new agreements, holdouts to licensing patents caved in until only a handful of marginal players remained.[330]

The forming machine industry came to be dominated by two players by the mid-1920s.[331] During the remainder of the 1930s one company initiated a successful campaign to complete its control of various sectors of the glass making industries, securing first effective control of the closed tunnel business through agreements and the closed tunnel patent from another company.[332] Through these various mechanisms and acquisitions, Hartford and Owens came to completely dominate glass-making machinery of every variety from feeders to forming machines to closed tunnels.[333] In the eyes of the Court, the facts supported a clear intent to conspire to monopolize, or attempt to monopolize, these industries by acquiring control of patents for glass making machinery, the production of these machines, and the manufacture, distribution, and sale of glass products.[334]

Upon review of the facts described above, the Court determined that the entire series of agreements acquiring 317 patents, including a number of competing substitutes, violated the antitrust laws.[335] The Court

324. *Id.*
325. *Id.* at 549.
326. *Id.*
327. *Id.*
328. *Id.* at 550.
329. *Id.*
330. *Id.*
331. *See id.*
332. *See id.* at 550–51.
333. *See id.* at 551–52.
334. *Id.* at 552–53.
335. *Id.* at 618.

concluded by arguing that there "should be no doubt that an aggregation of patents collected into the hands of one or two large concerns [are the fruits of an] unholy alliance designed by the parties thereto to attain selfish objectives at the ultimate expense of the public."[336] The Court upheld the district court's order requiring the appointment of a receiver for the lead company free from any claim to a stay, that royalties received pending final resolution be set aside for return to licensees, and that all its patents be made available royalty free to any interested party, and cancelled all current agreements, leases, and licenses required.[337] Although Justice Hugo Black wrote the "history of this country has perhaps never witnessed a more completely successful economic tyranny over any field of industry than that accomplished by these appellants," the remedy was truly a nuclear bomb in terms of antitrust enforcement.[338]

Although less harsh than *Hartford-Empire*, the government's aggressive antitrust enforcement continued in *United States v. Sperry Corp.*, in which it obtained a consent decree that voided agreements between American corporations and six citizens and corporations from Japan, Germany, French and Italy or to transfer to certain German corporations patent rights, techniques, manufacturing rights, or other information without court approval.[339] The defendants signed agreements with foreign corporations between 1931 and 1937 pertaining to gyroscopes, that is, instruments that display the tilt angle or climb angle of aircraft, act as directional indicators for steering, or for "gyro-pilots" or autopilots.[340] Existing patents and royalties derived from them by Sperry were unaffected provided it claimed only non-exclusive rights to patents within the United States.[341] We were at war; enough said.

Even instances not directly related to the war effort did not fare well, as in *United States v. Certain-teed Products Corp.*[342] Certain-teed Products and the United States Gypsum Company were both makers of perforated gypsum lath (the material that spans the open spaces between structural framing that provides a surface for the plasterer to apply mortar is called lath).[343] During June and July of 1936, U.S. Gypsum signed essentially identical licenses with Certain-Teed Products and American Gypsum relating to a patent for gypsum lath of particular dimensions and with perforations of a particular spacing and relationship.[344] U.S.

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336. *Id.* at 619.
337. *Id.* at 620–22.
338. *Hartford-Empire Co.*, 323 U.S. at 436–37.
339. United States v. Sperry Corp., [1940–1943] Trade Cas. (CCH) ¶ 56,233 (S.D.N.Y. 1942).
340. *Id.*
341. *See id.*
342. United States v. Certain-teed Prod. Corp., 37 F. Supp. 406, 406 (D.D.C. 1941).
343. *Id.* at 407.
344. *Id.* at 407–08.

Gypsum licensed to them the right to make and sell gypsum lath provided they not contest the patent's validity for the life of the agreement, and empower U.S. Gypsum to set prices under the licenses.[345] In addition, the government alleged that the patent was in fact void, representing no patentable improvement, but rather an instrument for fixing gypsum prices for the benefit of Certain-teed Products and American Gypsum.[346] The court held that certain elements of the indictment were insufficiently clear and directed the government to further specify its view of the prior arts leading it to conclude the patent offered no improvements.[347]

In *United States v. Wayne Pump Co.*, the Supreme Court returned to the issue of patent pools.[348] Four companies, their officers, and a trade association were indicted for conspiring to set prices for gasoline pumps.[349] A second indictment, omitting persons, alleged a broader conspiracy to control the production and trade of gasoline pumps that also computed the price of gasoline delivered.[350] Between 1932 and 1937, Wayne Pump acquired ownership or control of patents relating to computer pumps and the computing mechanisms.[351] Before 1932 the record indicated that several parties authored numerous applications for patents relating to computing mechanisms and pumps.[352] The Jauch Patent, issued to employees of Wayne Company and assigned to Wayne Pump, enabled Wayne Pump to enter into licensing agreements for computer gasoline pumps.[353] By 1938 the defendants manufactured computer pumps representing 56% of the value of the entire market in computer gasoline pumps.[354] Through licenses held by Wayne Pump, Gilbert & Barker, and Tokheim and eight others, however, licensees agreed to buy all the computing mechanisms from defendant Veeder Root, making it the producer of 100% of such mechanisms manufactured in the United States.[355] The pool members accounted for 99 of the value of all gasoline pumps (both with and without computer mechanisms) sold in the United States.[356]

The Court ruled that the price-fixing components of the licensing agreements were permitted because they fixed the price only under the

345. *Id.* at 408.
346. *Id.*
347. *Id.* at 409–10.
348. United States v. Wayne Pump Co., 44 F. Supp. 949 (N.D. Ill.), *appeal dismissed*, *Wayne Pump Co*., 317 U.S. 200 (1942).
349. *Wayne Pump Co.*, 44 F. Supp. at 950.
350. *Id.*
351. *Id.* at 951.
352. *Id.*
353. *Id.* at 952.
354. *Id.*
355. *Id.*
356. *Id.*

Jauch patent, a right extended to patent holders, but not the prices for pumps more generally.[357] The remainder of the opinion dismisses the government's charges mainly for want of evidence, noting that the government failed to present evidence of a conspiracy or intent as required by previous holdings and found nothing illegal in Wayne Pump's license conditions, including the requirement that licensees acknowledge the validity of the Jauch patent.[358] While his opinion recognizes that the regulation of future prices of jobbers in licensing arrangements are illegal as a matter of settled law, Judge Sullivan asserted that the government should have produced at least one such instance, and that its failure to do so robbed the charge of any force.[359] Finally, Judge Sullivan held that the government failed to prove the competing patents were pooled and provided no mechanism by which to identify competing as opposed to complementary patents.[360]

In *United States v. Aerofin Corp.*, the issue was the legality of a licensing agreement between Aeorofin Corporation and three other companies for the manufacture of air-conditioning equipment, specifically encased coils.[361] Under the terms of the consent decree, in addition to terminating all licensing agreements, Aerofin agreed to provide in royalty-free licenses or sublicenses the right to make, sell, or use the patented device.[362] Aerofin was enjoined from entering new agreements with any other manufacturer to fix prices, whether for the retail or wholesale market, publishing any method or formula for setting prices, regulating territory, allocating customers, or participating in licenses that fix the prices of coils, their parts, or substitutes.[363] The decree also prohibited the granting of licenses to licensees who agree to use only designated products or adhere to particular sublicensing price structures.[364]

Perhaps because of the war, the large German industrial company, I.G. Farben, continued to be a source of concern to antitrust regulators, even when it was not the major player. In *United States v. Standard Oil Co.*,[365] the government charged that the Standard Oil Company reached more than a dozen specific agreements between 1929 and 1939 with numerous

357. *Id.* at 959.
358. *Id.* at 958–59.
359. *Id.* at 958.
360. *Id.* at 959.
361. United States v. Aerofin Corp., [1940–1943] Trade Cas. (CCH) ¶ 56,264 (S.D.N.Y. 1943).
362. *Id.*
363. *Id.*
364. *Id.*
365. United States v. Standard Oil, [1940–1943] Trade Cas. (CCH) ¶ 56,198 (D.N.J. 1942) & ¶ 56,269 (D.N.J. 1943).

subsidiaries and other corporations, including I.G. Farben.[366] This consent decree terminates certain agreements, practices, and associations; limits others; and imposes certain war-time conditions.[367] The decree declared illegal every agreement and understanding between Standard Oil and its subsidiaries and I.G. Farben and its subsidiaries.[368] It further enjoined certain practices, including any future corporate relations, transfer of ownership or interest in any patents to I.G. Farben, Standard Catalytic (S.I.G), or Jasco used for certain manufacturing techniques, processes, products, or treatments.[369] Standard Oil was required to issue licenses relying on S.I.G. patents of Jasco without restrictions, except for receipt of reasonable royalty fees upon conclusion of the war, and they were to make available all required know-how.[370] Standard Oil was also directed to submit to the government all licenses it intended to submit under the terms of the decree and to make available to the public (*i.e.*, the government) any and all knowledge required for their effective use.[371] Reports detailing production costs and royalty rates were to be submitted to the office of the Attorney General.[372] Additional activities precluded by the decree include dividing sales territory, restricting competition, curtailing imports or exports, or effecting transfer or patent rights in any form to I.G. Farben.[373] Finally, the government reserved the right to take action against any reserved patent pool.[374]

The second decree compelled Standard Oil to offer licenses for its catalytic refining patents and permits the receipt of reasonable royalty fees.[375] Catalytic refining refers to processes that produce motor or other fuels, naphthas, or other petroleum products, in which a solid catalyst is used in the reaction zone to regulate the reaction, and materials are heated to greater than 500 degrees Fahrenheit for conversion of some compounds to smaller hydrocarbon molecules.[376] Standard Oil was directed to issue licenses for all patents at issue and the knowledge to use them.[377] Standard Oil was permitted to require cross-licensing under certain conditions to an acceptable licensing agent and to charge reasonable royalty rates.[378]

366. *Id.*
367. *Id.*
368. *Id.*
369. *Id.*
370. *Id.*
371. *Id.*
372. *Id.*
373. *Id.*
374. *Id.*
375. *Id.*
376. *Id.*
377. *Id.*
378. *Id.*

In *United States v. Vehicular Parking, Ltd.*, a district court in Delaware held that where the corporations that are party to a patent pool dominate 95-98% of an industry are illegal if they combine previously competing manufacturers in such a way that the market price of devices produced under the various patents exceeds the prevailing price prior to pool formation and where the members coordinate actions to preclude the emergence of competitors.[379] A patent search in 1936 and individual defendant revealed that a single patent owned by Parkrite Corporation was the only patent on file capable of broad extension across the honor system parking meter industry.[380] Joynt believed, however, that this patent was vulnerable to certain prior inventions should it come to litigation. To create a strong patent monopoly, Joynt proposed to pool this patent with other patents and applications held by Dual Parking Meter Co., expressing in a letter to two individual defendants his confidence that such a pool was a "first rate step toward establishing a dominant position in the parking meter field."[381] These individuals formed Karpark Co. and joined with Parkrite in 1937 in assigning their patents and those that they might later acquire to Vehicular Parking Limited (DE), with Karpark paying Parkrite $100,000 and the newly-formed Vehicular Parking licensing back to Karpark and Parkrite the right to manufacture and sell meters.[382] During 1937 Parkrite was dissolved and its assets absorbed by Karpark.[383] Also in 1937 Dual, then the industry sales leader, refused to assign its patents to Vehicular and join the pool.[384] In 1940, following unsuccessful efforts at price coordination with lower priced Rhodes meters, Vehicular notified several cities of its intent to pursue patent infringement claims.[385] Rhodes eventually succumbed, but on the condition that Dual and Duncan join the pool.[386] The participants achieved this arrangement in 1940 after a year of adversarial litigation when Dual assigned for $55,000 all seven of its patents to Vehicular, triggering an earlier agreement with Duncan and with Rhodes.[387] The agreement between Vehicular, Rhodes, Dual, Duncan, and Karpark, as well as Mico and Standard, smaller players with automatic opt-in agreements when the pool was of sufficient size, governed prices, terms, and conditions for the sale of meters, parts, services, and accessories.[388] The agreement specified a price floor, a maximum allowable discount

379. United States v. Vehicular Parking, 54 F. Supp. 828 (D. Del 1944).
380. *Id.* at 831.
381. *Id.*
382. *Id.*
383. *Id.*
384. *Id.* at 832.
385. *Id.*
386. *Id.*
387. *Id.*
388. *Id.* at 833.

rate, commission maximums for salesmen, maintenance and service agreements, prices for used meters, credit sales, trade in allowances, fines for violations, centralized defense under Vehicular, payments of 4% of sales to Vehicular, and termination of the agreement with the expiration of the youngest patent in the pool.[389]

On these facts, the court found evidence of illegal intent to restrain interstate commerce.[390] In particular, the court found the price floors objectionable. The rights granted to patent owners were merely designed to exclude trespass and implied no right to violate antitrust laws.[391] The rights of patent holders are significant, but nevertheless limited and conditioned by public purpose and limited directly to the patents in question. Greater power would subvert public policy and become a "ready instrument for economic control."[392] The power to refuse a license does not imply the right to promote a monopoly through the attachment of conditions. The court concluded that even were all the patents held by Vehicular Parking individually valid, they could not be used in such a manner as to fix prices for non-patented products or services.[393]

In a private antitrust action, *Sbicca-Del Mac, Inc. v. Milius Shoe Co.*, Sbicca-Del Mac, a shoe manufacturer and the holder of a number of patents relating to shoe manufacturing and machines for making shoes, charged Milius Shoe with infringement.[394] Milius countered that the patents at issue were invalid.[395] The district court found that the patents held by Sbicca-Del Mac were found invalid as failing to sufficiently innovate beyond the prior art.[396] On appeal, Sbicca-Del Mac reiterated its charge that Milius was infringing its patents and prayed for damages.[397] Sbicca-Del Mac also sought unpaid royalties under a May 1, 1933, licensing agreement and another signed September 1, 1937.[398] In response, Milius again asserted the invalidity of the patents, denied infringement, and charged Sbicca-Del Mac with "unclean hands," alleging an illegal conspiracy to restrain trade by way of a patent pool.[399] The appellate court acknowledged that all of the methods and products covered by Sbicca-Maccarone patents were merely combinations of various elements of earlier patents but held that their combination was unique and represented a notable improvement over prior art and,

389. *Id.* at 834 n.12.
390. *Id.* at 834.
391. *Id.* at 836.
392. *Id.*
393. *Id.* at 837.
394. Sbicca-Del Mac, Inc. v. Milius Shoe Co., 145 F.2d 389 (8th Cir. 1944).
395. *Id.* at 391.
396. *Id.*
397. *Id.*
398. *Id.* at 398.
399. *Id.* at 399.

therefore, was worthy of patent protection.[400] Milius produced shoes, in the view of the appellate court, in a manner essentially identical to that covered under the Sbicca patent.

In its final defense against infringement, Milius Shoe alleged that Sbicca-Del Mac had formed an illegal patent pool for skeleton insole shoes by acquiring or controlling patents held by Kelly and an application controlled by Compo Machinery, in addition to the patents Sbicca-Del Mac held itself.[401] On May 1, 1933, Milius and Sbicca-Method Shoes entered into an agreement in which the later licensed the former to manufacture shoes under Sbicca's patent.[402] The license arrangement applied to current, pending, and future applications through December 29, 1948.[403] The agreement required royalty payments of two and one-half cents per shoe to Sbicca-Methods.[404]

Compo Shoe produced and licensed a leather-splitting machine during the first half of the 1930s.[405] To settle ongoing litigation, in August of 1937, Sbicca-Methods and Compo agreed to assign their respective patents exclusively to Sbicca-Del Mac, which was then empowered to license the patents to other shoe and shoe-making machine producers.[406] Seventeen patents in all were pooled under Sbicca-Del Mac.[407] The agreement forming the patent holding company included provisions to release the parties from any and all liability arising from infringement claims prior to 1937, directing Sbicca-Del Mac to license to all manufacturers any or all of its patents at a royalty of one cent per shoe, and refraining Compo from selling machinery except to licensees under contract with Sbicca-Del Mac.[408] The appellate court held that the agreements Sbicca-Del Mac consummated with Milius and others did not violate the Sherman Act because they were open to all manufacturers on the same terms.[409] The court further held that while a monopoly conferred under patents could not be used to establish a monopoly in other areas, no such pattern was proven here by Milius.[410] They also noted that while Sbicca-Del Mac held a large number of patents relating to the manufacture of shoes, Milius failed to demonstrate that the licensor controlled substantially all the patents relating to insole shoes.[411]

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400. *Id.* at 396.
401. *Id.* at 398.
402. *Id.*
403. *Id.*
404. *Id.*
405. *Id.*
406. *Id.*
407. *Id.*
408. *Id.*
409. *Id.* at 400–01.
410. *Id.* at 399.
411. *Id.*

Moreover, the court reasoned that the agreement's language did not imagine refusal to grant licenses to particular patents unless licensees sought a blanket license to all patents in the pool.[412]

In another air-conditioning patent pool case, *United States v. Auditorium Conditioning Corp.*, the district court entered a consent decree in which six corporate defendants and several individuals agreed to the cancellation of all patents held in their pool and an injunction against a variety of anti-competitive practices.[413] In their pooling agreement, the defendant corporations assigned to Auditorium Conditioning their various patents for coils, fans, blowers, humidifiers, dehumidifiers, washers, filters, condensers, chemicals, and other devices and equipment used in air conditioners.[414] In addition to dissolving Auditorium Conditioning and reverting its patents to the public, the defendant corporations and their officers were enjoined from initiating, or threatening to initiate, patent infringement suits, fixed royalty rates, or imposed restrictive licensing conditions.[415]

D. *After the War, No Peace for Patent Pools: 1946–1970*

The government's aggressive stance against patent pools continued in *United States v. Western Precipitation Corp*.[416] Western Precipitation and two other firms were alleged, during the early 1930s, to have entered into agreements comprised of these American corporations, one British and several German corporations to allocate territories, regulate imports and exports, set prices, and illegally punish competitors.[417] The patents pooled by agreement covered the art of separating suspended particles from gases through any method in which at least one step involved the use of an electrical field applied to gases between two electrodes.[418] This consent decree cancelled all existing agreements, enjoined price-fixing, prevented the importation new devices and processes, and prohibited the licensing or assignment of any of the patents under review.[419] The decree also precluded any effort by the defendants to assert any rights under issued patents in the United States and compelled public distribution of technical information broadly to libraries and universities.[420]

412. *Id.* at 403.

