

PATENTS AND COMPETITION IN THE AUTOMOBILE INDUSTRY

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In any context the part which patents play in enhancing or minimizing competition in the industrial arts at large is a question which evokes a chorus of dissonant response. Even in a particular industry the place of patents is seldom what it seems and the effects of patents are often similar to the famous "riddle wrapped in mystery inside an enigma." In the automobile industry "perhaps there is a key"—a key designed by the history of the industry—which unlocks one of the most singular patent situations in modern technology.

The American economy has been called an experiment in transportation. Space has shaped many of the nation's ways of living and developing, has influenced the character and location of its industries, and has given to means of transportation a predominant role in the growth and continuous functioning of the economy as a whole.¹

It is from this perspective that the emergence and operation of the automobile industry are most clearly comprehended. Yet in many respects the dependence of the economy upon automotive transport is only a fragmentary definition of the place which the industry occupies. Today the American automobile industry is the most characteristic of all branches of production in the national economy. When others speak of the industrial power of the United States, the millions of American autos are the most visible manifestation of that productive power, as the factories which make automobiles, the roads upon which they travel, the thousands of service stations and garages, and the millions of people whose work, prosperity, and pleasures are so largely linked to the automobile represent to the rest of the world a distinctive symbol of American productive capacities, natural resources, and material advancement.²

It is understandable that no other country and no other people have accorded to the automobile the status and attention which Americans bestow upon their cars. The role of the automobile industry in World War II and the shortages of supply of postwar cars have served to make the American people more automobile con-

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¹ ROGER BURLINGAME, *MARCH OF THE IRON MEN* 197 (1938).

² Cf. T. C. COCHRAN AND W. MILLER, *THE AGE OF ENTERPRISE 185-188* (1942).

scious, if that is possible, than they have been in the past. Prognostications of things to come in the industry receive the most serious consideration which this country's citizens reserve for the ultimates of a well-balanced national life. Quite simply, the automobile is a crest of economic prowess which this country has adopted, as well as a tangible essential of its livelihood.

On a more purely economic plane, however, the automobile industry itself is a primary factor in the operation of the industrial system. The demands which it makes upon raw materials, fabricated products, and corollary goods and services speak of its critical importance in the industrial structure. The fluctuations in its output, prices, and employment at any given time are readings of the pulse of the economy and portents of its immediate future.

Obviously such an industry has a very high coefficient of patentability. If it is considered that more than fifteen thousand items are assembled in an automobile, drawing upon a large number of mechanical, electrical, and chemical industries, it would seem inevitable that patent problems would pose continuous difficulty to the industry. As it has turned out, however, it can be said at the outset that the patent adjustments in the automobile industry are a case study of the way in which technical, economic, legal, and human elements have worked out what approaches an optimum answer to the patent question.

To appraise with any accuracy the effect of patents upon competition in the industry it is necessary to glance briefly at several factors which might ordinarily be taken for granted. In its evolution the automobile industry has followed tendencies which parallel and are analogous to patterns throughout the industrial system. In some respects the automotive industry has been a causal factor acting upon other fields, while in other ways lines of growth in the industry have resulted from conditions external to its own structure. In still other respects the organization and functioning of the automotive industry are unique, so that within the industry itself there are circumstances which differ even from those found in immediately adjunct branches of production upon which the automotive industry is dependent or which it has brought into existence in consequence of its own requirements.

Similar complexity marks the organization and market characteristics of the automobile industry. Hence, all of the common difficulties of evaluating the presence or absence of competition in ordinary economic affairs, the extent, character, and locus of monopoly, and the peculiarities of the market which account for the particular ratio of monopoly, or competition, or monopolistic competition, are compounded in any effort to assess the automotive industry as a separate entity. In absolute terms it is possible to say that the production of automobiles is not an edifice of monopoly nor is it purely competitive in any accepted sense of classical competition. The problem, therefore, is to determine the relative proportions in which an admixture exists and upon that basis to seek some measurement, even in terms of "more or less," which will indicate whether the production and distribution of auto-

motive vehicles is conditioned by dominant monopoly elements or by essentially competitive factors.

In any ordinary industry it is possible to set up some rather limited criteria which will serve to identify monopoly, especially in the presence of patents, and conversely to indicate the presence of any competitive residuum. In the automobile industry, however, we are confronted with economic activities of such scope and magnitude that even the magic field equations from higher mathematics, if they could be applied directly to economic behavior, would scarcely serve to yield an elegant solution.

This is obvious if we consider the sources of materials from which the automobile as a final product is fabricated, or the relation of initial supplies to automobile manufacturers. Some of the materials are widely dispersed economically, some are highly concentrated. Quality differences play an important part in the source materials of automobile production and immense scales of supply and demand govern the source markets. The nature of the product of the industry is itself equivocal, ambivalent, and economically paradoxical. Automobiles are in some ways sufficiently standardized to produce a degree of homogeneity. Yet they are sufficiently variable so that marginal and trivial differences can result in very large imbalances in the market. In several instances there are both variety and standardization in the products of a single manufacturer. Automobiles are at once consumers' goods and producers' goods, joint products and single commodities. In the market the automobile industry encounters a composite of elasticity of demand and stability, of brand differentiation and brand loyalty, with highly arbitrary, capricious, and unpredictable oscillations in consumer choice.