413. United States v. Auditorium Conditioning Corp., [1944–1945] Trade Cas. (CCH) ¶ 57,428 (S.D.N.Y 1945).

414. *Id.*

415. *Id.*

416. United States v. Western Precipitation Corp., [1946–47] Trade Cas. (CCH) ¶ 57,458 (S.D. Cal. 1946).

417. *Id.*

418. *Id.*

419. *Id.*

420. *Id.*

Another successful government effort broke apart the pool in *United States v. Rail Joint Company*, where the consent decree enjoined the defendants from any efforts to enforce any provision of an agreement to pool patents relating to the reforming of worn rail joint bars used to bind together the ends of lengths of rail.[421] Defendants, Poor & Company, The Rail Joint Co., Woodlings-Verona Tool Co., McKenna Process Co., and several other individuals formed a plan in 1928 to pool their various patents, establish a licensing system, including conditions for price-fixing and regional monopolies, and to initiate intimidating infringement suits against competitors.[422]

Woodlings held a patent for a "crowned bar" used at joints, while McKenna Process had presented several applications to the patent office for reforming bars.[423] The Rail Joint Company also held a patent for a "crowned bar" as well as a patent for a "head free" bar.[424] In 1925, Rail Joint was alleged to have proposed a pooling arrangement to Woodlings and McKenna Process in which a new corporation would receive their various patents by assignment and would work to secure additional patents covering all processes for reforming rail joint bars and for the bars themselves.[425] The agreement conferred regional monopolies for reforming with Rail Joint handling sales.[426] By 1929 the defendants had entered into many sublicensing agreements with regional reformers. The pool members believed the patents they held on two designs were insufficient to establish control of the reforming industry. Thus, efforts were initiated in 1929 to secure the Wegner patent, and in 1930, to obtain from defendant Langford applications relating to the use of a "graduated pressure" process for reforming "straight bars."[427] While the Langford applications were initially rejected by the patent office, on June 2, 1931, the office issued three patents: one covering the "graduated pressure" process, a second covering a method for reforming bars, and a third relating to dies used in reforming bars.[428]

In September 1931, as required by the earlier pooling agreement, a new arrangement was formed in which Woodlings agreed to accept Rail Joint as the licensor of a larger patent pool.[429] Rail Joint and McKenna reached agreements in which McKenna was given licenses to the Langford patents and applications and the power to sublicense, subject to

421. United States v. Rail Joint Co., [1946–1947] Trade Cas. (CCH) ¶ 57,469 (N.D. Ill. 1946).

422. *Id.*

423. *Id.*

424. *Id.*

425. *Id.*

426. *Id.*

427. *Id.*

428. *Id.*

429. *Id.*

conditions modeled on the lines of the earlier agreement.[430] Between 1931 and 1936, the three pool members initiated infringement suits against a large number of unlicensed operators in several states, generally ending in negotiated licensing agreements.[431] By 1936 every reforming plant save one was licensed under arrangements with members of the patent pool.[432]

The court concluded the pool violated both Sections 1 & 2 of the Sherman Act, declared each licensing agreement void, and enjoined the defendants from forming new licensing agreements or enforcing any provisions of earlier agreements.[433] Here, the key elements of the illegal conspiracy were price and royalty fixing, territorial monopolies, and harassment suits alleging patent infringement.

Even the necessity of unfettered access to a technology for the war effort could not protect a patent pool once hostilities ended, as was demonstrated in *United States v. American Air Filter Co., Inc.*[434] After a trial delay at the request of the War Department and Navy, a consent decree was entered in 1946 enjoining American Air Filter Co., Metal Textile Corp., and several individual defendants from further illegal efforts to restrain trade in ventilating air filters by acquiring patents, buying competitors, and by fixing prices.[435] The decree covered eighty-one patents held by the two defendants relating to filters using viscous coated surfaces to clean air in ventilating, air conditioning, or heating systems, copper or other knitted mesh material used for screening at air intakes for chemical processing, distilling, fractioning, extracting, or absorbing, and also the apparatuses using these filters.[436]

The decree enjoined the defendants from initiating infringement suits, collecting damages obtained in prior successful suits, requiring exclusive purchasing agreements, compelling purchases of un-patented products under threat of infringement suits, or receiving any royalties whatsoever on three specific patents.[437] The decree compelled the defendants to dedicate to the public fifty-one separate patents and to license thirty others on reasonable terms and free of the restrictive conditions prohibited under the decree.[438]

The government continued its string of victories in *United States v.*

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430. *Id.*

431. *Id.*

432. *Id.*

433. *Id.*

434. United States v. Am. Air Filter Co., Inc., [1946–1947] Trade Cas. (CCH) ¶ 57,492 (W.D. Ky. 1946).

435. *Id.*

436. *Id.* The eighty-one patents covered comes from combining the number of Patents in Schedule B and C.

437. *Id.*

438. *Id.*

American Locomotive Co.[439] American Locomotive Co. (NY), American Steel Foundries (NJ), Baldwin Locomotive Works (PA), Crucible Steel Company of America (NJ), Pittsburgh Spring & Steel Co. (PA), Union Spring & Manufacturing (PA), Universal Railway Devices Co. (DE), and the unincorporated trade association Railway & Industrial Spring Association entered into a consent decree in October 1947 enjoining them from further efforts to illegally restrain trade in railway springs and spring plates.[440] Universal Railway Devices held two patents for spring plates ("universal plates") used in combination with "coil-elliptic" devices in railways.[441]

Under the consent decree, the agreements signed on September 28, 1932 and March 5, 1934 were cancelled, and the defendants were enjoined from any future association with the intent, or effect, of reviving any of the provisions deemed to violate the Sherman Act.[442] The specific prohibited activities described in Article V of the decree included any attempt to fix prices or other terms of sale for railway springs, to allocate or distribute production or sales quotas, to refuse to enter bids or entering bids under collusion, to exchange production or sales figures, to refrain from production or distribution of any spring products on account of a coordinated plan, or to impose licensing conditions "limiting, restricting, or regulating" the sale or manufacture of springs.[443] Railway & Industrial Spring Association was enjoined from disclosing data more specific than general trade data, engaging in any activity other than basic research and developing or limiting the distribution of the results of such research to non-members, subject to reasonable cost recovery, and from refusing membership to new applicants.[444] Collective bidding was prohibited under the decree as were tying agreements requiring, as a condition of sale or lease, the purchase of other devices, representing that unpatented mechanisms were covered under patents, or efforts to deny other companies to opportunity to manufacture coil-elliptic devices.[445] The decree required open licensing by Universal Railway Devices Co., subject to reasonable royalties, conditions, inspections, the right to cancel for licensees, and the defendants' acceptance of the court to arbitrate reasonable royalties should agreement not reached within sixty days of a licensing request.[446] Finally, the decree precluded Universal Railway

439. United States v. Am. Locomotive Co., [1946–1947] Trade Cas. (CCH) ¶ 57,621 (N.D. Ind. 1947).

440. *Id.*

441. *Id.*

442. *Id.*

443. *Id.*

444. *Id.*

445. *Id.*

446. *Id.*

Devices from initiating infringement suits under either patent.[447]

In *United States v. National Lead Co.*, National Lead, Dupont, several of their subsidiaries, and major producers and sellers of titanium pigments and compounds were found to have illegally conspired to monopolize their industry by means of an international cartel in operation from 1920 through the early 1940s.[448] Early agreements involved National Lead and a Norwegian company, with the former granted exclusive rights in North America and the latter everywhere else.[449] Agreements also included provisions for granting exclusive licenses and the exchange of technical information and patent applications.[450] DuPont joined the cartel in 1933, at least for those provisions relating to a global division of territory.[451] The district court found the cartel illegal and issued an opinion canceling all remaining agreements and enjoining future efforts to resurrect their provisions.[452] While recognizing that DuPont was a member of the cartel on special terms, Judge Rifkind determined that it too was guilty of violating the Sherman Act.[453] Judge Rifkind found that the agreement included such illegal provisions as dividing territory on a global basis, in conjunction with foreign operators, and regulating U.S. imports and exports.[454] Among the remedies proposed was a requirement the defendants grant to all applicants a non-exclusive license to their patents but with certain conditions permitted, including reciprocal grants at reasonable royalties.[455]

On appeal, the Supreme Court affirmed in part an appeal by the government, but agreed with the defendants as to the soundness of certain remedies incorporated into the consent decree.[456] Specifically, the Court found the government's appeal and request for remedies imposing royalty-free licensing, permanently enjoining efforts to enforce patents, and the compulsory divestiture of certain productive assets were excessive and unnecessary to enforce the Sherman Act.[457] Although the Court was careful to note that such remedies were permissible, but not required in light of *Hartford-Empire*.[458] Important in Judge Rifkind's analysis was that while the agreement between DuPont and National Lead was collusive, the two did compete in the market on a variety of closely-

447. *Id.*
448. United States v. Nat'l Lead Co., 332 U.S. 319, 325–26 (1947).
449. *Id.* at 340–41.
450. *Id.* at 341–42.
451. *Id.* at 345–47.
452. *Id.* at 325–27.
453. *Id.* at 326–27.
454. Id. at 363.
455. *Id.* at 329 n.4.
456. *Id.* at 334–38.
457. *Id.* at 337–38.
458. *Id.*

related products not covered by the agreement.[459] However, certain provisions were removed prior to trial, including those relating to exchange of technical information.[460] The Court observed that in addition to some degree of competition between the two major players, both were being challenged by smaller producers that were gaining market share.[461]

Justice Douglas, joined by Justice Murphy and Justice Rutledge, concurred with the majority in part and dissented in part.[462] He reasoned that the defendant's abuse of their patents was sufficiently flagrant to justify the denial of future royalties.[463] Moreover, Justice Douglas argued that Rifkind devised his remedies not on the sound exercise of the discretion but in response to the poorly reasoned *Hartford-Empire* case.[464] Because of the defendant's illegal practices, Justice Douglas argued that only those remedies sought by the government would create the possibility of restoring competition in the industry.[465]

The hostility of the Supreme Court towards patent pools was more evident in an opinion issued the following year. In *United States v. Line Material Co.*, the government alleged that Line Material Co. and Southern Equipment Corp. conspired to fix prices of dropout fuse cutouts for the entire industry through the formation and operation of a patent pool.[466] Southern Equipment owned the Lemmon patent, while Line Material held the Schultz and Steinmayer patents.[467] Southern Equipment's patent related to a certain dropout fuse cutout with a double hinge along the bottom and a solenoid latching mechanism.[468] Line Material's patent was also for a double-jointed hinge on a dropout fuse cutout, but used a less expensive, thermally triggered fuse link.[469] Line Material's patented device and process was both simpler and cheaper, but was complementary to the Schultz patent. The Kyle patent included four claims covering any fuse cutout design combined with a wet process porcelain box.[470] Fuses produced under these patents represented nearly 41% of the aggregate sales of all cutouts produced by the defendants.[471]

In the early 1930s, Southern Equipment offered licenses under another

459. *Id.* at 346–47.
460. *Id.*
461. *Id.* at 347–48.
462. *Id.* at 364.
463. *Id.*
464. *Id.* at 364–65.
465. *Id.* at 367–68.
466. United States v. Line Material Co., 64 F. Supp. 970 (E.D. Wis. 1946), *rev'd*, *Line Material Co.*, *333* U.S. 287, 288–89 (1948).
467. *Line Material Co.*, 333 U.S. at 290–91.
468. *Id.* at 290.
469. *Id.* at 291 n.5.
470. *Id.* at 291.
471. *Id.* at 290.

broad patent that it owned on the condition licensees sell at or above the price charged by Southern Equipment.[472] Line also used a similar condition in its licensing agreements.[473] In 1934, the U.S. Patent Office declared the Lemmon and Schultz applications were in interference.[474] In 1937, Lemmon was awarded the dominant claim while Line was awarded a subservient patent for its double-jointed dropout fuse with a tube design.[475] However, Line could not manufacture fuses under its design without infringing on the Southern Equipment's patents. Yet, Line's patent represented significant improvements over Southern Equipment's Lemmon patents in terms of costs and ease of production.[476] In turn, Southern could not exploit this cheaper, superior, device without infringing on Line's patented improvements.[477] Line and Southern Equipment agreed on May 23, 1938 to a cross-licensing, royalty-free arrangement that also permitted Southern Equipment to sub-license under the Line patents.[478] Sale prices by licensees of both patents were fixed as a condition of the license, at or above that of Line and Southern Equipment.[479] A second agreement signed on January 12, 1940 gave Line a license under the Southern Equipment patents, but only on cutouts relying on the heat-induced rupture of elements contained within a tube.[480] Southern Equipment received a license under the Line patents, but subject to the condition they not undercut Line's prices.[481]

The district court had considered three claims of restraint of trade by the government.[482] First, the Line and Southern Equipment patent pool was a scheme to fix prices.[483] Second, the pool represented an effort to control competitors by threats of infringement suits.[484] Third, the pool represented a plan to police illegal price-fixing schemes.[485] In observing that the patents in question were complementary, the court held that cross-licensing was required for the public to receive the full benefits of the superior, but subservient, Line patents.[486] The court believed the ruling in *United States v. General Electric*, conferred broad powers to

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472. *Id.* at 291.
473. *Id.*
474. *Id.*
475. *Id.*
476. *Id.* at 291–92.
477. *Id.* at 294–95.
478. *Id.* at 291–92.
479. *Id.* at 292.
480. *Id.* at 293–94.
481. *Id.* at 294.
482. United States v. Line Material Co., 64 F. Supp. 970, 975 (E.D. Wis. 1946).
483. *Id.*
484. *Id.*
485. *Id.*
486. *Id.* at 975–76.

patentees to impose price conditions on licensees as a necessary power to obtain the financial rewards of innovation.[487] As a result, the court found that the agreement pooling patents for dropout fuse cutouts was legally permissible.[488]

On appeal, the primary issue taken up by the Supreme Court was the lower court's reading of *General Electric*.[489] In that case, a unanimous Court held that patentees were entitled, by virtue of the limited monopoly powers conferred under patent law, to control "selling by limiting the method of sale and the price" of licensees by contract.[490] The Court held that the district court had read *General Electric* too broadly as conferring an essentially unrestricted right to enhance profits.[491] The Court asserted that the *General Electric* opinion merely conferred a power under agreements to produce and sell, not "approval of all a patentee's contracts which tend to increase earnings." [492] However, in this case, there was no majority for either overturning *General Electric* and its conferral of a broad right or accepting the lower court's conclusion as a whole.[493] Instead, the Court held that where no evidence exists of a conspiracy to restrain trade or monopolize an industry, a patentee is entitled to impose price guidelines on licensees.[494]

Yet, the defendant Line Material, by virtue of its cross-licensing arrangement with Southern Equipment, exercised not only the right to set prices for goods produced under licenses for its patents, but also, to set prices when it sub-licensed Southern Equipment's dominant Lemmon patent.[495] Justice Reed argued that, "[w]here two or more patentees . . . combine and fix prices on all devices produced under any of the patents, competition is impeded to a greater degree than where a single patentee fixes prices for his licensees."[496] The defendant corporations argued that the monopoly right of a patent holder, recognized in *General Electric* and a string of other cases, included the right to set prices under licenses and assign patents to others.[497] They argued these rights must include the right to assign or cross-license patents, and since it did, it must also include the right to fix prices blessed in *General Electric*.[498] Justice Reed countered that such an interpretation would ignore the anti-competitive

487. *Id.* at 976.
488. *Id.* at 977.
489. *Id.*
490. *Id.* at 299 (citing United States v. Gen. Elec. Co., 272 U.S. 476, 490 (1926)).
491. *Id.* at 300.
492. *Id.*
493. *Id.* at 287.
494. *Id.* at 347–48.
495. *Id.* at 291–92.
496. *Id.* at 311.
497. *Id.* at 312.
498. *Id.*

consequences of an accumulation of multiple agreements.[499] Aggregating in one entity the rights legally enjoyed by individual patent holders represented a change in the scope of the monopoly power. Furthermore, Justice Reed asserted that *General Electric* should not be read as subverting the clear condemnation of price-fixing issued in *Standard Sanitary Manufacturing*.[500]

Justice Reed authored the opinion but was unable to find a single justice to join him.[501] Justice Douglas, joined by Justices Black, Murphy, and Rutledge, authored a concurring opinion just one vote short of explicitly overturning *General Electric* as unconstitutional.[502] Justice Douglas's concurring opinion argued that the constitutionally granted power to "promote the Progress of Science and useful Arts," confers an exclusive right of control to inventors and only secondarily a right to reward.[503] The opinion reads that the former is necessary to secure for the public the benefits of promoting scientific progress while the private right of the latter was an important but subsidiary concern.[504] Justice Douglas argued that the Court had traditionally been faithful to a reading of the Constitution that refused to "let the self-interest of patentees come into the ascendancy" and thus the Court, as its author, should overturn *General Electric* as contrary to this general approach.[505] Justice Burton authored a dissent, joined by Chief Justice Vinson and Justice Frankfurter, arguing that the distinction promoted by Justice Reed poorly read relevant precedents.[506] The dissent asserted that sublicensing of the type before the Court posed no greater threat to trade than implied by the monopoly powers permitted an individual patent owner.[507] The dissent asserted that to embrace the logic of the Reed opinion would ignore the controlling cases resting squarely on *Bement* and *General Electric*.[508] The dissent included not a single reference to *Standard Sanitary*, which seems unusual given that its central argument was the supposed existence of an unbroken string of opinions strongly favoring unfettered monopoly rights for patent holders. In essence, the concurring opinion and the dissent agreed as to the holding in *General Electric*, but drew different conclusions as to whether this opinion was consistent with the Constitution and public interest.

The *Line Material* decision is perhaps the Supreme Court's most

499. *Id.* at 312–13.
500. *Id.* at 313–15.
501. *See id.* at 287.
502. *Id.* at 315.
503. *Id.* at 316 (citing U.S. Const. art. I, § 8, cl. 8.).
504. *Id.* at 316–17.
505. *Id.*
506. *Id.* at 321.
507. *Id.* at 326–27.
508. *Id.* at 328.

criticized patent pool opinion. The Court's holding that a patent pool established to resolve a blocking relationship between a dominant patent and a far more efficient improvement patent is *per se* unlawful is almost never defended,[509] even by the government.[510]

In *United States v. Automatic Sprinkler Co.*, ten manufacturers and distributors of automated fire extinguishing devices had entered into an agreement during 1927 and 1928 to restrain trade by way of a restrictive patent licensing arrangement.[511] The patents in this case related to both devices and systems using "rate of rise" equipment in which sprinklers are automatically triggered by an increase in temperature above a certain rate in a proscribed area.[512] These agreements were conferred to Automatic Sprinkler Company of America patents under an exclusive licensing arrangement.[513] The complaint alleged that the agreement directed defendants to receive all their licenses from Automatic Sprinkler, purchase all equipment exclusively from Automatic Sprinkler while avoiding competitive manufacturing, deny non-members access to the patented devices, and compel distributors to eschew competitors' devices.[514] Further, pool members agreed to a schedule of uniform pricing for parts and materials.[515]

The consent decree cancelled all existing agreements, required Automatic Sprinkler offer open licensing for reasonable royalties, and to offer its equipment for sale to any interested party.[516] Each individual defendant, upon completion of a licensing agreement with any other defendant, was required to make available the same terms to every other manufacturer.[517] Infringement suits by the defendants were also enjoined, as were tying agreements establishing exclusive purchase requirements and conditions.[518]

Another large patent pool was broken up in *United States v. A.B. Dick Co*.[519] Defendants were required under the consent decree to dedicate to the public all their patents reading on or claiming stencil duplicating

509. Newberg, *supra* note 34, at 30.

510. The *IP Guidelines* implicitly, but quite unmistakably, reject the holding in *Line Material*. *See* Antitrust Guidelines for the Licensing of Intellectual Property, [Apr. 1995] 4 Trade Reg. Rep. (CCH) ¶ 13,132, 20,740–41, 20,743–4 to –5 (Apr. 6, 1995).

511. United States v. Automatic Sprinkler Co., [1948–1949] Trade Cas. (CCH) ¶ 62,230, 62,338 (N.D. Ill. 1948).

512. *Id.*

513. *Id.*

514. *Id.*

515. *Id.*

516. *Id.*

517. *Id.*

518. *Id.*

519. United States v. A.B. Dick Co., [1948–1949] Trade Cas. (CCH) ¶ 62,233, 62,357 (N.D. Ohio 1948).

machines, stencils, or stencil duplicating supplies or raw materials.[520] The civil case ended in a consent decree that terminated several agreements alleged to constitute an illegal monopoly over the duplicating industry.[521] The defendants were alleged to have initiated a conspiracy to monopolize the industry by intimidating competitors, pooling and cross-licensing acquired patents, smothering evidence undermining patent validity, fixing prices, prohibiting licensees from purchasing competitors' supplies and products, excluding competitors from access to raw materials, and erecting a global division of sales territory.[522] In the criminal case the defendants pleaded no contest and paid fines totaling $99,000.[523] The defendants' global scheme to establish a monopoly was alleged to include threats to pull products from distributors of competing products.[524]

Defendant A.B. Dick Co. was enjoined from entering into any contract involving exchange of stock or assets with any other manufacturer or supplier of stencil duplicating materials for fifteen years and was prevented for seven years from maintaining or obtaining patents related to same.[525] Within six months the firm was to assign to the public without compensation its trademark "Mimeograph."[526] Within eighteen months, the firm was to close its U.S. branches and offices and remain closed for five years.[527]

In *United States v. Am. Bosch Corp.*, certain American and foreign companies were alleged to have entered into a series of agreements to control the global trade in fuel injection equipment, automotive electrical equipment, and magnetos for aircraft and other engines.[528] On November 3, 1930, American Bosch and Robert Bosch consummated an agreement to divide sales territory.[529] In the "Bosch Patent Agreement" signed May 22, 1931, American Bosch and Robert Bosch exchanged licenses to their respective patents.[530] Two manufacturing agreements (January 1934 and November 1939) established a plan to purchase certain materials exclusively from each other, refrain from manufacturing competing products, and coordinate efforts to drive mutual competitors from the

520. *Id.*
521. *Id.*
522. *Id.*
523. *Id.*
524. *Id.*
525. *Id.*
526. *Id.*
527. *Id.*
528. United States v. Am. Bosch Corp., [1948–1949] Trade Cas. (CCH) ¶ 62,284, 62,646 (S.D.N.Y. 1948).
529. *Id.*
530. *Id.*

market.[531] The second agreement expanded the scope of covered products to include automobile windshield wipers, generators, and regulators.[532]

Under the terms of the consent decree, all agreements entered into by American Bosch and Robert Bosch were cancelled and both parties were enjoined from enforcing any of the agreements' provisions.[533] American Bosch was permitted to retain its right to manufacture under patents; applications; and manufacturing rights, designs, or "necessary operative technique[s]" previously received from Robert Bosch, though no longer to the exclusion of American competitors.[534] American Bosch was also required under the consent decree to offer unrestricted licenses and sublicenses to any applicant, subject only to reasonable and nondiscriminatory royalties.[535] American Bosch was additionally enjoined from entering into any new agreements with its foreign partners to allocate markets, limit production or distribution by agreement, restrict U.S. imports or exports, exclude competing manufacturers, or fix prices.[536] American Bosch was enjoined from plans effecting the transfer of U.S. or foreign patents (current and future) or applications for any "necessary operative techniques," manufacturing rights, devices, or know-how without the approval of the Court.[537]

In *United States v. U.S. Pipe and Foundry Co.*, American corporations entered into numerous lease-license agreements for patents covering the manufacture of iron pressure pipe used to convey liquids or gases under pressure, and the machines for making such pipe.[538] The defendants were alleged to have conspired to restrain trade by aggregating relevant patents in the hands of U.S. Pipe, with the other defendants obtaining licenses to manufacture, use, and sell under U.S. Pipe patents.[539]

The activities specifically enjoined by the consent decree give some measure of the provisions of the lease-license agreements.[540] The defendants were enjoined from conditioning licenses or immunity under a patent, or compelling the disclosure of technical data.[541] Additionally, the court enjoined the defendants from selling or leasing pipe-making machines on the condition of acceptance of defendants' patents, collecting royalty payments for unused patents, adopting certain

531. *Id.*
532. *Id.*
533. *Id.*
534. *Id.*
535. *Id.*
536. *Id.*
537. *Id.*
538. United States v. U.S. Pipe & Foundry Co., [1948–1949] Trade Cas. (CCH) ¶ 62,285, 62,651 (D.N.J. 1948).
539. *Id.*
540. *Id.*
541. *Id.*

manufacturing specifications, using defendants' trademarks or trade names, refraining from the purchase or leasing of machines from competitors, cross-licensing of patents by compulsion, or setting prices of production quotas.[542] For a period of three years the defendants were required to license patents on a non-discriminatory basis.[543] The consent decree also required U.S. Pipe to convey title to any machines then-leased to the other defendants, to not acquire stock or assets in another pipe manufacturer, and to dedicate to the public fifty patents it held relating to manufacture of cast iron pipe.[544]

In *United States v. Gen. Cable Corp.*, the government alleged that defendants entered into an illegal conspiracy to dominate the manufacture and sale of fluid filled cables and accessories.[545] The defendants entered into a series of agreements to allocate sales territories, fix prices or other sale conditions in licensing agreements, exclude new manufacturers, control the import and export of fluid filled cable, determine the conditions for licensing and immunities under patents for others, or impede the development or exploitation of patents, applications, inventions, or technical information about fluid-filled cables.[546] The agreements covered dozens of patents and applications, some to which each defendant had some right, and some held exclusively by the pooling corporation General Cable.[547] The decree judgment compelled all defendants to make openly available licenses for dozens of patents and patent applications to all potential licensees without restriction, except for a requirement of reasonable and non-discriminatory royalties.[548] The defendants were also not allowed to bring an infringement suit against any licensed applicant.[549]

In *United States v. Am. Optical Co.*, 13 American manufacturers of eyeglass frames and mountings, a national trade association of wholesalers and 6 individual optical wholesalers, 2 patent holding companies, and 13 persons were alleged to have conspired to control the trade in ophthalmic devices including lens, lens blanks, spectacle frames, mountings, eyeglasses, spectacles, and component parts and combinations of component parts.[550] The arrangements incorporated the leading concerns responsible for all ophthalmic goods except sunglasses

542. *Id.*
543. *Id.*
544. *Id.*
545. United States v. Gen. Cable Corp., [1948–1949] Trade Cas. (CCH) ¶ 62,300, 62706 (S.D.N.Y. 1948).
546. *Id.*
547. *Id.*
548. *Id.*
549. *Id.*
550. United States v. Am. Optical Co., [1948–1949] Trade Cas. (CCH) ¶ 62,308, 62,727 (S.D.N.Y. 1948).

and non-prescription safety glasses.[551] The defendants achieved or attempted to achieve their anti-competitive objectives through a series of licensing agreements.[552]

The consent decree cancelled the various agreements, enjoined price-fixing and boycotting of wholesalers, cancelled several patents, compelled the licensing of other patents on reasonable and non-discriminatory terms, and prohibited the purchasing by other manufacturers by two of the defendants.[553] Defendants American Optical and Bausch & Lomb were required to notify licensees and sub-licensees as to the cancellation of their licensing agreements and their opportunities to reach new agreements subject to the stipulations of the consent decree.[554] The defendants were directed to grant every applicant a non-exclusive, non-assignable license to make, use, or sell under licenses for the patents at issue in this case.[555] The consent decree also enjoined infringement suits, threats of suits, or the collection of royalties under prior judgments, and prevented licensors from attempting to enforce against licensees of U.S. patent rights under foreign patents for "substantially the same invention" to impede exportation from the United States.[556] For five years, each defendant was enjoined from granting or enforcing provisions of agreements setting prices or conditions of sale, restricting as to intended uses, quotas on manufacture or use or sale, territorial restrictions, or restrictions on permitted purchasers.[557] Additionally, the exchange of trade and business information among the defendants was prohibited as were purchase-tying agreements.[558]

United States v. Gen. Elec. Co. was a case involving tungsten cutting tools.[559] Cutting hard metals and machining metal materials requires a cutting tool or a "nib" for drawing metal wire that is harder than the metals worked upon and resists wear.[560] Over time, hard metal-cemented carbides were used for this purpose and for others including extrusion dies and wear resistant equipment parts.[561] Beginning in 1928, General Electric and several subsidiaries worked to acquire patents related to these hard metals in an effort to control the industry.[562]

The patents at issue in this case were the Baumhauser patent and two

551. *Id.*
552. *Id.*
553. *Id.*
554. *Id.*
555. *Id.*
556. *Id.*
557. *Id.*
558. *Id.*
559. United States v. Gen. Elec. Co., 80 F. Supp. 989 (S.D.N.Y. 1948).
560. *Id.* at 992.
561. *Id.* at 993.
562. *Id.*

Schroter patents.[563] Osram Co., the original owner of the Schroter patents, assigned its rights to General Electric for use in making electric lamps.[564] Some years later, a General Electric scientist noted a variety of other valuable uses for the tungsten, generating by the end of the decade more than fifteen patents acquired by General Electric, including two valuable 'hot-press' techniques[565]: the Hoyt patent combining tungsten and cobalt, and the Gilson patent combining tungsten, carbon, and cobalt in particular ratios. The German corporation Krupp, using the balance of the patent rights sold by Osram, also sold its own products in the United States under the name Widia.[566]

Krupp assigned to General Electric all current and future patents (3 patents and 6 applications in all) for 15 years with an automatic extension, unless one party sought termination.[567] Whether General Electric acquired a license to Krupp's patents believing they were dominant to its own, or to establish a monopoly position through acquisition of competing patents, was not addressed in the opinion. Under the terms of the General Electric-Krupp agreement, Krupp and two corporations to which Krupp had licensed its patents were entitled to continue importing any product covered under the current or future patents into the United States.[568] At Krupp's insistence, General Electric agreed to set prices and require licensees to sell at or above this fixed price.[569] Licensees were to pay $5.00 per pound into a royalty fund, of which two-thirds (minus litigation costs) were owed to Krupp.[570] The trial included evidence of conversations between Krupp and General Electric, that "by pooling the patents competition could be discouraged."[571] Almost immediately, relations between Krupp and General Electric soured, with the former convinced that General Electric's subsidiary Carboloy (charged with fixing prices under the agreement) was intent on driving the more established German company from America as a precursor to establishing its own position by offering its licensees discounted prices.[572] Krupp and General Electric renegotiated their agreement in 1936, expanding General Electric's territory to Canada and the United States and more explicitly prohibiting exports to other regions (a source of Krupp's frustration).[573] Eventually, Carboloy acquired two U.S. companies,

563. *Id.*
564. *Id.* at 994.
565. *Id.*
566. *Id.*
567. *Id.* at 995.
568. *Id.*
569. *Id.*
570. *Id.*
571. *Id.*
572. *Id.*
573. *Id.* at 998–99.

Thomas Prosser & Sons (selling tools) and Morris Simons Unite Wire Die Co. (selling dies), previously licensed by Krupp.[574] The court found that General Electric, through its Carboloy subsidiary, acquired these two Krupp licensees to establish greater dominance in tungsten in the market for hard metals.[575]

The agreement empowered Carboloy to issue manufacturing licenses with various restrictive conditions such as[576]: price-fixing, acceptance of patents, and access to accounts. In 1932, with the threat of infringement suits, Carboloy secured a license to a superior product invented by a German scientist and sold that product in America (Cutanit).[577] The costs of the acquisition were shared among Carboloy's existing licensees interested in the right to use Cutanit.[578] The company making Cutanit, the Cuttings Corporation, was licensed to use, make, and sell hard metals under Carboloy's patents.[579] Infringement suits directed at, or initiated by, other competitors were resolved by granting restrictive management licenses and by avoiding bringing the issues to trial where the validity of the patents or the licensing agreement could be questioned.[580] Although smaller competitors were threatened, they were generally tolerated so as to avoid the Pandora's box of litigation.[581] The scheme lasted until several of the patents were invalidated in 1940.[582]

The court found the defendants guilty of many Sherman Act violations.[583] The court ruled that cross-licensing in which licensees were permitted to sublicense on condition of fixed prices was illegal after *Line Material*.[584] The Court also found the manufacturing licenses entitling Carboloy to fix prices for finished products not covered by its patents were also prohibited.[585] Provisions of the agreement requiring licensees to assign or cross-license patentable products or processes not yet developed was also held illegal.[586] Also found illegal were provisions in the agreement to fix resale prices, which the court viewed as illegal even for patented products.[587] Other elements of the agreement that were held illegal were horizontal boycotts, the division of sales territories, the

574. *Id.* at 999.
575. *Id.*
576. *See id.* at 1000.
577. *Id.*
578. *Id.*
579. *Id.* at 1001.
580. *Id.*
581. *Id.* at 1003.
582. *Id.*
583. *Id.* at 1004.
584. *Id.*
585. *Id.* at 1004–05.
586. *Id.* at 1005–06.
587. *Id.* at 1008–09.

acquisition of competitors for the purposes of controlling the industry, and the direct fixing of prices.[588] Having found a pattern of monopolistic behavior, and in light of *Line Material*, the court determined that the relationship of the patents to each other, whether complementary or competitive, was not germane and specifically did not consider such relationships in the opinion.[589]

In *United States v. Allegheny Ludlum Steel Corp.*, eighteen American corporations and several individuals were charged with conspiracy to control the production and sale of stainless steel through arranging regular meetings, publishing price lists, fixing prices through the operation of restrictive patent licensing, and coordinating bids on government contracts.[590] The consent decree enjoined a range of practices that give some indication of the anti-competitive provisions of the various agreements between the defendants.[591] They were enjoined from any effort to fix or set prices, allow discounts, establish freight rates, enforce a price list for basic and accessory products, share price or other product specification information at regular trade meetings or through other mechanisms except under F.O.B. ("free on board") at place of manufacture or first shipment at or below that available to any other purchaser.[592] Finally, the consent decree in the civil case directed the defendants to offer, without condition, non-discriminatory royalties and licenses to all interested parties for use of the patents under review.[593] The defendants pleaded no contest and paid a fine of $240,000 in the criminal case.[594]

In *United States v. Rohm & Haas Co.*, the government alleged that Rohm & Haas Co. and three foreign corporations (including I.G. Farben of Germany) entered into a conspiracy to establish a global cartel allocating territories for the manufacturing and sale of plastics by the pooling of their patent rights.[595] Under the consent decree terminating the defendant's agreements, entered into on November 18, 1948, Rohm & Haas were compelled to make available royalty-free, licenses to use its 74 patents and its rights under 90 foreign-owned patents to American parties.[596] Some of the specific acts enjoined under the judgment included infringement suits or threats of same, or requiring as a condition that licensees refrain from reselling or distributing competing products.[597]

588. *Id.* at 1009–11.
589. *Id.* at 1012.
590. 1948–49 Trade Cas. (CCH) ¶ 62,330 (D.N.J. 1948).
591. *Id.*
592. *Id.*
593. *Id.*
594. *Id.*
595. 1948–49 Trade Cas. (CCH) ¶ 62,334 (E.D. Pa 1948).
596. *Id.*
597. *Id.*

Also included in the agreements, and cancelled under the judgment, were regional limits on competition and patent claims and efforts to restrict research into acrylic compounds.[598] The judgment also enjoined future restrictive agreements among the parties to set prices based on particular uses.[599] The judgment also enjoined Rohm & Hass against limiting to only its foreign partners, the use of its trademarks outside the United States.[600] Finally, the judgment required Rohm & Haas to release technical information and place its various patents under the control of the Attorney General who was directed to make them available royalty free to any acceptable applicant.[601]

Perhaps because the case did not involve a German defendant, one patent pool appears to have survived. In the private antitrust case of *Suni-Citrus Products Co. v. Vincent*, Suni-Citrus sued Daniel Vincent and his partners, alleging their joint plan to pool patents, to grant licenses, and to fix minimum prices in the citrus feed industry.[602] The court below refused to grant relief and dismissed counterclaims seeking court approval of the proposed trust agreement.[603] The appellate reversed the denial of relief and remanded with directions to dismiss without prejudice.[604]

An employee of the State of Florida, Wayne M. Neal, discovered a process for converting citrus waste product into a suitable cattle feed and filed an application to receive a patent.[605] As the owner of the Neal application, the State of Florida and Mr. Vincent entered negotiations to settle patent conflicts and bring peace to the citrus waste industry by protecting waste processors against infringement suits.[606] The tentative agreement pooled existing and pending patents, fixed royalties, and fixed prices for products manufactured under the Neal patent.[607]

Plaintiff Suni-Citrus alleged, first, that the trust was an illegal scheme to fix prices previously set in an open market.[608] Second, Suni-Citrus asserted the patent application should be in the public domain because the work in question was produced by an employee of the state and funded by the state.[609]

The district court, looking to *Standard Oil v. United States*, ruled that

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598. *Id.*

599. *Id.*

600. *Id.*

601. *Id.*

602. Suni-Citrus Prods. Co. v. Vincent, 72 F. Supp. 740 (S.D. Fla. 1947), *rev'd*, Suni-Citrus Prods. Co. v. Vincent, 170 F.2d 850 (5th Cir. 1948).

603. *Suni-Citrus Prods. Co.*, 170 F.2d at 853.

604. *Id.* at 853–54.

605. *Id.* at 850.

606. *Id.* at 851.

607. *Id.*

608. *Id.*

609. *Id.*

the defendant did not demonstrate that if the Neal patent were granted, that the pooling arrangement created by the agreement would violate the Sherman Act.[610] The defendants counter-claim, seeking the blessing of the court for the entire scheme was dismissed as premature, owing to the fact the agreement had not yet been activated. On appeal the Fifth Circuit declared on the same reasoning that made the counter-claims premature also made the decision to deny the plaintiff's complaint premature as well.[611] The case was remanded with direction to dismiss both the complaint and Vincent's counter-claims without prejudice.[612]

In *United States v. Scophony Corp. of America*, aggressive government antitrust action against patent pools continued.[613] A complaint initiated in late 1945 resulted in a consent decree in early 1949, which directed several defendant corporations to divest themselves of all their holdings in co-defendant Scophony Corporation of America and terminate licenses.[614] Further efforts to enforce any provisions of the agreement were enjoined.[615] The judgment validated a complaint alleging a conspiracy to achieve complete control over every element of the television equipment industry.[616] The complaint alleged efforts to create non-compete agreements within certain territories that excluded manufacturers not parties to the agreement from obtaining licenses to use Scophony patents.[617]

In *United States v. Phillips Screw Co.*,[618] a patent holding company, American Screw, and other domestic and foreign corporations that manufactured cross-recessed head screws and their drivers were alleged to have entered into a collusive agreement employing price-fixing, patent pooling, and negotiated agreements allocating exclusive territories outside the United States.[619] The consent decree enjoined both Phillips Screw and American Screw from entering into any contract or understanding with any other manufacturers to fix prices (or other conditions) for sale or reselling, to allocate territory globally for sale, to identify customers, or markets, to limit import or exports to and from the United States, to establish production quotas, or to agree to refrain from

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610. *Id.* at 853.

611. *Id.*

612. *Id.* at 854.

613. United States v. Scophony Corp. of Am. [1946–1947] Trade Cas. (CCH) ¶ 57,506 (S.D.N.Y. 1946), *rev'd*, 333 U.S. 795 (1948).