The growth and the structure of the industry are similarly mixed in the story which they tell. In many ways the development of the automobile industry has paralleled the course of American industry in general since 1900, passing through phases of combination, competition, depression, extraordinary long-term increase in capacity, periods of misproduction and misjudgment, the emergence of a dominant few, and the persistent encroachment of potential competition upon the markets of those who would be monopolists. In some phases of its activities the automobile industry is an example par excellence of extreme integration, both vertical and horizontal. In still other phases it has maintained a competitive ebb and flow of market relations. It has had trade groupings and associations almost continuously since its foundation, but it has also had conspicuous and ever-present challengers to any concert of interests.

Even in the composition of the industry there are wide differences in the relative size of firms, in the stability of a few and the instability of the many, and in the way in which the fortunes of some members have risen and fallen at various times and in consequence of diverse causes. There are differences also in the degree to which firms in the industry are related to interests outside the industry. Examples are present of both large and small producers financially self-contained and of producers, great and little, whose autonomy is limited to matters of minor choice and

whose major policies and direction stem from other spheres of industry and finance.

Many of these same equivocal interpretations attach to the problems of pricing policy, price leadership, and price competition in the automobile industry. There are both price uniformity and potential and actual competitive differences in the ways in which prices are determined. Even more than supply, however, demand in normal years has exhibited both competitive volatility and monopoly fixation, by custom as much as by design. Economic observers have differed widely on the price characteristics of the automobile industry, especially from the standpoint of interpreting the competitive and monopolistic significance of price differences and of price-setting techniques. Factors indicating arbitrary restrictions and control coexist with circumstances which would appear to make such control illusory at best. Even in the highly distorted aftermath of war, under conditions which load the economic dice on the side of the large seller as the principal beneficiary of a seller's market throughout industry in general and an intense seller's market in the automobile industry in particular, there are concrete manifestations of a competitive nature both in access of new producers to the industry, in buyer reaction, and in the differences in the circumstances governing the behavior of producers as well as their prospects for the future.

In an economic universe of such commingled control and freedom, it is extremely difficult to determine how a single element such as patents has affected competition. The necessity for this general economic prelude is at once apparent if it is stated that, although patents are not now a major instrument of monopoly domination in the field, they have been so in the past. What is more, if the existing concentration of market control should increase, or if the relative economic power of any one of the major automobile producers should go beyond its present boundaries, or, in the case of the largest unit, even be sustained over any very long period, it would again be possible for patent control, especially over the developments in parts, to be employed with sufficient coercive force to achieve an effective monopoly position. In other words, the utilization of patents is a function in this instance of broader economic considerations, even though it is always possible that any particular patented development will be used to extend an existing area of power. The reasons for this situation reach back to the beginnings of the industry and can be understood only in the light of the way in which patents first affected automobile production.

There is an element of high economic comedy as well as of very serious industrial conflict in the initial convergence of the patent question with the automobile industry. There had been at various times in the nineteenth century some European patents granted relating to the automobile, but these were not extended to the United States.³ It was, therefore, an event similar to the opening scene of classic drama when George B. Selden, a patent attorney, in 1879 applied for a patent on an automotive vehicle employing an internal combustion engine using hydrocarbon fuel.

³ Cf. T. J. Ross, *The Automotive Industry*, in *THE DEVELOPMENT OF AMERICAN INDUSTRIES* 695 (1941).

This patent is perhaps one of the most famous in industrial history. The story of its effect upon the development of the automobile industry has been told and retold with sufficient variation and disagreement, even in the most minute details of motive and results, that every telling has altered somewhat the sequence and significance of the tale. By some students, the application for the Selden patent and its development and use have been likened to a *lettre de cachet* coldly calculated to kidnap an infant art, to hold it in bondage to maturity and in serfdom thereafter, and to reap the rewards of the labor of a giant by imprisoning on paper the identity of a newborn industry. In contrast with this Gothic literary version are the views held by those who maintain that the story of the Selden patent is a saga of foresight representing simply the judicious adaptation of the opportunities which the patent system offers, or at least offered then, to the canny applicant.