614. [1946–1947] Trade Cas. (CCH) ¶ 57,506

615. *Id.*

616. *Id.*

617. *Id.*

618. United States v. Phillips Screw Co., [1948–1949] Trade Cas. (CCH) ¶ 62,394 (N.D. Ill. 1949).

619. *Id.*

the manufacture of any type of cross-recessed head screw.[620] The defendants were also enjoined from publishing or sharing price lists on any basis other than Free on Board at the site of original manufacture for at least three years.[621] All existing licensing agreements between Phillips Screw Co. and American Screw, and between either Phillips Screw or American Screw and foreign corporations[622] were cancelled, and any effort to revive their provisions in whole or in part was enjoined under the judgment.[623] Phillips Screw and American Screw were also enjoined from initiating any infringement suits on their various patents, and were directed to[624]: grant to any applicant a non-exclusive license to use or manufacture under any or all the patents in the pool without condition except reasonable and non-discriminatory royalties, prohibit transference of licenses, and eliminate the right of cancellation by licensees. American Screw was specifically required to publish all technical information relating to its patents.[625] In addition to the listed patents, the judgment covered any continuations, reissues, or extensions of the same; patents eventually issued under current applications; and any patents related to Cross-Recessed Head Screws of Drivers obtained by any means by either defendant for a period of five years.[626]

In *United States v. Wallace & Tiernan Co.*, an indictment of nine corporations and nine individual defendants alleged a conspiracy to monopolize the production and sale of gas chlorinating equipment used primarily to treat sewage; to bleach flour, paper, and textiles; and to preserve foodstuffs.[627] The indictment alleged the defendants acquired patents and misused patents; directed threats of infringement suits at competitors; consolidated their position by purchase of competitors' businesses; withheld supplies and equipment unless purchased from defendants; created non-compete zones; fixed prices and conditions of sale, excluding the bids of competitors using unfair specifications; and colluded to deny competitors markets and essential parts and materials.[628] In March 1947, a motion to dismiss the indictments because of the absence of women in the grand jury panel was upheld.[629] In May 1947, one defendant lodged a motion to compel the government to turn over

620. *Id.*

621. *Id.*

622. Guest, Keen & Nettlefolds, Ltd. (United Kingdom) The Steel Company of Canada, Ltd; and J. Osawa Co.

623. [1948–1949] Trade Cas. (CCH) ¶ 62,394.

624. *Id.*

625. *Id.*

626. *Id.*

627. United States v. Wallace & Tiernan Co., [1953–1954] Trade Cas. (CCH) ¶ 67,828 (D.R.I 1954).

628. *Id.*

629. *In re* Wallace & Tiernan Co., 76 F. Supp. 215, 216 (D.R.I 1948).

copied business documents along with the originals returned following the opinion in March.[630] The Department of Justice's core defense was that the subpoenas used to obtain the records were legal even if the empaneled grand jury was not.[631] A district court in Rhode Island disagreed, and on February 6, 1948, directed the government to return its copies of all documents to their original owners because its possession was the product of a violation of the Fourth Amendment protection against illegal search and seizure.[632] The government appealed and on May 2, 1949, the Supreme Court reversed, holding that the elements which rendered the grand jury illegally formed in no manner compromised the defendants Fourth Amendment rights.[633]

In July 1954, a consent decree was issued against each defendant, except Builders Iron Foundry and Henry Chafee, requiring the defendants to dedicate to the public their trademarks "Chlorinators," and "Visible Vacuum Chlorinator," and "Visible Vacuum Control."[634] The consent decree also compelled the defendants to make available royalty-free licenses for their various patents.[635] Corporate acquisitions were enjoined, as were tying arrangements for unpatented services or other exclusive arrangements.[636]

In *United States v. Sand Spun Patents Corp.*, defendants were alleged to have conspired to dominate the cast iron pressure pipe industry by means of a restrictive patent pool.[637] How Sand Spun came to hold its patents is not revealed in the consent decree, though the other defendants did receive licenses to manufacture and sell iron pipes produced under one or more of the patents held by Sand Spun Patents.[638] The consent decree terminated all existing licensing agreements to which the defendants were parties and enjoined efforts to reestablish its provisions in whole or in part.[639] The decree prohibited the defendants, together or individually, from imposing certain conditions in future licensing agreements, including granting immunity under a patent, disclosing technical data or information, specifying the types and sizes of pipe to be manufactured, compelling cross-licensing or assigning of patents from others to any defendant, limiting production, or calculating royalty rates

630. *See id.* at 216.
631. *Id.* at 217.
632. *Id.* at 217–18.
633. United States v. Wallace & Tiernan Co., 336 U.S. 793, 798–800 (1949).
634. *Id.*
635. *Id.*
636. *Id.*
637. United States v. Sand Spun Patents Corp., [1948–1949] Trade Cas. (CCH) ¶ 62,462 (D.N.J. 1949).
638. *Id.*
639. *Id.*

or rental fees based on the number of machines used.[640] The decree also restrained from maintaining any contract, agreement, or understanding to control the distribution of pipes; the allocation of customers, markets, or fields; and agreements to limit imports from or exports to the United States or its territories.[641] The decree enjoined any effort to assign exclusive rights to future patents.[642] Finally, the decree required the dissolution of the patent holding company, Sand Spun Patents, and the dedication to the public of each of its patents.[643]

In *United States v. General Instrument Corp.*, four companies and seven individual defendants were alleged to have engaged in an illegal scheme to control the production and sale of variability condensers and permeability tuners used in tuning devices for radios.[644] In 1934, Radio Condenser, General Instrument, and De Jur Amsco entered into an agreement to assign to Condenser Development all their current and future patents, to empower Condenser to acquire other patents or patent rights, to direct Condenser to initiate and defend infringement suits, to require Condenser to decline licenses outside the pool without the unanimous approval of pool members, and to compel recognition of all assigned and future patents by members.[645] The government alleged the collusive intentions that gave rise to the agreement found expression in a wide range of anti-competitive and monopolistic practices, including efforts to exclude competing manufacturers through intimidating infringement suits and refusing to grant licenses, restraining competition among pool members through agreements on terms and prices, restricting the types of variable condensers produced by each pool member, allocating sales territories, and conducting price wars against competitors.[646] The agreement was revised in 1937 and again in 1939.[647]

The government and the defendants were in substantial agreement as to the facts, and both sought summary judgment.[648] The defendants viewed the facts through the prism of *Standard Oil Co. v. United States*, which they read correctly, as blessing pooling arrangements for truly blocking patents or to avoid expensive litigation through agreements.[649] The court pointed out, however, that *Standard Oil* blessed the pool while noting that the companies did not dominate the industry in which they operated, but that the facts here were different in that the defendants

640. *Id.*
641. *Id.*
642. *Id.*
643. *Id.*
644. United States v. Gen. Instrument Corp., 87 F. Supp. 157, 160 (D.N.J. 1949).
645. *Id.* at 161.
646. *Id.* at 162–63.
647. *Id.* at 161–162.
648. *Id.* at 164.
649. *Id.* at 191.

controlled more than 50% of the industry.[650] If pool members enjoy dominance over an industry, then licensing agreements including price-fixing elements can rise to the level of offending the Sherman Act.[651] Furthermore, this power is sufficient to offend even in the absence of intent.[652]

A final agreement signed in 1946 sought to address some elements of the earlier agreements found illegal in court, eliminating direct price-fixing and revising the compulsory assignment of future patents.[653] The court nonetheless invalidated the arrangement as going beyond the types of pooling permitted under *Standard Oil*.[654]

In *United States v. General Electric Co.*, ten corporations entered into a series of agreements affecting their various patents for disconnecting switches, switches changing connections among circuits, and grounding switches used throughout the United States during the late 1930s and early 1940s.[655] A consent decree entered on November 4, 1949 terminated existing licensing agreements among the defendants and ordered them to grant non-exclusive licenses to patents currently held, or developed within five years of the decree, without conditions except for non-transferability and payment of reasonable royalties.[656] The consent decree also enjoined a range of illegal practices that included agreeing to fix prices, including differentials and discounts; declining to submit bids, or colluding in submitting bids; exchanging information about bids, or providing information relating to prices, terms, or conditions of sales not generally available to other producers; and, finally, submitting bids for the primary purpose of deterring customers.[657]

In *Cutter Laboratories v. Lyophide-Cryochem Corp.*, defendant and its partners sued Cutter Laboratories claiming infringement of the Flosdorf patent and the Reichel patent.[658] Cutter Laboratories challenged the validity of the patents, denied infringement, and appealed the adverse determination of the jury, arguing that the patents had been illegally pooled.[659]

The Reichel patent related to the preservation of biological material by extraction of moisture, producing a dry and porous lyophilic form.[660]

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650. *Id.* at 191–92.
651. *Id.*
652. *Id.* at 191.
653. *Id.* at 194.
654. *Id.* at 195–96.
655. United States v. Gen. Elec. Co., [1948–1949] Trade Cas. (CCH) ¶ 62,518 (S.D. Cal. 1949).
656. *Id.*
657. *Id.*
658. Cutter Labs. v. Lyophide-Cryochem Corp., 179 F.2d 80 (9th Cir. 1949).
659. *Id.* at 92.
660. *Id.* at 83

This condition was achieved by flash freezing the material, subjecting the product to a high vacuum, adding heat in a vacuum while avoiding melting, and applying the vacuum until the material is above its freezing point.[661] The court found that several of the claims pertaining to this patent were based on prior art, and therefore invalid, but that claims eleven, twelve, and thirteen included in the reissue patent were sufficiently novel to warrant a determination of validity.[662] The court upheld the jury's view that these claims were valid and that they were infringed by the appellant.[663]

The jury also determined that claims four and five of the Flosdorf patent were valid and infringed.[664] The appellant argued that these claims were not valid because the language only described the objective of the innovation without specifying a method for meeting them.[665] Lyophide-Cryochem countered, and the jury agreed, that the invention was not in the use of prior art, but in the unique combination of existing methods to achieve the novel combination of two non-novel steps[666]: the pumping of vapor at rapid rates in conjunction with the desiccation of biological matter.

The final issue addressed at trial was whether Lyophide-Cryochem was formed as an illegal patent pool.[667] Sharp & Dohme, Inc., controlling the Reichel and other related patents, and F.J. Stokes controlling the Flosdorf patent formed Lyophide-Cryochem and granted to it the exclusive power to license under their respective patents, extending this power to included future discoveries.[668] Relying on *Standard Oil v. United States*, the court noted that patent pools were not necessarily illegal and here the key issue was whether intent to restrain trade existed.[669] In this case, any applicant could apply for a license on reasonable terms and was not subjected to any conditions such as price setting.[670] Without intent to restrict trade, the mere pooling of patents provides no new monopoly powers above that enjoyed by the individual members prior to pool formation.[671] Even if the patent pool created the objective basis for control of an industry by price-fixing, absent intent to restrain trade, that power was not in and of itself illegal.

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661. *Id.* at 84.
662. *Id.* at 91
663. *Id.* at 93–94
664. *Id.* at 82.
665. *Id.* at 91
666. *Id.* at 93
667. *Id.* at 91
668. *Id.*
669. *Id.* at 92.
670. *Id.*
671. *Id.* at 93.

1. 1950–1959

The first case decided in the 1950s was *Baker-Cammack Hosiery Mills, Inc. v. Davis Co.*, where Davis Co. sued two other manufacturers of self-supporting hosiery for patent infringement.[672] The patents at issue in this case related to production methods for self-supporting hosiery with properties like true "rib fabric" and anti-ravel edging.[673] The primary defenses were that certain patents were invalid because of prior arts, double-patenting, and an illegal scheme to restrain trade by the pooling of patents under the ownership of Davis Co.[674]

The court below determined the patents owned by Davis were valid and were infringed by the defendants.[675] The antitrust defense rested on the claim that three companies were engaged in an illegal scheme hatched in 1946 to control the industry by assigning fifteen of their patents to Davis Co., of which six were at issue in the present case.[676] The court determined that these patents were "inter-related" and relied on similar production processes and techniques.[677] The pool was openly acknowledged by its members as an effort to save the respective manufacturers from the expenses of infringement suits and excessive royalties.[678] The court also determined that the patents were complementary and not competitive, and that under the pooling arrangement, licenses were freely available to all applicants at a royalty rate on average half of the amount they obtained prior to pool formation.[679] Licensees could apply for licenses on these favorable terms for all or only one of patents.[680] There were no "tying" provisions or requirements of exclusivity.[681]

On appeal, the Fourth Circuit affirmed the district court on every point.[682] The court noted in particular that the facts in this case did not fit the fact pattern in *Hartford-Empire*, particularly that the degree of dominance differed, that there was no requirement of exclusivity, and that no illegal effort to drive competitors from the market existed.[683]

In *United States v. Technicolor Inc.*, the government alleged that

672. Davis Co. v. Baker-Cammack Hosiery Mills, 86 F. Supp. 180 (M.D.N.C. 1949), *decree modified*, Davis v. Baker-Cammack Hosiery Mills, 181 F.2d 550, 552 (4th Cir. 1950).
673. *Davis*, 181 F.2d at 553.
674. *Id.* at 554.
675. *Id.* at 552.
676. *Id.* at 569.
677. *Id.* at 563.
678. *Id.* at 564.
679. *Id.* at 570.
680. *Id.* at 569.
681. *Id.*
682. *Id.* at 573.
683. *Id.*

Technicolor, Inc., Technicolor Motion Picture Corporation, and the Eastman Kodak Co. violated the Sherman Act in a scheme to control current and future patents related to color cinematography and color photography.[684] The consent decree required Eastman Kodak to license its active patents to all applicants royalty free, license future patents for a period of five years at reasonable royalty rates, provide pertinent technical data to all licensees, and sell its color motion picture film to all interested parties agreements between the defendants in 1934, 1936, 1938, 1942, and 1945.[685] The consent decree also required Kodak to offer non-exclusive, unrestricted licenses, royalty free, to all applicants for thirteen patents, and to make available at reasonable rates licenses to patents not greater than paid by Kodak for a different set of thirteen patents.[686] Kodak was also required under the decree to make available at reasonable royalty rates any patents it might acquire during the following five years.[687] Kodak was enjoined from making any assignment or sale of the patents and was precluded from becoming the exclusive licensee of any patents or applications for color cinematography unless given the power to sublicense.[688]

A second consent decree cancelled agreements between defendants Technicolor, Inc. and Technicolor Motion Picture Corporation and motion picture producers that required the latter to use Technicolor cameras and services in film production exclusively.[689] The decree required defendants to license royalty free and without restrictions the right to make, sell, and use any and all patents they held for film processing, negative or positive film, color consultant services, photography, and film prints of color film.[690] Patents and applications obtained during the ensuing five years were to be made available on an open basis upon condition of payment of reasonable royalty fees.[691]

In *United States v. Minnesota Mining and Manufacturing Co.*, the government continued its enforcement activities against patent pools.[692] Prior to 1929, nine American corporations competed in exports from the United States for various types of coated abrasives, essentially sandpaper.[693] In May of that year, these companies formed the Export Company and concluded an Export Agreement, formed the Durex Corp,

684. United States v. Technicolor, Inc., [1948–1949] Trade Cas. (CCH) ¶ 62,338 (S.D. Cal. 1948); United States v. Technicolor, Inc., [1950–51] Trade Cas. (CCH) ¶ 62,586 (S.D. Cal. 1950).

685. [1948–1949] Trade Cas. (CCH) ¶ 62,338.

686. *Id.*

687. *Id.*

688. *Id.*

689. [1950–51] Trade Cas. (CCH) ¶ 62,586.

690. *Id.*

691. *Id.*

692. United States v. Minnesota Mining & Mfg. Co., 92 F. Supp. 947 (D. Mass. 1950).

693. *Id.* at 951.

a foreign corporation, holding 84% of the stock of the English company Durex Abrasives, and agreed to license to Durex their foreign patents for coated abrasives while retaining their various rights to fix prices and manufacturing standards.[694] The United States brought a complaint against six American or American-owned foreign companies that were parties to these agreements.[695]

The export agreement required the parties to export only through the Export Company which held exclusive rights to sales throughout the world outside the United States and Canada.[696] The Export Company used the DUREX name for its products to market the goods from the American manufacturers under a single name.[697] The Export Company sold coated abrasives through local distributors overseas, sold back to American exporters, or sold through the foreign subsidiaries of its corporate parents.[698] The Export Company's share of U.S. exports of this good rose from under 18% in 1929 to just under 40% by 1948.[699]

As part of one of the agreements signed in May 1929 (the "main patent agreement"), the American firms licensed to Durex their various patent rights related to coated abrasives, with the reserved rights.[700] During the early 1930s Durex secured licenses for foreign patents from three of the defendants.[701] Durex then sublicensed these patents as a package to the various foreign subsidiaries of the pool members.[702] The main patent agreement was revised in 1941 substituting exclusive rights under foreign patents for the earlier arrangement relying on licensing agreements.[703] The revised agreement also directed Durex to assume the royalty burdens on the costs of obtaining foreign patents from pool members and directed Durex to assign on demand patents it acquired for waterproof sandpaper to 3M, for disc sanders to another defendant, and for electro-coated fields to a third defendant.[704] Foreign patents for all other coated abrasives Durex obtained were to be licensed to all interested pool members.[705] No patents were acquired by Durex from parties that were not defendants in this case.[706]

The United States issued a complaint charging the defendants with an

694. *Id.* at 953–54.
695. *Id.* at 950–51.
696. *Id.* at 954.
697. *Id.* at 952.
698. *Id.*
699. *Id.* at 953.
700. *Id.* at 954.
701. *Id.*
702. *Id* at 954–55.
703. *Id.* at 955.
704. *Id.*
705. *Id.*
706. *Id.*

illegal scheme to control the foreign commerce by the major American producers of coated abrasives.[707] The main defense was that the arrangement was necessary to overcome barriers erected by foreign governments in form of duties, excise taxes, quotas, and local shortages of U.S. hard currency.[708] The court accepted that where local conditions suppressed profits, arrangements such as those at issue in this case were potentially permissible.[709] The court concluded, however, that the defendants failed to prove these barriers in fact prevented the profitable export of coated abrasives.[710] The court found the preference for overseas subsidiaries held together under the agreement was not a function of the alleged barriers but a desire to enhance profits, that is that profits on exports overseas were achievable without resort to agreements that violated the Sherman Act, and that their defense fell, revealing an illegal pooling arrangement and collusive agreement to enhance profits.[711]

The consent decree entered in this case required cancellation of all existing patent licensing and cross-licensing agreements among the parties and required the issuance of licenses on condition of reasonably royalties to all interested applicants.[712] The decree enjoined any effort to fix prices, control domestic or foreign production, or issue exclusive licenses.[713]

In *United States v. Textile Machine Works*, the government was successful in obtaining a consent decree that compelled Textile Machine Works and Berkshire Knitting Mills, manufacturers of full-fashioned hosiery and related machines, to terminate certain collusive agreements.[714] The decree prohibited market territory allocations; agreements restricting imports, exports, or the production or use of hosiery-making machinery; the purchase and destruction of older machinery; or the suppression of competition through stock swapping, assignment, or exclusive licensing of patents.[715] The decree also enjoined discrimination in the provision of the fruits of research and development, differential terms, or prices in licensing agreements, or in the fixing of prices for either hosiery or machinery.[716] The decree directed the defendants to offer machine leases on reasonable terms, to make available

707. *Id.* at 950.
708. *Id.* at 958.
709. *Id.*
710. *Id.* at 961.
711. *Id.*
712. United States v. Minnesota Mining & Mfg. Co., [1950–1951] Trade Cas. (CCH) ¶ 62,724 (D. Mass. 1950).
713. *Id.*
714. United States v. Textile Mach. Works, [1950–1951] Trade Cas. (CCH) ¶ 62,709 (S.D.N.Y. 1950).
715. *Id.*
716. *Id.*

non-exclusive patent licenses on reasonable terms, and to supply technical information and know-how.[717]

In *United States v. Permutit Co.*, agreements Permutit Company made with British and German producers of water conditioning equipment and materials were alleged to have violated the Sherman Act in numerous ways.[718] The alleged violations included the allocation of market territory, exclusive rights to use of the 'Permutit' trademark in defined territories, regulating U.S. imports and exports, granting to parties exclusive patent rights and related technical data, and agreeing to limit competition among themselves.[719] The court issued a consent decree that cancelled these agreements, including the provision of exclusive discounts and rebates to each other.[720] Foreign licensing of patents by Permutit and its overseas partners were enjoined as well as the exclusive exchange of technical data.[721] The American Permutit was also required to fully divest itself of its stake in its foreign subsidiary based in Luxemburg no later than nineteen days after the expiration of its patent.[722] The decree also required Permutit to offer to all applicants a non-exclusive license to make, use, or sell any water conditioning equipment or materials under patents owned or controlled by license or sublicense by Permutit.[723]

In *United States v. Parke, Davis and Co. and Eli Lilly & Co.*, defendants were charged with illegally controlling the machines used in the manufacture and filling of gelatin capsules and using this control to monopolize the industry.[724] The court issued a consent decree covering all patents held by defendants relating to capsules used for ingestion of drugs, including any process, method, material, or equipment used in their manufacture.[725] The defendants were enjoined from enforcing certain provisions of the two agreements or achieving the same ends through other means.[726] Both defendants were enjoined from acquiring competitors for a period of ten years, and each was directed to offer a royalty-free, non-exclusive license to the use of any relevant patent.[727] Both defendants were enjoined from initiating, or threatening to initiate,

717. *Id.*
718. United States v. Permutit Co., [1950–1951] Trade Cas. (CCH) ¶ 62,888 (S.D.N.Y. 1951).
719. *Id.*
720. *Id.*
721. *Id.*
722. *Id.*
723. *Id.*
724. United States v. Parke, Davis and Co. and Eli Lilly & Co., [1950–1951] Trade Cas. (CCH) ¶ 62,914 (E.D. Mich. 1951).
725. *Id.*
726. *Id.*
727. *Id.*

infringement suits for any patents related to the manufacture of filling of gelatin capsules.[728] Non-exclusive licenses for future patents were to be offered to all applicants without conditions, except recovery of reasonable and non-discriminatory royalties, non-transferability, and cancellation for non-payment of royalties.[729] The decree compelled to offer for sale all machines currently under lease to their lessees within sixty days, with the offer to expire within six months.[730] Future sales and leasing of machines for the manufacture of capsules was to be offered on reasonable terms and prices.[731] The defendants were to provide all pertinent manuals and technical information to all license applicants for five years, including information needed to design and build gelatin-making machinery.[732] Exchange of information between defendants was limited, and tying agreements and price-fixing were prohibited under the decree.[733] Finally, the decree enjoined price-fixing and discounts for volume purchases.[734]

In *United States v. Mager & Gougelman, Inc.*, the court issued two consent decrees involving the manufacture and sale of plastic artificial eyes by defendant corporations Mager and Gougelman, Inc., the Paul Gougelman Company, and their principal officers.[735] The key patent in question was the Travers patent covering the manufacture of plastic artificial eyes.[736] One decree terminated a joint operating agreement and compelled the liquidation of their equity positions in each other and in other companies producing or selling eyes.[737] Agreements between the defendants to fix prices or terms of sale, market territory allocations, to exclude third parties were enjoined.[738]

The second decree required the defendants to offer to all applicants on royalty-free, non-exclusive, and unconditional terms, licenses for their artificial eye patents.[739] The defendants were also enjoined from obtaining any license, grant of immunity, or similar right under two specific patents, unless including the right to sublicense of the unrestricted terms discussed above.[740] Finally, the decree enjoined the

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728. *Id.*
729. *Id.*
730. *Id.*
731. *Id.*
732. *Id.*
733. *Id.*
734. *Id.*
735. United States v. Mager & Gougelman, Inc., [1952–1953] Trade Cases ¶ 67,233 (N.D. Ill. 1952).
736. *Id.*
737. *Id.*
738. *Id.*
739. *Id.*
740. *Id.*

defendants from any action limiting their power to license or sublicense under the Travers patent or the other two patents.[741]

In *United States v. Besser Mfr. Co.*, the government sued Besser Manufacturing Co., Stearns Manufacturing Co., and several individual defendants, alleging an illegal plan to establish a dominant position in the production of machines used to make concrete blocks.[742] In 1938, Besser acquired from Stephen A. Flam Co. exclusive rights to its current and future patents throughout the United States except in the west where Flam was permitted to continue production.[743] Besser purchased Flam in 1946 and obtained ownership over these and any patents that might be approved over the ensuing five years.[744]

In 1942, the Stearns Co. held an exclusive license to the Gelbman and Andrus patents.[745] Negotiations between Besser and Stearns and the inventors, Gelbman and Andrus, were completed in Dec 7, 1942, in which the two companies were given joint rights to the Gelbman and Andrus patents and to any which the inventors might obtain in the future.[746] The agreement prevented any of the four defendants from licensing these patents to any third-party.[747] The primary concern of the court was the collective action, required of the defendants by the agreement, to prevent open licensing.[748] During 1946, Besser secretly acquired nearly 50% of the outstanding shares of Stearns.[749]

Even though the average price of concrete blocks had not risen in the wake of these various agreements, the court determined that the agreements were illegal because they illegally extended patents, divided territory, and used infringement suits to intimidate competitors.[750] Judge Picard issued an opinion forcing the two defendant corporations to license their patents on equal terms to all parties, inform lessees of their right to terminate leases, liquidate stocks; and enjoining defendants from resurrecting their scheme.[751] On appeal, the Supreme Court not only found the district court remedy to be appropriate on procedural grounds but also commented that it found that the allegations that the defendants had monopolized, and attempted to monopolize, the industry were

741. *Id.*

742. United States v. Besser Mfr. Co., 96 F. Supp. 304, 305–06 (D. Mich. 1951), [1950–51] Trade Cas. (CCH) ¶ 62,773 (E.D. Mich. 1951), *aff'd*, United States v. Besser Mfr. Co., 343 U.S. 444 (1952), [1952–53] Trade Cas. (CCH) ¶ 67,280 (U.S. 1952).

743. *Besser Mfr. Co.*, 96 F. Supp. at 310.

744. *Id.*

745. *Id.*

746. *Id.*

747. *Id.*

748. *Id.*

749. *Id.* at 311.

750. *Id.* at 311, 314.

751. *Id.* at 314–15.

overwhelmingly supported by the evidence presented to the district court.[752]

In *United States v. United Engineering and Foundry Co.*, United Engineering had entered into a series of agreements from 1937 to 1951 with seven foreign manufacturers of rolling mill machinery (no German firms, but one Japanese firm).[753] The court issued a consent decree enjoining United Engineering from continuing these agreements allocating markets, controlling U.S. imports and exports, or using overseas companies as sales agents.[754] The decree also enjoined United Engineering from assigning or licensing under any patents with foreign companies, conditioning the sharing of technical information, or acquiring foreign manufacturers.[755] The court terminated the operative agreements and required United Engineering to permit sales in the United States of articles produced overseas using the know-how provided by United Engineering, though limitations on the use of this information overseas was permitted.[756]

In *United States v. Davis Company*, defendants were charged with illegal efforts to control trade in plain knit elastic-to hosiery and the machines used to make them.[757] The court issued a consent decree enjoining the defendants from any effort to collect royalties or initiate infringement suits for patents controlled by Davis Co. under a series of agreements between the parties.[758] The decree ordered the defendants to issue licenses to any and all applicants on a schedule of reasonable royalties, and enjoined them from canceling licenses for any reason other than non-payment of royalties.[759] The decree also enjoined any attempt to acquire additional U.S. or foreign patents for elastic hosiery or machines used in their manufacture.[760]

In *United States v. Westinghouse Electric Manufacturing Co.*, Westinghouse and an international subsidiary, along with two German subsidiaries of Siemens, had divided among themselves global markets for electrical equipment and had exchanged technical know-how and rights to their respective patents.[761] The government alleged that by

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752. *Besser Mfr. Co.*, 343 U.S. at 449.

753. United States v. United Eng'g & Foundry Co., [1952–1953] Trade Cas. (CCH) ¶ 67,378 (W.D. Penn. 1952).

754. *Id.*

755. *Id.*

756. *Id.*

757. United States v. Davis Co., [1952–1953] Trade Cas. (CCH) ¶ 67,403 (S.D.N.Y. 1952); 1952 U.S. Dist. LEXIS 1945 (S.D.N.Y. 1952).

758. [1952–1953] Trade Cas. (CCH) ¶ 67,403.

759. *Id.*

760. *Id.*

761. United States v. Westinghouse Elec. & Mfg. Co., [1952–1953] Trade Cas. (CCH) ¶ 67,501 (D.N.J. June 1, 1953).

means of this agreement the defendants endeavored to dominate both the domestic American and global trade in the industry.[762] A consent decree issued in 1953 terminated the agreement and directed Westinghouse to dedicate to the public some 230 patents it held.[763] It also required the production and distribution of technical information it had acquired from Siemens, and enjoined any attempt to allocate territory, revive provisions of the terminated agreement, exclude third parties from markets, or limit U.S. imports or exports of electrical equipment.[764]

In *United States v. Telescope Carts, Inc.*, the court issued a consent decree that terminated agreements between various manufacturers of telescopic grocery carts with hinged rear gates permitting tight packing for storage.[765] The decree compelled the defendants to offer licenses or sublicenses to all applicants without condition except provisions for non-transference, reasonable and non-discriminatory royalties, and cancellation for non-payment.[766] Defendants were required to offer licenses and sublicenses on similar terms for any extension, reissue, or continuation for a period of five years from the date the decree was entered and were enjoined from conditioning licenses upon the assignment or title or right to patents held by licensees.[767] The decree cancelled a contract signed by the defendants in June of 1949, and enjoined efforts to enforce its provisions, or any measures to allocate market territories.[768]

In *United States v. Bendix Aviation Corp.*, the government charged seven American corporations with using their ownership of several hundred patents to monopolize the trading and production of braking systems.[769] Many of the defendants entered into an agreement with foreign firms to further their allegedly illegal scheme.[770] The initial complaint charged that the defendants used their respective patents in the field in a coordinated effort to further their dominance, tie licensing agreements to the purchase of non-patented components, suppress threatening innovations and improvements, and intimidate competitors with spurious infringement litigation.[771] The charges against Dupont

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762. *Id.*
763. *Id.*
764. *Id.*
765. United States v. Telescope Carts, Inc., [1952–1953] Trade Cas. (CCH) ¶ 67,573 (W.D. Mo. Dec. 24, 1953).
766. *Id.*
767. *Id.*
768. *Id.*
769. United States v. Bendix Aviation Corp., [1948–1949] Trade Cas. (CCH) ¶ 62,349 (S.D.N.Y. Dec. 22, 1948); *see also* United States v. Bendix Aviation Corp., [1952–1953] Trade Cas. (CCH) ¶¶ 67,583, 67,591, 67,601 (S.D.N.Y. Oct. 7, 1953).
770. [1948–1949] Trade Cas. (CCH) ¶ 62,349.
771. *Id.*

were dismissed, however, because it ceased production and offered to all parties on reasonable terms licenses to their patents.[772] Consent decrees entered against the remaining defendants enjoined a range of practices including allocating markets, restricting imports and exports, fixing prices, and concluding contracts that compelled parties to suppress competition.[773] The decrees also prohibited infringement suits for any of the hundreds of patents included in the pool.[774] In one such decree, defendant Westinghouse was required to offer non-exclusive licenses to patents it controlled or would come to control in the ensuing five years without restriction except for provisions requiring non-transferability and the recovery of reasonable, non-discriminatory royalties.[775] The decree also terminated contracts Westinghouse had concluded with various foreign companies in the early 1930s.[776] Finally, the judgment enjoined defendants from acquiring a greater stake in other manufacturers of braking systems.[777]

In *United States v. Switzer Brothers, Inc.*, Switzer Brothers and five other corporate defendants were producers and distributors of daylight fluorescent materials and devices.[778] The government charged the defendants with planning to purchase materials themselves, and requiring the same of non-members, dividing among themselves markets and product lines, and restricting end product types.[779] Using restrictive licensing conditions for patents, trademarks, threats, and actual infringement suits, the government alleged that the defendants colluded to dominate the trade in both fluorescing materials such as paints and devices such as billboards.[780]

The court issued a consent decree that terminated a series of agreements signed by the defendants from 1946 to 1950, enjoined a broad array of practices, and directed defendants to offer licensing for their patents on reasonable and non-discriminatory terms.[781] The consent decree directed the various defendants to offer royalty-free, non-exclusive licenses for three specific patents.[782] The defendants were also enjoined from initiating litigation, save defense of validity, for these same

772. *Id.*
773. *Id.*
774. *Id.*
775. [1952–1953] Trade Cas. (CCH) ¶ 67,583.
776. *Id.*
777. *Id.*
778. United States v. Switzer Bros., Inc., [1952–1953] Trade Cas. (CCH) ¶ 67,598 (N.D. Cal. Oct. 22, 1953).
779. *Id.*
780. *Id.*
781. *Id.*
782. *Id.*

patents.[783] Infringement suits on another patent were enjoined and the defendants were to offer licenses to this patent without restriction except for payment of reasonable, non-discriminatory royalties.[784]

Specific practices enjoined in this judgment included restriction on the terms of sale for products covered under the listed patents, requiring licensees to agree to refrain from the use of competitors' products and other exclusive tying provisions such as the purchase of unrelated or unpatented products from the defendants.[785]

In *United States v. Bearing Distributors Co.*, the court issued a consent decree canceling an agreement between several manufacturers and distributors of tractor cabs.[786] The government alleged the defendants had conspired to fix prices and allocate markets in the production and sale of tractor cabs.[787] The decree required the open licensing of patents currently held or acquired over the next five years at reasonable and non-discriminatory royalties.[788] It also enjoined attempts to limit pool members from licensing to third parties, fixing prices, initiating infringement suits, or allocating markets.[789]

In *United States v. Servel, Inc.*, the government alleged that defendant Servel achieved monopoly position in the production of gas refrigeration equipment through illegal agreements with foreign companies to pool patents through cross-licensing, allocating international markets, combining research and development efforts and facilities, suppressing the exchange of know-how, and limiting the sale globally to products under a single trade name.[790]

The court entered a consent decree that prohibited Servel from entering into any agreements with foreign companies except sales contracts and required the open licensing for making, using, or selling absorption refrigeration equipment currently owned or controlled by the defendant or which may be issued for a period of five years.[791] The only permissible conditions of these licensing agreements were the payment of reasonable royalties, non-transferability through sublicensing, and inspection of accounts to ensure compliance.[792]

In *United States v. Cincinnati Milling Machine Co.*, the government

783. *Id.*
784. *Id.*
785. *Id.*
786. United States v. Bearing Distrib. Co., [1952–1953] Trade Cas. (CCH) ¶ 67,595 (W.D. Mo. Oct. 27, 1953).
787. *Id.*
788. *Id.*
789. *Id.*
790. United States v. Servel, Inc., [1954] Trade Cas. (CCH) ¶ 67,665 (E.D. Pa. Jan. 18, 1954).
791. *Id.*
792. *Id.*

charged Cincinnati Milling and four other corporations with agreeing to an illegal cross-licensing scheme to control the domestic milling machine industry.[793] Milling machines were used to mill the finished surfaces for parts used in an incredibly broad array of industrial machines important to the economy and security of the nation.[794] The defendants signed at least eleven separate agreements between 1931 and 1951, with the parties agreeing to cross-licensing, allocating sales territories, issuing licenses to third parties only on onerous conditions, granting each other immunity from infringement suits and requiring licensees to provide such immunity, and restraining from competition among each other.[795]

In addition to canceling the various agreements to which the defendants were parties, the decree enjoined infringement suits or threats of suits, and compelled the provision to license necessary technical know-how without restriction except confidentiality for a period of five years.[796] The decree enjoined efforts to control advertising, prohibit licensees from producing certain types of milling machines or processes, and allocate sales territories.[797] The decree also enjoined tying agreements in which licensees agreed to the purchase of unpatented devices or methods, the compulsory disclosure of lists of clients from licensees, granting immunity from infringement suits, or the setting of price or terms of sale whether directly or indirectly.[798]

In *United States v. Blaw-Knox Co.*, defendant had signed several agreements from 1935 through 1938 with English manufacturers of cast metal rolls that the government alleged amounted to an illegal scheme to control the industry.[799] The government further alleged the parties to these agreements conspired to pool their technical knowledge through exchanges unavailable to competitors, used requirements for the affixing of trademarks to enhance their respective market positions, restricted U.S. imports and exports, and exchanged pricing information.[800]

The court issued a consent decree that enjoined these practices and generally prohibited agreements with foreign manufacturers.[801] Although, defendant Blaw-Knox was allowed to continue to exchange technical information as long as it did not impose conditions governing the locations in which the information could be utilized and did not

793. United States v. Cincinnati Milling Mach. Co., [1954] Trade Cas. (CCH) ¶ 67,733 (E.D. Mich. Apr. 19, 1954).

794. *Id.*

795. *Id.*

796. *Id.*

797. *Id.*

798. *Id.*

799. United States v. Blaw-Knox Co., [1954] Trade Cas. (CCH) ¶ 67,750 (W.D. Penn. May 10, 1954).

800. *Id.*

801. *Id.*

preclude the importation into the U.S. products made from the application of any provided information.[802] Transactions between Blaw-Knox and a subsidiary in which it held a majority position were also not subjected the remedies outlined in the decree.[803]

In *United States v. U.S. Rubber Co.*, the government brought suit against three corporations alleging the formation of a plan to control the production and sale of latex products.[804] The American corporations were alleged to have formed a number of companies in both the United States and overseas, and under their collective ownership entered into agreements with foreign producers in the United Kingdom, Italy, Holland, France, Canada, and elsewhere beginning in 1932 through 1941.[805] These agreements were alleged to have provisions for the allocation of markets and manufacturing territories, to refrain from competing with the collectively owned companies, and for the pooling of patents issued under various jurisdictions, including the United States, under the control of a patent holding company.[806]

A consent decree entered in 1954 permitted U.S. Rubber to retain its equity position in the most important of these foreign companies but enjoined it from participating in corporate decision making or voting for directors and members of the board.[807] The decree terminated certain agreements between U.S. Rubber and overseas companies restricting production, fixing prices or terms of sale, and initiating or threatening to initiate infringement suits.[808] In addition to terminating more than forty agreements between defendants and foreign companies, provisions of the decree enjoined territorial allocation or geographic restrictions on production or sales, compelled open and non-exclusive licensing on reasonable royalties, eliminated the granting of immunity to suits by parties to the agreements, precluded the acquisition of additional foreign patents by U.S. Rubber, and required the provision to all applicants of relevant technical knowledge.[809] The decree also compelled the American defendants to adopt, use, and license additional trademarks for exported latex products.[810]

In *United States v. Pittsburgh Crushed Steel Co.*, more than a dozen U.S. manufacturers of metal abrasives used in cutting, sawing, cleaning, or polishing metal and stone and one trade association (Metal Abrasive

802. *Id.*
803. *Id.*
804. United States v. U.S. Rubber Co., [1954] Trade Cas. (CCH) ¶ 67,771 (S.D.N.Y. May 28, 1954).
805. *Id.*
806. *Id.*
807. *Id.*
808. *Id.*
809. *Id.*
810. *Id.*

Council) were charged with conspiracy to dominate the industry.[811] The original complaint charged the defendants with using their dominant position to drive competitors from the market through price wars, acquiring competitors or employing their managers and leading researchers, threatening patent infringement suits, and reaching agreements with manufacturers of machines used to produce the abrasive from entering the market as competitors.[812] The government also alleged universal assent to price-fixing.[813]

The court issued a consent decree that enjoined the defendants from membership in the association at any level as well as the exchange of technical information among themselves or with the association.[814] The decree also enjoined price setting and the exchange of pricing lists, schedules, data, or bids.[815] Also enjoined was the exchange of information about production or inventories.[816] Certain defendants linked by the influence of the Kann brothers were enjoined for a period of ten years from entering into any agreement with defendants or other manufacturers of metal abrasives or from acquiring ownership in same except upon approval of the court.[817]

The decree also required defendants to offer to all applicants a non-exclusive and unconditional license, except for the payment of reasonable and non-discriminatory royalties and provisions against transfer or sublicensing.[818] Any effort to prevent licensees from challenging the validity of patents was enjoined while the defendants were precluded from initiating or threatening infringement suits.[819] For five years the defendants were to provide technical information to licensees.[820] Licensing agreements were not to include tying agreements that required the purchase of materials or services from designated sources.[821]

United States v. L.D. Caulk Co. involved technology for making dental impressions.[822] Before 1930, bees wax, plaster of Paris, or other

811. United States v. Pittsburgh Crushed Steel Co., [1954] Trade Cas. (CCH) ¶ 67,892 (N.D. Ohio Nov. 13, 1954).

812. *Id.*

813. *Id.*

814. *Id.*

815. *Id.*

816. *Id.*

817. *Id.*

818. *Id.*

819. *Id.*

820. *Id.*

821. *Id.*

822. United States v. L.D. Caulk Co., [1954] Trade Cas. (CCH) ¶ 67,919 (D. Del. Dec. 2, 1954); *see also* United States v. L.D. Caulk Co.,), [1952–1953] Trade Cas. (CCH) ¶ 67,532 (D. Del. July 6, 1954).

unsatisfactory compounds were used in capturing dental impressions.[823] Several inventors, both in America and around the world, experimented with preferable alternatives, eventually resulting in the Wilding patent for an alginate dental impression powder, which was eventually assigned to Amalgamated Dental Manufacturing Company.[824] Until Wilding's discovery, the primary alternatives to the traditional materials relied on a derivative of seaweed available exclusively from the Sea of Japan, a material that became unavailable to most of the world with the onset of WWII.[825] During 1940, defendant Caulk learned of Wilding's pending application and approached Amalgamated Dental with the intent of licensing his superior invention.[826] These negotiations produced in February 1942 an exclusive, non-assignable license with a royalty payment of 10% which covered the United States, Canada, and three other countries in the Americas.[827] Defendant Coe Laboratories, then using a compound under two earlier patents, approached Amalgamated Dental to negotiate a licensing arrangement.[828] Coe Laboratories was encouraged by the United States to secure an alternative compound because of the shortage of the agar-agar compound found in the Japanese seaweed.[829] In October 1942, with the blessing of Amalgamated Dental, Caulk granted a non-exclusive, non-assignable license to Coe Laboratories to produce under the Wilding patent throughout the United States on a royalty of 15% of wholesale or an "overriding royalty of 5%."[830] This license was to expire within six months of the termination of the war.[831]

During the war years Coe Laboratories became increasingly concerned about third parties infringing on the Wilding patent unencumbered by the burden of royalty payments.[832] In 1945, Amalgamated Dental brought an infringement suit against Dental Perfection, a defendant in the current case, and its principal operator Stanley E. Noyes.[833] In 1947, the agreement between Amalgamated Dental and Caulk was amended with a reduction from 10% to 5% of the royalty rate and the elimination of Caulk's exclusive right to sublicense.[834] That same year, Amalgamated Dental's suit against Dental

823. *Id.*
824. *Id.*
825. *Id.*
826. *Id.*
827. *Id.*
828. *Id.*
829. *Id.*
830. *Id.*
831. *Id.*
832. *Id.*
833. *Id.*
834. *Id.*

Perfection was settled in which Dental Perfection admitted its infringement of a valid patent, obtained from Caulk a license to this patent at a royalty rate of 10%, and was relieved of liability for damages from past infringement.[835] By October 1947 Dental Perfection, by far the largest manufacturer under the Wilding patent, urged legal action against smaller players it believed were infringing the patent it was paying handsome royalties under a recently completed licensing agreement.[836]

At a Washington, D.C. meeting of the defendants and agents of Amalgamated Dental, the government alleged in its complaint that a conspiracy was hatched to control the industry by means of pooling of patents, controlling licenses and sublicenses, the targeting of competitors for infringement suits, and the exchanging of formulae used by alleged infringers.[837] The court granted the defendants' motion for summary judgment, arguing the facts presented did not support the conclusion of an illegal scheme to monopolize the industry, that there was not pooling of patents but only the lawful licensing and sublicensing to certain parties, and ultimate control of which rested properly with Amalgamated Dental.[838] Further, the court held that the separate legal actions against certain alleged infringers were properly constructed and were not evidence of an illegal coordination.[839]

In *United States v. Kobe, Inc. (Magcobar, Inc.)*, the government brought an action against domestic manufacturers of hydraulic oil-well pumps.[840] In its complaint, the United States alleged that the defendants conspired to dominate the industry through the formation of a patent pool under the control of Kobe, which used its position to maintain its dominance through onerous licensing agreements, acquisition of additional patents, and threat of infringement suits.[841]

The court issued a consent decree that required Kobe to offer non-exclusive and unconditional licenses to make, use, or sell without restriction except for the payment of reasonable and non-discriminatory royalties, non-transferability, and cancellation for non-payment for the life of the various patents at issue.[842] The court reserved jurisdiction as the final arbiter of what constituted a "reasonable royalty" in the event of irresolvable disagreement between Kobe and an applicant.[843] The judgment enjoined restrictions on Kobe's right to license, the initiation or

835. *Id.*
836. *Id.*
837. *Id.*
838. *Id.*
839. *Id.*
840. United States v. Magcobar, Inc., [1955] Trade Cas. (CCH) ¶ 68,023 (S.D. Cal. Apr. 6, 1955).
841. *Id.*
842. *Id.*
843. *Id.*

continuation of infringement suits, or the issuance of licensing on the condition of adherence to a specified prices or terms of sale.[844] The co-defendants were enjoined from acquiring stock in Kobe, Inc. or its successors.[845]

In *United States v. Associated Patents*, six corporate defendants were charged with pooling their patents for machine tools under the patent holding and licensing company, and seventh co-defendant, Associated Patents, Inc. (API) beginning in August 1933.[846] The machine tools covered under the patent pool essentially included station power tools used to shape or cut metal, such as lathes, shaving machines, drilling machines, boring machines, milling machines, broaching machines, grinding machines, gear manufacturing machines, and screw machines.[847] The complaint alleged defendants divided amongst themselves much of the machine tools industry by receiving exclusive patents.[848] The complaint also alleged that the agreements forming API were intended to suppress competition among the defendants and from corporations not parties to the pool.[849]

The original agreement from 1933 applied to the backlash eliminator, the power transmission mechanism, an automated position device, and their improvements invented by defendant DeVlieg.[850] Each defendant was to assign improvements to API which accepted the cost of securing and defending the patents.[851] In return for an exclusive license under the pooled patents for their designated area, the defendants paid API a royalty of 0.5% of net selling price for each improvement.[852] API was given the exclusive power to license and sublicense under the patents it controlled, provided it did not infringe on the designated areas of exclusivity reserved for the defendants.[853]

Among the findings of fact by the court was the determination that the licensing powers given to API were not to enhance the financial returns of the original patent owners but to suppress competition among them and therefore, API was little more than a cover for the exclusive cross-licensing of patents among the defendants for controlling the industry and driving competitors from the market.[854]

The court determined that the agreement forming API and its

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844. *Id.*
845. *Id.*
846. United States v. Assoc. Patents, Inc., 134 F. Supp. 74, 75 (E.D. Mich. 1955).
847. *Id.*
848. *Id.*
849. *Id.* at 76.
850. *Id.* at 77.
851. *Id.* at 78.
852. *Id.*
853. *Id.*
854. *Id.* at 79–80.

operations included a variety of illegal restraints of trade in violation of the Sherman Act, and that the United States was entitled to a decree voiding the agreement.[855] The court concluded, however, that because the outcome of independent litigation involving several parties to the API agreement would significantly affect its assets and structure, the determination of relief would be set aside pending the outcome of this other litigation with the current court retaining jurisdiction.[856]

In *United States v. New Wrinkle, Inc.*, the Supreme Court again weighed in on patent pooling.[857] The government filed a complaint against manufacturers of enamel, varnish, and paints whose products could be combined in such a way as to harden into a dry, wrinkled finish.[858] Writing for the Court, Justice Reed focused on the price-fixing provisions of the agreement and found that the agreement violated the Sherman Act.[859] Reed argued that with the facts not in question, the only issue was a question of law.[860] The Court reviewed language in the original agreement creating a compulsory price schedule for all licensees once the twelve largest producers had joined the pool.[861] The primary mechanism by which New Wrinkle was able to impose price conditions was its pooling of patents for making wrinkled finishes.[862] Relying on *United States v. Line Material*, Justice Reed argued the powers of patent holders to set terms for the exploitation of their innovation were bounded by the antitrust objectives of the Sherman Act.[863] Responding to the defendant's reliance on *E. Bement & Sons v. National Harrow* and *United States v. General Electric* to support the right of patent owners to offer licenses subject to price control by the patentee, Reed noted that in *United States v. Line Material*, the Court held that "price control through cross-licensing was barred as beyond the patent monopoly."[864] Ultimately a consent decree enjoined New Wrinkle from price-fixing and setting sale conditions, establishing governing officers, and acquiring competitors of the pooled patents.[865]

In *United States v. American Steel Foundries*, four corporate defendants produced the steel components used as the structural framework for railway freight cars, specifically the undercarriage onto

855. *Id.* at 83.
856. *Id.*
857. United States v. New Wrinkle, Inc., 342 U.S. 371, 380 (1952).
858. *Id.* at 373.
859. *Id.* at 380.
860. *Id.* at 376.
861. *Id.* at 375 n.4.
862. *Id.* at 374.
863. *Id.* at 377 n.6.
864. *Id.* at 379.
865. *Id.* at 380.

which the axles and wheels were attached.[866] The government's complaint noted that for these crucial components, the defendants controlled 83% of the domestic production.[867] The defendants were alleged to have established their dominant positions through various collusive mechanisms, including a patent pool.[868]

A consent decree enjoined various practices established under a series of agreements amongst themselves and with foreign producers, including dividing sales territories, establishing controls over imports and exports, granting preferential trading terms to certain international producers, restricting production, exchanging pricing information, or imposing price schedules or "basing point" systems.[869] Practices relating most directly to the formation and operation of a patent pool enjoined by the decree were efforts to acquire foreign patents, centralize patent licensing for foreign patents, or offer licensing on exclusive terms.[870] The decree required the American defendants to offer domestic manufacturers royalty-free licenses, access to manufacturing drawings, and participation in technical projects.[871] The decree also directed the defendants to terminate their agreements with foreign companies and to offer, subject to reasonable royalties, licenses to their foreign patents.[872]

In *United States v. Liquid Carbonic Corp.*, several corporate defendants were alleged to have violated the Sherman Act by pooling their patents for the manufacture of dry ice and carbon dioxide in a scheme to control the industry using the weapon of infringement litigation to drive competitors from the market.[873] The consent decree enjoined a wide array of practices including explicit or indirect collusion in the fixing of prices, allocating markets and clients, discriminating against purchasers of dry ice to make carbon dioxide, and conditioning the sale of equipment or the licensing of patents upon agreement to purchase products exclusively from defendants.[874] The decree also enjoined Liquid Carbonic, Air Reduction, and Wyondotte from purchasing assets in or exercising control over International Carbonic Engineering.[875]

For ten years Liquid Carbonic and Air Reduction were directed to

866. United States v. Am. Steel Foundries, [1955] Trade Cas. (CCH) ¶ 68,156 (N.D. Ohio Sept. 30, 1955).
867. *Id.*
868. *Id.*
869. *Id.*
870. *Id.*
871. *Id.*
872. *Id.*
873. United States v. Liquid Carbonic Corp., [1952–1953] Trade Cas. (CCH) ¶ 67,248, at 67,377–78 (E.D.N.Y. Mar. 7, 1952).
874. *Id.*
875. *Id.*

cancel exclusive mutual purchasing agreements and for ten years were enjoined from concluding exclusive and restricted contracts with limited resellers.[876] The volume of dry ice that Liquid Carbonic and Air Reduction were allowed to purchase on advance orders from regional producers was severely restricted under the terms of the decree.[877] International Carbonic Engineering, which controlled the primary underlying patent, was enjoined from continuing or initiating infringement suits.[878] Each defendant was directed to offer licenses under their various rights to Patent No. 2,025,698 on reasonable and non-discriminatory terms.[879]

In *United States v. R. Hoe & Co., Inc.*, the government successfully obtained a consent decree against various manufacturers of printing presses, printing machinery, and plate making machinery.[880] The decree enjoined allocating market and sales territories, fixing prices and setting terms or conditions, and granting preferential terms under certain foreign transactions.[881] Enjoined activities pertaining to the provisions of patents included the sharing of technical information with certain foreign corporations that were parties to prior agreements.[882] R. Hoe was directed to use a second trademark for its products overseas that was to be clearly distinct from the trademark it had used and required for products sold throughout the world.[883]

In *United States v. Michigan Tool Co.*, the defendants were manufacturers and wholesalers of gear cutting and finishing equipment used most importantly in the manufacture of airplanes, tanks, tractors, and other motorized vehicles vital to the national defense, some of which were designated as in critically short supply by the National Production Authority.[884] The complaint alleged that the defendants, beginning in 1937 with the most recent agreement signed in 1951, had illegally restrained trade in vital machine tools by means of patent licensing and cross-licensing agreements.[885]

In 1956, the defendants pled no contest, paid a collective fine of just over $22,000, and submitted to a consent decree terminating their various agreements and enjoining a large number of specific business

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876. *Id.*
877. *See id.*
878. *Id.*
879. *Id.*
880. United States v. R. Hoe & Co., Inc., [1955] Trade Cas. (CCH) ¶ 68,215 (S.D.N.Y. Dec. 6, 1955).
881. *Id.*
882. *Id.*
883. *Id.*
884. United States v. Michigan Tool Co., [1956] Trade Cas. (CCH) ¶ 68,290 (E.D. Mich. Feb. 28, 1956).
885. *Id.*

practices.[886] These enjoined practices included publishing price schedules, fixing prices, requiring licensees to refrain from the purchase of competitors' goods, regulating, by agreement with foreign companies, goods or prices of goods exported to the United States, and requiring that foreign companies agree to exclusive licenses with the defendants.[887] The defendants were also enjoined from sharing patent-related technical information among themselves on an exclusionary basis or from entering into agreements to grant or accept exclusive licenses or assignment of rights under patents held by other manufacturers.[888] Each defendant was directed to publicize the terms of the decree in trade publications, to offer patent licenses to all applicants on reasonable and non-discriminatory terms, and to provide, at cost, reproductions of all technical reports, design information, and the like, for all machines covered under the patents at issue.[889]

In *United States v. Ohio Crankshaft Co.*, the government obtained a consent decree against two corporate defendants that enjoined certain business practices related to the manufacture of induction hardened crankshafts used by engines to derive forward thrust via the transmission system conversion of the vertical force generated by the engine's pistons.[890] Muskegon Motor Specialties was enjoined from entering into any agreement with any other company or individual that included provisions to refrain from making or selling induction hardened crankshafts, fix prices or other conditions of sale by licensees to third parties, exchange clientele lists, or allocate certain markets, geographic areas, or individual clients.[891] Other practices enjoined under the decree included tying agreements in which licensees agreed to obtain other services from licensors or restrict the use of licensed machines.[892] Also enjoined was the granting or receiving patent licenses with provisions entitling the licensee control over the total number of licenses including other exclusive powers.[893] Finally, the decree directed the defendant to offer hardening services on reasonable, per piece, terms and conditions.[894]

886. *Id.*
887. *Id.*
888. *Id.*
889. *Id.*
890. United States v. Ohio Crankshaft Co., [1956] Trade Cas. (CCH) ¶ 68,329 (N.D. Ohio Apr. 18, 1956) (Induction hardened crankshafts were distinguished from crankshafts by the use of process of rough machining, hardening from application of high heat, and precision machining); *see also* Gen. Electric Co. Carnahan & Dalzell, Inc., [1956] Trade Cas. (CCH) ¶ 68,450, at 71,890 (N.Y. App. Div. July 6, 1956).
891. *Id.*
892. *Id.*
893. *Id.*
894. *Id.*

In *United States v. Logan Co.*, the government charged six manufacturers of devices used to feed metal sheets into rolling mills with a scheme to effectively set industry-wide price floors by requiring licensees to sell at or above minimum prices published in a price schedule.[895] The final judgement entered in June 1956, enjoined Logan Co. from pursuing agreements to set prices, control price level changes, discount rates, or exchange information with competitors about costs or pricing strategies via published prices schedules or lists.[896] Logan was directed to issue licenses to all interested parties, without condition on reasonable and non-discriminatory terms.[897]

In *United States v. Joseph A. Krasnov*, the government alleged that manufacturers of ready-made slip covers held a monopoly position in the Philadelphia area.[898] The firms allegedly established and maintained this monopoly via cross-licensing agreements, infringement suits, disparagement of competing products, distribution control, and other means.[899] These slipcovers were produced in one of four types (woven fabric, rubber thread, knitted fabric, and knitted fabric with rubber thread) with generic dimensions for use on standard household furniture.[900] The original complaint included allegations that Joseph Krasnov and members of his family, operating under the trade name Sure-Fit, entered into an agreement involving licenses and cross-licenses with other parties, which contained the right to produce a limited number of articles for the local market.[901] The agreement also provided Sure-Fit veto power over licensing of its Oppenheimer patent, directed one defendant to set a price for all covers produced under this patent, and required all defendants to share litigation costs associated with defending this patent.[902] The complaint alleged that one of the defendants would enforce its collusive agreement by threatening competitors with infringement of the broad Oppenheimer patent, purchasing competitor's covers in bulk from distributors in exchange for the signing of exclusive agreements, reselling these products below the wholesale price offered by their competitors, providing discriminatory discounts, and making disparaging comments about competitors' practices and products.[903]

Summary judgment for the United States was issued on July 30, 1956, enjoining the defendants from enforcing agreements or any of their

895. United States v. Logan Co., [1956] Trade Cas. (CCH) ¶ 68,375 (W.D. Pa. June 7, 1956).
896. *Id.*
897. *Id.*
898. United States v. Krasnov, 143 F. Supp. 184, 188 (E.D. Pa. 1956).
899. *Id.* at 189.
900. *Id.* at 188.
901. *Id.* at 189.
902. *Id.*
903. *Id.*

provisions to accomplish their illegal local monopoly.[904] The court rejected the defendants' use of *United States v. General Electric* to support the right of patent holders to set prices by arguing that in this case both the licensor and the licensee derived benefits by collusion against their competitors.[905] The price-fixing here was viewed as exceeding what was necessary and permitted under *General Electric* to protect a patent holder's patent monopoly against a licensee.[906] This court also rejected the defendants' use of *Standard Oil v. United States* to demonstrate the legality of their cross-licensing agreements, noting that the earlier case arose in the wake of a much more unsettled and unclear body of case law, which has subsequently become substantially clarified.[907] The court further noted that, in any event, the rule established in *Standard Oil* permitted cross-licensing agreements only in so far as they did not suppress competition.[908]

In *United States v. Owens-Corning Fiberglas Corp.*, the government obtained a consent decree enjoining Owens-Corning and two other defendants from enforcing illegal agreements to control the international fiberglass trade and canceling several contracts between the American defendants and certain foreign corporations.[909] The decree also enjoined a range of practices by all defendants, including dividing territory in the production and sale of fiberglass products, restraining imports into the United States, agreeing to refrain from competition in particular markets or product categories, referring clients to foreign partners, refusing to sell to some parties except on unreasonable terms or prices, or holding stocks in Fiberglass Canada.[910] Owens-Corning was also ordered to offer open licenses to the more than 200 patents it held on glass fiber products on a royalty-free basis and offer licenses to another sixty patents and all patents it would obtain in the ensuing five years to all applicants on reasonable terms.[911] The decree also required Owens-Corning to reserve the right to issue additional sublicenses.[912]

In *United States v. Robertshaw-Fulton Controls Co.*, the government charged both Robertshaw-Fulton and Wilcolator with Sherman Act violations under a scheme to pool their current and future patents in order to dominate the trade in temperature controls used on gas cooking

904. *Id.* at 202–03.
905. *Id.* at 198.
906. *Id.*
907. *Id.* at 199.
908. *Id.*
909. United States v. Ownes-Corning Fiberglas Corp., [1948–1949] Trade Cas. (CCH) ¶ 62,442 & [1952–1953] Trade Cas. (CCH) ¶ 67,206.
910. [1948–1949] Trade Cas. (CCH) ¶ 62,442.
911. *Id.*
912. *Id.*

ranges.[913] By ensuring a steady flow of gas, these devices allow a stove or range to achieve and maintain a constant temperature.[914] The government alleged that some 96% of the domestic production of these gauges were produced and sold by the co-conspirators.[915]

The final judgment cancelled all existing agreements that included provisions to restrict or fix prices, communicate information valuable in coordinating prices, or allocate markets or customers.[916] The judgment prohibited either defendant from acquiring a controlling position in a firm involved in manufacture of temperature controls by any method for five years[917]. For an additional ten years, Robertshaw-Fulton was prohibited from acquiring such ownership without court's approval.[918] The final judgment directed Robertshaw-Fulton and Wilcolator to offer non-exclusive licenses openly to all parties under any or all the patents they held or would acquire in the following five years.[919] These licenses were required to be offered without condition except that they be non-transferable, provide for reasonable royalties, allow for the inspection of books by the licensor, and refer to the present judgment.[920] Defendants were enjoined from entering licensing agreements that limited in any manner their ability to offer other licenses or sublicenses or which reserved for the defendants alone immunity against infringement claims.[921]

In *United States v. Libbey-Owens-Ford Glass Co.*, it appears that a consent decree had previously invalidated a patent pool of numerous patents related to the manufacture of glass products.[922] The defendants sought the court's opinion on the validity of agreements in which licensees paid a flat royalty whether licensing one or all of a certain set of forty-one patents.[923] Given the potentially blocking nature of those particular patents, the court allowed such provisions.[924]

In *Clapper v. Original Tractor Cab Co., Inc.*, Clapper brought a patent infringement claim against Original Tractor Cab, who then counter-

913. United States v. Robertshaw-Fulton Controls Co., [1957] Trade Cas. (CCH) ¶ 68,592 (W.D. Pa. 1957).
914. *Id.*
915. *Id.*
916. *Id.*
917. *Id.*
918. *Id.*
919. *Id.*
920. *Id.*
921. *Id.*
922. *See* United States v. Libbey-Owens-Ford Glass Co., [1958] Trade Cas. (CCH) ¶ 69,147 (N.D. Ohio Sept. 16, 1958).
923. *Id.*
924. *Id.*

claimed alleging violations of the Sherman Act.[925] In its review of the facts, the court of the Southern District of Indiana determined that in 1945, Clapper and Lee Flora separately filed for patents related to heat covers for use in tractor engines.[926] The following year, Michael A. Halligan filed an application for a similar invention.[927] The USPTO found that the claims were interfering in its priority determination and that the Flora and Halligan side claims were interfering.[928] While Clapper's application was being reviewed, he secured an exclusive license from Bearing Distributors Company to make and sell a particular cover that was included in his application.[929] The other two inventors also entered into exclusive licensing arrangements for their pending patents with two other corporations.[930]

Following the determination of interference in 1948, the parties met in Chicago and devised a plan to resolve their competing claims.[931] At this meeting, before disclosing their respective dates of invention, the parties agreed they would each derive royalties under a right to license under patents awarded for any and all of the applications pending as well as any future patents which may later be awarded.[932] They devised a scheme to divide royalties and settle invention priority dates.[933] This basic framework assumed greater specificity at meetings later that year in St. Louis and, particularly, in Des Moines in August 1948.[934] In Des Moines, the court determined the parties agreed to establish Clapper with the priority for the basic invention on which all three had claims (Patent No. 2,452,834) and Flora received priority for the associated cover plate (Patent No. 2,461,974), for which it and Halligan had interfering claims, but Halligan agreed not to claim any great priority.[935] This agreement was eventually dissolved in 1953 in the face of an antitrust action by the United States in the Western District of Missouri.[936]

During the operation of this agreement, Clapper, Flora, and Halligan agreed to limit their respective sales offices to one apiece, to pay Clapper

925. Clapper v. Original Tractor Cab Co., 165 F. Supp. 565, 567 (S.D. Ind. 1958), *rev'd*, 270 F.2d 616 (7th Circ. 1959); *See generally* Mason City Tent & Awning Co. v. Clapper, 144 F. Supp. 754 (W.D. Mo. 1956) (litigation of the same patent pool).

926. *Clapper*, 165 F. Supp. at 568.

927. *Id.*

928. *Id.*

929. *Id.*

930. *Id.*

931. *Id.*

932. *Id.*

933. *Id.*

934. *Id.* at 569. Note also that a license agreement was executed at that time by the three inventors.

935. *Id.*

936. *Id.* at 571.

a royalty of one dollar on each tractor they sold or fifteen cents on windshields sold separately, to assign Flora receipt of twenty-five cents for each tractor sold that included the cover, to determine that any innovations produced by one of the three was available under royalty-free licenses to the other parties, and to require unanimous consent before any party could license or sublicense.[937] The agreement also included provisions for the licensing of any patents that may eventually be granted to Halligan and for Flora and Clapper to contribute to a common litigation defense fund for the patents.[938] In 1948 and 1949 Clapper, tapping into this fund, sent letters of intent to sue and initiated infringement claims against Original Tractor Cab and distributors of its tractor covers, causing Original Tractor to suspend production for a limited period.[939] A request to license the patents by Original Tractor was rebuffed.[940]

The court determined that Clapper's patent to capture waste heat from the engine and funnel it into the cab for heat was an obvious adaptation, not a patentable invention since three almost identical devices were created by the three inventors at about the same time.[941] Given the invalidity of its patent, Clapper had no case related to infringement.[942]

Turning its attention to the legality of the Des Moines Agreement under the Sherman Act, the court determined the agreement was illegal because each of its elements—coordinated infringement suits and threats of suits, required unanimous approval of sublicenses, and restricted production sites were each illegal when pursued as part of an illegal scheme.[943] In essence, the court held that potentially legal elements of a pool become illegal when pursued to achieve the illegal purpose of restraining trade.[944] Particularly offensive to the court was the effective combination of non-competing patents under one licensing agreement including the veto provisions.[945]

The court argued that what "may be legally done by a patentee, or his assign, singularly or collectively, is no criterion for the measurement of the legality" under the Sherman Act of any particular licensing arrangement.[946] The bulk of the opinion determines the scope of damages, settling on a figure of just over $27,611.[947]

937. *Id.* at 569.
938. *Id.* at 570.
939. *Id.* at 572.
940. *Id.*
941. *Id.* at 576.
942. *Id.*
943. *Id.* at 576–77.
944. *Id.* at 577.
945. *Id.*
946. *Id.*
947. *Id.* at 585.

2. 1960–1969

Beginning in the 1960s the number of pooling cases that were litigated dwindled significantly, and few of the opinions addressed the legality of the pools themselves. As Merges notes:

> federal antitrust policy is the most likely explanation for the small number of patent pools existing today. Ever since myriad forms of inter-firm cooperation were condemned in the "trust-busting era," firms have been reluctant to initiate industry-wide arrangements of every ilk, including pools. . . . [T]he relative scarcity of pools on the present landscape—especially given the increasing presence and strength of patents in many industries—suggests a classic case of excessive deterrence.[948]

In the 1960s the attitude of the antitrust enforcement regime was quite hostile towards patent licensing,[949] as both the USDOJ and the FTC applied a presumption of market power to the patent grant without any consideration of the structural characteristics of the marketplace in which the patented products competed.[950] Similarly, those agencies also afforded little weight to efficiency considerations of any licensing restrictions.

In *United States v. Singer Manufacturing Co.*, however, a district court rejected each of the government's claims alleging a conspiracy to illegally restrain the international trade in sewing machines.[951] This case turned on agreements relating to claims included in the successful application for five patents then owned by The Singer Manufacturing Co., a sewing machine company.[952] The government asserted that Singer's acquisition of certain patents was not necessary for the production and sale of its sewing machines but part of a larger scheme to monopolize the industry.[953] The specific complaints were that Singer had, through this combining of all patents related to zigzag home sewing machines, made agreements to confer to Singer and its partners the "broadest possible patent claims" for their respective patents so as to exclude the claims of competitors.[954] The complaints also asserted that Singer tried to use its patents to exclude imports from the United States, determined the product

948. *See* Merges, *supra* note 15, at 1351–52.

949. Steven C. Carlson, Note, *Patent Pools and the Antitrust Dilemma*, 16 YALE J. ON REG. 359 (1999).

950. IP Guidelines, *supra* note 24.

951. United States v. Singer Mfg. Co., 205 F. Supp. 394, 432 (S.D.N.Y. 1962), *rev'd*, 374 U.S. 174 (1963).

952. *Singer Mfg.*, 205 F. Supp. at 399.

953. *Id.* at 396.

954. *Id.*

lines of European partners, consummated a cross-licensing arrangement with Messerschmitt, and then acquired the application for the purpose of limiting competition from foreign producers.[955]

The district court found that an agreement to decline to challenge the scope of patent claims of other parties was not illegal.[956] In other words, failure to oppose another patent or application is not illegal. Similarly, the court found the agreement between the parties to refrain from infringement suits was permissible because the parties were entitled to avoid litigation, were not obliged to pursue possible avenues for litigation, and in this agreement, exchanged something of value (the right to sue) to the other in return for something of value (freedom from suit and cross-licensing).[957] The cross-licensing agreement with Messerschmitt was found to be permissible and not evidence of either intent or effect of a restraint in trade.[958] The acquisition of the U.S. patent rights of foreign companies was also viewed as legal in the absence of intent or actual restraint.[959] Suits against Japanese manufacturers of sewing machines alleging infringement of one or more of the patents pooled by Singer through acquisition were not evidence of a conspiracy, and in any event, were only marginally successful.[960] Coordinated legal actions with foreign partners were also legal because they related solely to suits on U.S. patents legally owned by Singer for goods sold in the United States.[961]

The district court also found favorably for the defendant on the other major issues in the case.[962] It found that the selective licensing of patents was not evidence of a conspiracy to exclude other parties illegally, but a justifiable business decision based on rational business calculations.[963] The patent owners were also legally entitled to refuse to license to some competitors and eliminate infringers.[964]

On appeal the Supreme Court reversed, holding that there had been a conspiracy to exclude Japanese competitors in household zigzag sewing machines.[965] The controlling factor in determining that a conspiracy had occurred was the overall common design to destroy the Japanese sale of infringing machines in the United States by placing the patent under

955. *Id.*
956. *Id.* at 411.
957. *Id.* at 409.
958. *Id.* at 431.
959. *Id.* at 432.
960. *Id.* at 409.
961. *Id.*
962. *Id.* at 432.
963. *Id.* at 431.
964. *Id.*
965. *Singer Mfg.*, 374 U.S. at 175.

Singer's control.[966] Finding this concerted action to restrain trade to be clearly established by the course of dealings, the Court found Singer in violation of the antitrust laws.[967]

In *International Mfg. Co. v. Landon, Inc.*, Landon controlled two blocking patents[968]: the Pace patent covering a fluid circulation device making it possible to filter swimming pools continuously without excessive backpressure and the Cavenah patent, which added a vacuuming capability to a Pace device. When Landon sued International Manufacturing and Rodolfo Jacuzzi, the defendants countered that Landon had violated the antitrust laws within its use of the Pace and Cavenah patents.[969] Trials in lower courts concluded that both patents were valid and were infringed.[970]

On appeal to the Ninth Circuit, Jacuzzi and International lost again except the court partially reversed on the question of the willfulness of the infringement.[971] The court found that the combination patent was valid because of the unique benefit emerging from the union, even where such combinations had previously been attempted without similar results.[972] The court concluded that before the first unfavorable opinion as to infringement, International Manufacturing and Jacuzzi were not infringing merely by challenging the validity, but that their infringing behavior became willful after losing their first appeal in early 1961.[973]

Both the lower court and the Ninth Circuit held that because the two patents covered the combination of the processes of filtering and vacuuming, no device could be patented that would feature both processes without violating one or the other patent. Because of the blocking patent relationship, the court found that Landon's policy of mandatory licensing for both patents was legal.[974] Earlier cases in which similar tying agreements, linking the licensing of several patents together, were found illegal were not blocking patents.[975]

In *McCullough Tool Co. v. Well Surveys, Inc.*, the Tenth Circuit affirmed the granting of summary judgment against McCullough Tool for infringement of patents covering a device measuring radioactivity.[976] The court found that McCullough's slight modifications to accomplish

966. *Id.* at 194.
967. *Id.* at 196.
968. Int'l Mfg. Co. v. Landon, Inc., 336 F.2d 723, 724–25 (9th Cir. 1964).
969. *Id.*
970. *Id.* at 724.
971. *Id.* at 731.
972. *Id.* at 726.
973. *Id.* at 728.
974. *Id.* at 731.
975. *Id.* at 730.
976. *See generally* McCullough Tool Co. v. Wells Surveys, Inc., 395 F.2d 230, 241 (10th Cir. 1968).

essentially the same ends through the same processes and tools did not protect it from infringing on Well Surveys' patents.[977] The court held that the Swift patent was sufficiently broad as to cover a number of slightly different techniques.[978] Regarding McCullough's claim that Well Surveys illegally used a patent pool in an effort to dominate the industry through burdensome litigation, the pool did not deny the relief.[979] Regarding the claim of an illegal collection of royalties, the court argued that patent pools were illegal only when they were illegally acquired or used, but little to no evidence of this was presented by McCullough.[980] In refusing to license McCullough, the court determined that Well Surveys merely refused to license on the terms proposed by the applicant.[981]

In *Arthur J. Schmitt Found. and Morris Bean Co. v. Stockham Valves & Fittings, Inc.*, the Schmitt Foundation and Morris Bean Co. had entered into a joint licensing arrangement for resin-coated sands used to form molds for shaping molten metal.[982] These forms had the property of holding their shape and strength long enough for the metal to harden.[983] They then lose their adhesiveness so they could be easily cracked off the final metal object.[984] Schmitt and Bean had determined that the patents in question were blocking and eventually negotiated a joint licensing agreement.[985] The defendant in an infringement suit alleged that this joint licensing agreement and other acts proved that plaintiffs were misusing their patents under their collective arrangement.[986]

The court found that if the plaintiffs' reasonable joint-license offers did not exclude separate licensing, then the pooling arrangement was not a misuse of patent rights.[987] The court also determined that the use of a sliding royalty scale and the direct licensing to manufacturers were not evidence of plaintiffs' misuse of their patents.[988] Even if the patents were complementary, if they could be licensed separately and were not otherwise used improperly, offering them together under a joint licensing agreement did not offend the law.[989]

The Supreme Court addressed the patent pooling issue again in *Zenith*

977. *Id.* at 234.

978. *Id.* at 238.

979. *Id.*

980. *Id.* at 239.

981. *Id.*

982. Arthur J. Schmitt Found. v. Stockham Valves & Fittings, Inc., [1968] Trade Cas. (CCH) ¶ 72,639 (N.D. Ala. 1966), *aff'd*, [1968] Trade Cas. (CCH) ¶ 72,640 (5th Cir. Ala. 1968).

983. [1968] Trade Cas. (CCH) ¶ 72,639.

984. *Id.*

985. *Id.*

986. *Id.*

987. *Id.*

988. *Id.*

989. *Id.*

Radio Corp. v. Hazeltine Research, Inc.[990] The dispute arose out of an infringement claim initiated in 1959 against Zenith Radio by Hazeltine Research, a patent holding and licensing company.[991] Zenith counterclaimed, charging antitrust violations.[992] The main patent at issue covered automatic contrast controls for televisions.[993]

In issuing a judgment for defendant Zenith, the district court found that the patent was invalid because of prior arts, rejected the claim that a 1949 application was a continuation of a 1946 application, and determined that even if valid, the Zenith process did not infringe.[994] The district court opinion also found that Hazeltine Research repeatedly violated the Sherman Act by requiring television manufacturers to license all of its roughly 500 patents or face infringement suits, and that licensing individual or smaller sets but only at excessive rates was not a defense.[995] The district court also found that by working in concert with a Canadian patent pool, Hazeltine illegally conspired to remove foreign competitors from the U.S. market.[996] Zenith was awarded treble damages under the Sherman Act.[997]

Hazeltine appealed to the Seventh Circuit, which reversed and remanded with specific instructions.[998] Specifically, the Seventh Circuit vacated the antitrust judgment against Hazeltine, in part because of a failure to prove actual damages in Canada to Zenith's sales; affirmed the 1949 patent application was invalid; and directed the court below to enter a judgment for $150,000 for Zenith against Hazeltine.[999] The Appeals Court also lifted an injunction imposed by the district court against further association with foreign patent pools by the defendants.[1000]

The Supreme Court affirmed much of the Seventh Circuit's holding but reversed on some grounds.[1001] The Court agreed the original injunction against Hazeltine's association with a Canadian patent pool was necessary because facts established at trial proved a conspiracy to exclude Zenith and others from the Canadian market.[1002] Although, it

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990. Zenith Radio Corp. v. Hazeltine Research, Inc., 239 F. Supp. 51 (N. D. Ill. 1965), *aff'd in part, and rev'd in part*, 388 F.2d 25 (7th Cir. 1968), *aff'd in part, and rev'd in part*, 395 U.S. 100 (1969), *on remand at*, 418 F.2d 21 (7th Cir. 1969).

991. *Zenith Radio Corp.*, 395 U.S. at 104.

992. *Id.* at 105.

993. *Id.* at 104.

994. *Zenith Radio Corp.*, 239 F. Supp. at 68.

995. *Id.* at 71, 77.

996. *Id.* at 75, 77–78.

997. *Id.* at 107.

998. Zenith Radio Corp. v. Hazeltine Research, Inc., 388 F.2d 25, 39 (7th Cir. 1968).

999. *Id.* at 35–39.

1000. *Id.* at 39.

1001. Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 141 (1969).

1002. *Id.* at 131.

reinstated the treble damages awarded to Zenith because of Hazeltine's antitrust violations in association with the Canadian pool.[1003] In the eyes of the Supreme Court, not only was this fact established convincingly by the trier of fact, but also the rationale used by the Seventh Circuit to address questions of fact was inapplicable.[1004] The Court also restored the injunction against future foreign pool associations, dismissing as in error the Circuit Court's premise that a failure to prove damages also required the lifting of the injunction against collusion.[1005] The Court also reversed the Circuit opinion by holding that licensing agreements tied to Hazeltine's entire "domestic licensing portfolio" were illegal if they were offered on an all-or-nothing basis and covered products or processes not directly within the reach of the patent.[1006]

E. *The Era of the Nine No-No's: 1970–1995*

Having amassed an impressive set of victories, in 1970 the Antitrust Division of the Justice Department articulated what came to be known as the "Nine No-No's," essentially a watch list of nine specified licensing practices that the division viewed as anticompetitive and would attract the scrutiny of the Division.[1007] These licensing practices were described in at least one speech by Deputy Assistant Attorney General Bruce B. Wilson as practices "which in virtually all cases are going to lead to antitrust trouble because of their adverse effect upon competition."[1008] The prohibited licensing practices consisted of the following:

- Requiring the licensee to purchase unpatented supplies (tie-ins);
- Requiring the licensee to assign to the patentee patents that may be issued to the licensee after the licensing arrangement is executed (mandatory grantbacks);
- Imposing post-sale restrictions on resale by purchasers of patented products;
- Restraining licensees' commerce outside the scope of the patent (tie-outs);
- Giving licensees veto power over grants of further licenses;
- Mandating package licensing;

1003. *Id.* at 114.

1004. *Id.* at 118.

1005. *Id.* at 132.

1006. *Id.* at 135.

1007. *See generally* Gilbert & Shapiro, *supra* note 11 at 283–336; *see also* Tom & Newberg, *supra* note 11.

1008. Bruce Wilson, Deputy Assistant Att'y Gen., U.S. Dep't of Justice, Patent and Know-How License Agreements, Field of Use, Territorial, Price and Quantity Restrictions, Remarks Before the Fourth New England Antitrust Conference (Nov. 6, 1970).

- Requiring payment of royalties in amounts not reasonably related to sales of the patented product;
- Restraining sales of unpatented products made by a patented process;
- Specifying prices licensees could charge upon resale of licensed products.[1009]

Although it is unclear whether every "No-No" was understood by the Antitrust Division to constitute a *per se* violation of the antitrust laws, Wilson further noted that "the validity of licensing practices other than these nine is to be tested under the rule-of-reason."[1010]

In *Noll v. O.M. Scott & Sons Co.*, Arthur Schwerdle had received a patent for a selective herbicide applied to post-emergent plants, particularly crabgrass, which would do relatively little harm to nearby grasses.[1011] During the 1950s, the American Research Association asserted ownership of the patent on the grounds that Schwerdle discovered the patented formula while he was an employee.[1012] This case was settled in an unusual manner prior to trial where the patent was assigned to a foundation with both ARA and Schwerdle receiving non-exclusive licenses.[1013] In 1956 Schwerdle began sending shipments of his herbicide, di-sodium methyl arsonate (DMSA) to Scott & Sons.[1014] Scott fulfilled this contract, then began marketing a dry version of the herbicide under the name Clout without payment of any royalties to Scott.[1015] Then in 1962, the foundation to which the patent was assigned sued Scott & Sons for infringement.[1016] The district court judge found the second claim of the patent invalid because of over-claiming but rejected Scott's other invalidity claims, arguing that Scott had failed to prove patent misuse and that the patent, if valid, was being infringed by the production and sale of Clout.[1017] Both parties appealed, and the Sixth Circuit court reversed in part, affirmed in part, and remanded for determination of damages owed.[1018]

The Sixth Circuit reversed the district court, finding that the second patent claim did not render the patent invalid.[1019] The Circuit Court upheld the finding that since the sole active ingredient in Clout was

1009. *Id.*
1010. *Id.*
1011. Noll v. O.M. Scott & Sons Co., 467 F.2d 295, 296 (6th Cir. 1972).
1012. *Id.* at 297.
1013. *Id.*
1014. *Id.* at 296.
1015. *Id.* at 296–97.
1016. *Id.* at 297.
1017. *Id.* at 298.
1018. *Id.* at 295.
1019. *Id.* at 300.

DMSA, Scott infringed the patent.[1020] Scott's other major defense rested on the claim of misuse of patents.[1021] They charged that the Trust Agreement receiving the Schwerdle patent represented an illegal attempt to limit the market for DMSA.[1022] They also alleged that the trustees worked to expand the scope of the patent illegally by collecting royalties from the use of DMSA for other weed control purposes or for other chemical compounds beyond its scope.[1023] The Circuit Court upheld the opinion of the district court judge on both counts.[1024] The Court agreed that because both the Vineland Company, to which Schwerdle assigned his patents and offered his knowledge, and the ARA, for which he had previously worked, had defensible, but slightly different claims that could have reasonably been viewed as blocking, the trust arrangement they formed was permissible and pro-competitive.[1025] Because the patent was viewed as both valid and general, royalties paid for other uses or related compounds was legal in the eyes of the district court and was upheld in this opinion.[1026]

In *United States v. Glaxo Group, Ltd.*, several drug companies were engaged in the manufacture and sale of an antibiotic compound.[1027] The companies agreed to pool their patents on the drug.[1028] The government alleged that the agreement was an illegal restraint of trade, but the district court refused to order mandatory sales of the drug and reasonable-royalty licensing of the patent.[1029]

On appeal the Supreme Court disagreed, finding the district court's position to be an unduly narrow view of the controlling cases.[1030] The Court also ruled that the validity of the pooled patents could be disputed if the government alleged that conduct by the companies was illegal under the antitrust laws, absent the patent.[1031] The Court held that the district court should have ruled favorably on the government's demand for mandatory sales and compulsory licensing because the patents at issue gave the companies the economic leverage with which to insist upon and enforce the bulk-sales restrictions imposed on the licensees.[1032] The Court furthered that the companies should have been required to sell the bulk

1020. *Id.* at 301.
1021. *Id.*
1022. *Id.*
1023. *Id.* at 302.
1024. *Id.* at 301, 303.
1025. *Id.* at 301–02.
1026. *Id.* at 302.
1027. *See generally* United States v. Glaxo Group, Ltd., 410 U.S. 52, 53 (1973).
1028. *Id.*
1029. *Id.*
1030. *Id.* at 57.
1031. *Id.* at 58.
1032. *Id.* at 63.

form of the drug on reasonable and non-discriminatory terms and to grant patent licenses at reasonable-royalty rates in order to pry open the market that had been closed by the companies' legal restraints.[1033] The case was remanded to the district court with instructions to impose mandatory selling on specified terms and compulsory patent licensing at reasonable charges.[1034]

IV. HISTORICAL ANALYSIS AND AN EMPIRICAL EXAMINATION

While the original intent of the historical examination of patent pool litigation was to develop a categorization scheme that would inform the examination of modern pools, the historical data in many ways defies categorization. Until the creation of the Court of Appeals for the Federal Circuit, few if any court decisions were ever based on any expertise about patents, much less the underlying technologies embodied within the patents. Nonetheless, it is possible to group the cases on certain dimensions.

- Government enforcement activity vs. private antitrust litigation
- Blocking and/or complementary vs. substitute patents
- Patent pool via assignment, cross-licensing, mergers/acquisition, or patent holding entity
- Patent pool as the primary scheme or element of larger collusive scheme
- Presence of foreign corporations (particularly German corporations) in the pool
- Presence or absence of tying provisions
- for unrelated patented products and processes
- non-patented products or services
- Exclusive distribution, manufacturing, or sales provisions
- Level of industry dominance
- Pre- or post-WWII
- Provisions for territorial allocations
- Sales
- Manufacturing
- Agreement not to challenge other patents in the pool
- Provisions covering future patents acquired or successfully innovated
- Coordinated litigation for purposes of intimidation via infringement suits

1033. *Id.*
1034. *Id.* at 64.

- Pooling of patented products, processes or both

In terms of overall litigation outcomes, between 1900 and 1970, approximately 20% of the identified patent pools survived litigation. Interestingly, of those pools that did not survive, more than 96% were invalidated by governmental enforcement actions. Conversely, 70% of the instances where a pool survived were cases where the litigation was a private antitrust action.[1035] Absent an assessment of the innovation friendliness of the actual pooling agreements, it would be difficult to speculate as to the reasons for the widely divergent outcomes.

A. *Previous Historical Examinations*

Given the range of issues considered by the courts in the identified patent pool cases, building a model to predict litigation outcomes is clearly fraught with difficulty. In his analysis of twenty patent pooling decisions, Gilbert proposes to categorize pools along three dimensions:

- The competitive relationship of the patents in the pool
- The presence of vertical restrictions in licensing terms that affect competition related to the patented products or processes
- The existence of agreements not to license the patents and to cooperate in the defense of the patents[1036]

He then develops a scoring mechanism to assess the relative levels of anti-competitiveness of the pools.[1037] Gilbert laments that while he would have preferred to see high scores for combinations that were found to have violated the antitrust laws and low scores for those that did not, such a pattern did not emerge until approximately the same time that the Nine No-No's were announced.[1038]

Lerner takes a different approach and examines the agreements themselves rather than the opinions.[1039] Based on the analysis of sixty-three patent pooling agreements, he proposes categorizing pools along the following dimensions:

- Pool allows independent licensing by pool members
- Pool allows licensing to third parties

1035. The survival assessment was based on the outcome of the highest-level proceeding, since in certain instances an appellate court reviewed the findings of a lower court.

1036. *Id.*

1037. Gilbert, *supra* note 86.

1038. *Id.*

1039. Lerner, *supra* note 54.

- Pool members able to use pooled patents on a royalty-free basis
- Pool size
- Pool requires members to assign subsequent patents to the pool automatically
- Control provisions for infringement litigation
- Pool formed before or after Hartford Empire decision[1040]

While the lack of a clear categorization scheme may be disappointing, a valid explanation for the pattern of patent pool decisions could be that while judges may have been able to assess the competitive implications of specific provisions in a patent pooling agreement, they were ill-equipped to evaluate the technological interrelationships between patents. Otherwise it would be difficult to see how *Standard Oil* could be the competing patents case that is always cited for what it says about blocking patents, while *Line Material* is the blocking patents case that is rarely cited for what it says about blocking patents.[1041] But then how do we explain the relatively high rate of pool survival prior to 1939?

Perhaps judicial examination of thicket questions was possible after all. In terms of analyzing the economic relationships between patents, it is interesting to note that prior to 1939, of the twenty-two cases identified, at least ten specifically addressed the issue of interrelationships between the patents. While a few of those analyses may have been questionable, the courts were at least attempting to examine the issue. In contrast from 1939 to 1949, forty-three pools were litigated, but economic relationships between the patents were only considered five times. In all the other thirty-six cases, the patent interrelationships do not appear to have been examined at all.

By the time the Nine No-No's were issued in 1970, thirty-nine additional patent pools were litigated. In those cases, between 1940 and 1969, the economic relationships between the patents appear to have been examined only four times.

B. *Patent Pool Litigation: 1900–1970*

The exhaustive search of several electronic and hard copy sources yielded 124 cases of alleged patent pools accused of antitrust violations by either the Antitrust Division of the DOJ, the FTC, or private antitrust actions.[1042] At times, a given pool was the subject of multiple litigation

1040. *Id.*

1041. Newberg, *supra* note 34.

1042. The search began with the Lexis databases GENFED and Mergers and Acquisitions (M&A) Cases – Federal. The GENFED search resulted in 361 hits and the M&A search resulted in 126 hits (all of these turned out to be repeats of the GENFED results). The searches were then proceedings, while at other times unfavorable decisions were appealed and the appellate proceeding was then separately identified in the search for cases. Thus, a total of 101 cases between 1900 and 1970 were analyzed.[1043]

Although the set of patent pools identified is limited to those that were litigated, it is sufficient to provide a degree of insight into the evolution of antitrust enforcement and the criteria used to evaluate such pools. In examining the cases, we specifically looked for instances where the courts explored questions related to patent thickets.

In reviewing the 101 cases during this time period, the litigation appears to be categorized along five primary dimensions:

- Examination of patent thicket questions
- Government enforcement activity vs. private antitrust litigation
- Pre- or post-WWII decisions
- Market issues[1044]
- Contractual issues[1045]

Given that the main focus of the review of patent pool litigation was the examination of the first category, only the analysis relevant to judicial examination of patent thicket questions is presented here. In terms of that analysis, it appears that judges examined patent thicket questions more often in the early litigation than they did in more recent litigation. Of the

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repeated in the Westlaw databases ALLCASES and ALLCASES-OLD. The ALLCASES search resulted in 282 hits and the ALLCASES-OLD search resulted in forty-five hits.

The next step was to inspect the results and remove cases where patent pooling was not a major theme (in some instances, the courts cited a case involving patent pooling for reasons unrelated to the pool itself). The resultant set of cases was compared to the "Pooling and Interchange" section of the CCH Trade Regulation Reports, and a few cases were added that were not previously identified in the Westlaw/Lexis searches.

1043. While an organizational structure where multiple firms collectively aggregate patent rights existed in most of the identified cases, it should also be noted that to be included in the list, a case merely had to raise the issue of patent pooling. The distinction between certain cross-licensing regimes and a formal patent pool was not readily discernable in some cases. A comparison of the actual agreements, such as those identified by Lerner, would certainly facilitate a further refinement of this list of cases, as it is possible for one party to raise allegations regarding the operation of a pool without a patent pool actually existing.

1044. Including the level of industry dominance and the presence or absence of foreign corporations (particularly German corporations) in the pool.

1045. Contractual issues included patent pool via assignment, cross-licenses, mergers/acquisition, or patent holding entity; patent pool as the primary scheme or element of larger collusive scheme; presence or absence of tying provisions; provisions for territorial allocations, agreement not to challenge other patents in the pool, provisions covering future patents acquired or successfully innovated, litigation coordinated for purposes of intimidation via infringement suits.

twenty-two cases litigated prior to 1939, at least ten specifically addressed the issue of the existence of patent thickets. In contrast, from 1939 to 1949, forty-three pools were litigated, but patent thicket questions were only considered five times.[1046] The likelihood of thicket examination was even slightly lower during the next three decades. Of the thirty-nine additional patent pools litigated between 1940 and 1969, patent thicket questions appear to have been examined only four times.

Although patent thicket questions were infrequently examined, it seems that their examination was potentially quite important for pool survival. In terms of overall litigation outcomes between 1900 and 1970, 21% of the identified patent pools survived litigation.[1047] When patent thicket questions were addressed, however, 59% of those pools survived. When the data are cross-tabulated, a Chi-Square test indicates an association between pool survival and the examination of thicket questions.[1048]

1046. A lack of a sufficient factual record may explain two instances of non-examination of thicket questions during this period, such as in *United States v. Wayne Pump Co.*, 317 U.S. 200 (1942), where the Supreme Court criticized the government for not even introducing any evidence that the patents might have been substitutes. On the other hand, in *United States v. General Electric*, 80 F. Supp. 989 (S.D.N.Y. 1948), the district found the conduct so egregious that it decided that the patent thicket questions were not germane. In 36 of the 43 cases, however, the patent thicket questions do not appear to have been examined at all.

1047. The survival assessment was based on the outcome of the highest-level proceeding, since in certain instances an appellate court reviewed the findings of a lower court.

1048. In their examination of the actual pooling agreements, Lerner *supra* note 54, they develop an analytic model of contract structure that bifurcates their sample into pools formed before and after *Hartford-Empire v. United States*, 323 U.S. 386 (1945). Bifurcation at this point also divides the sample into pre- and post-WWII decisions, as *Hartford-Empire* was the last patent pool case decided before the end of WWII. Justice Black wrote in *Hartford-Empire* that the "history of this country has perhaps never witnessed a more completely successful economic tyranny over any field of industry than that accomplished by [the pool members]." 323 U.S. at 436–37. The remedy imposed matched the harshness of the rhetoric. The Court upheld the district court's order requiring that a receiver be appointed for the lead company free from any claim to a stay, that royalties received pending final resolution be set aside for return to licensees, and that all its patents be made available royalty free to any interested party. The Court also cancelled all current agreements, leases, and licenses required. The remedy was truly a nuclear bomb in terms of antitrust enforcement. *Hartford-Empire* appears to have been a watershed event in terms of antitrust enforcement against patent pools. In terms of the impact of that decision on the association between pool survival and the examination of thicket questions, however, bifurcating the sample does not appear to change the result for either cases up through *Hartford-Empire* (Fisher's Exact $p = 0.004$) or cases after *Hartford-Empire* (Fisher's Exact $p = 0.035$). A Fisher's Exact was used in these cases instead of a Chi-Square test because certain cell counts were less than 5.

Table 1. Test for an Association Between Pool Survival and the Examination of Patent Thicket Questions in Patent Pool Litigation Between 1900 and 1970.

	Thicket Questions Examined?		
Pool Survived?	No	Yes	Total
No	71	9	80
Yes	8	13	21
Total	79	22	101
Pearson $\chi 2 = 25.0508$			Pr = 0.000

The data indicates an association between pool survival and the examination of thicket questions by the courts, so it is certainly possible if more courts had examined thicket questions, more pools might have survived. One case in particular, *United States v. Line Material Co.*, certainly had a dense thicket that seems to have been ignored by the court.[1049] If that case had come out in favor of the pool, the dismal record of patent pool survival after WWII might have been fundamentally different, as *Line Material* was often cited as precedent in subsequent patent pool litigation.[1050]

As Professor Barnett has described, patent pool formation has increased dramatically in arenas dominated by technology standards, but what about the need for pools in industries without technology standards, such as medicine or pharmaceuticals? Although at least one pool has been formed in the last decade, the specter of the PRK litigation still looms large for pools that do not follow the MPEG standards-based approach.

V. CONCLUSION: A TRIBUTE TO PROFESSOR JOSHUA NEWBERG

I first interacted with Professor Newberg when I was the managing editor of the Harvard Journal of Law and Technology in 2000 when we accepted his article on antitrust and technology markets. At a 2002 meeting of the Academy of Legal Studies in Business, after re-reading Professor Newberg's 2000 *Atlantic Law Journal* article, I had a conversation with him regarding how the FTC litigation involving the PRK patent pool either ignored or failed to detect the blocking

1049. *See generally Line Material Co.*, 333 U.S. 287.

1050. *See* IP Guidelines, *supra* note 24, §§ 3.4 & 5.5. Ultimately the IP Guidelines implicitly, but quite unmistakably, reject the holding in Line Material, 333 U.S. at 313–14.

relationship between the pooled patents. We wondered if such a failure was a unique occurrence, or had it happened before? Was the failure due to a lack of analytical tools or frameworks, and if so, had prior litigation examined the economic interrelationships between pooled patents? These questions could only be answered by examining the history of patent pool litigation and specifically looking to see if the courts had investigated thicket questions.

At that time, I was completing my doctoral thesis at the Harvard Business School and completing my Lewis Fellowship at the Harvard Law School. Professor Newberg had been instrumental in guiding me through the archives of the FTC litigation of the PRK pool, and we discussed collaborating on a historical examination like the one Professor Gilbert had conducted, but I first needed to complete my own doctoral thesis.

One of my thesis chapters focused on a network analytic approach to patent thicket detection, based on Josh's initial comparison of the MPEG and PRK pooling cases, and I completed my doctorate in 2004. In that chapter, I also included the empirical analysis of the historical cases, but without the case summarization contained in this article. The textual summarization of those cases was to be the basis for our collaboration on this Article, and over the next couple of years, we tossed around the ideas of what courts should do outside of the technology standards context. During that time, I had also started a project on tribal finance, which was accepted for publication in 2006. Josh and I discussed focusing our attention on this article once I finished working with the law review editors on that publication. Unfortunately, on March 26, 2007, while I was completing the final edits to the print proofs of the tribal finance article, Josh lost his lifelong battle with a debilitating condition and passed away.

That day, I lost both a mentor and a friend, and my motivation to continue this Article vanished. It has now been almost exactly ten years since Josh passed away, and I decided that this article had remained unfinished too long. So, I reached out to Josh's family and sought their permission to posthumously include him as a co-author, and they graciously agreed.

So, I conclude this Article by proposing the "Newberg Rule" for the judicial evaluation of a patent pool that is not based on a technology standard. As this article has discussed, such pools are far less common than standards-based pools, yet the problems of patent thickets are not confined to industries with technology standards.

Given our shared objection to any *per se* analysis of patent pooling, and since we both agreed a long time ago that the characterization of the technological and economic interrelationships among pooled patents is crucial to the antitrust analysis of any patent pooling arrangement, in honor of my colleague and friend, and in the hopes that any patent thickets related to the condition that afflicted Josh can be cleared by a pro-competitive patent pool, I propose the following Newberg Rule: "any judicial examination of patent pooling must apply the rule of reason and, in the absence of a technology standard to guide a determination of essentialness, must thoroughly examine the technological and economic interrelationships among and between the pooled patents." Such a rule will eliminate the specter of the flawed PRK litigation, eliminate the deleterious impact of *Line Material*, and facilitate the formation of pro-competitive patent pools to solve the problem of patent thickets in industries without dominant technology standards.