Thus, for example, Selden's claims were withdrawn, modified, and reworded time after time in the years following 1879. "By shrewd, but quite legal, methods he succeeded in keeping his patent from being granted for sixteen years; . . ."⁴ Under the statute of 1861 it was provided that an applicant must necessarily reply to an action on the part of the Patent Commissioner within two years:

By legal reasoning, this is interpreted to mean that he could not be compelled to reply more promptly than that. If it requires but three or four months for the Patent Office itself to act, and frequently it has required much longer than this, it means that every letter that the Patent Office sends out means a further delay of 2 years and 3 months. It does not take very many such letters to prolong the prosecution [of the patent] indefinitely. It was under the statute in this form that the Selden patent was filed in the Patent Office in 1879 and . . . a division of this application was finally rejected by the Commissioner 25 years later. Meantime the original patent had been issued after a delay of some fifteen years, with claims which purported to cover every automobile having a gasoline engine and a steering gear. By reason of this long delay, when the patent issued, it purported to cover a thriving industry, already grown to large proportions.⁵

On November 5, 1895, Selden received his patent (No. 549160) and in 1899 he issued an exclusive license to the Electric Vehicle Company.⁶ Meanwhile, of course, automotive manufacture had already begun and a relatively large number of automobile producers were turning out those strange vehicles which we regard today as neolithic prototypes, slightly comical and awkwardly ornate, of the modern streamlined car. The Electric Vehicle Company announced that the so-called basic Selden patent would be enforced, and in 1900 brought suit against the Winton Motor Carriage Company.⁷ The Winton Company in demurrer asserted the invalidity of the Selden patent as a combination of known and existing elements. This was overruled and the litigation continued. After three years of inconclusive legal jousting the case was settled by consent decree before decision but after testi-

⁴ R. C. EPSTEIN, *THE AUTOMOTIVE INDUSTRY* 227 (1928).

⁵ Testimony of Willis Rice, in *Hearings before the Committee on Patents on H. R. 4523*, 74th Cong., 1st Sess. 545 (1935).

⁶ WALTON H. HAMILTON, *PATENTS AND FREE ENTERPRISE* 116 (TNEC Monograph 31, 1941).

⁷ *Electric Vehicle Co. v. Winton Motor Carriage Co.*, 104 Fed. 814 (S.D. N.Y. 1900).

mony was taken.⁸ The Winton Company acknowledged the validity of the Selden patent and acquired a license to manufacture under it. It has been maintained that much significance attaches to the conditions of settlement, which rebated to the defendant a substantial sum of money, gave to his counsel a permanent annual retainer, and suppressed evidence and exhibits taken in the case, so that they were not available to other potential litigants.⁹ Moreover, according to some versions it was a casual remark by the district judge to the effect that a patent might be broad enough to cover the entire industry "which led the entire industry to fall all over itself to enter into a licensing agreement with Selden."¹⁰

In March, 1903, the Electric Vehicle Company and eighteen other manufacturers formed the Association of Licensed Automobile Manufacturers. Thirteen other concerns had already been licensed and the Association undertook its protracted effort to enforce the claims of the Selden patent against non-members, dealers, and customers of non-members.¹¹

Under the license agreement each manufacturer paid to the Association a royalty of $1\frac{1}{4}$ per cent of the catalog or retail price of all vehicles sold. Of this total royalty three-fifths was retained by the Electric Vehicle Company and the other two-fifths placed in the Association treasury, primarily for legal expenses incurred in the enforcement of the patent. One of the conditions on which the licensees respected the patent was that as a group, *i.e.*, through the committee of the Association, they would be allowed to determine to what new concerns the Electric Vehicle Company would issue licenses.

The independents formed their own rival association, the American Motor Car Manufacturers Association, to defend its members against the renewal of the campaign to force all of the manufacturers either into the ALAM or out of the industry. Litigation was practically continuous, and much attention has been drawn in later accounts of the period to the publicity pressure which the ALAM sought to exert upon consumers as well as upon manufacturers and dealers. The Association's famous warning, "Don't buy a lawsuit with your automobile," has been frequently cited in discussion of the intent of the Association to control all facets of the market.

The most spectacular effort of the Association involved, of course, the litigation with Henry Ford. Ford applied for a license and was refused. ALAM members alleged that Ford was not in fact a manufacturer of automobiles but merely an assembler, and should therefore be barred from the industry.¹² Edsel Ford, in his testimony before the TNEC, said:

⁸ WILLIS B. RICE, A CONSTRUCTIVE PATENT LAW (N. Y. U. L. Q. REV. Contemporary Law Pamphlet, Series I, No. 12, 3 (1939)).

⁹ *Ibid.*

¹⁰ Hearings cited *supra*, note 5, Part I, 556.

¹¹ HAMILTON, *op. cit. supra*, note 6, at 116, 117.

¹² E. D. KENNEDY, THE AUTOMOBILE INDUSTRY 45 (1941).

My father inquired of one of the officers of the association if it were possible to join . . . and become a member as the other motorcar companies were. He was told, I understand, he had best go out and manufacture some motor cars and gain a reputation and prove that he was not a fly-by-night producer before he should ask for a membership¹³

Ford continued to manufacture and in October 1903 was sued by the Electric Vehicle Company.¹⁴ After "probably the most exhaustive legal and technical consideration of the details of any letters patent which has ever been undertaken," a decision was rendered in September 1909 upholding Selden's patent.¹⁵ Judge Hough of the Federal Court for the Southern District of New York in his decision said,

No litigation closely resembling these cases has been shown to the court, and no instance is known to me of an idea being buried in the Patent Office until the world caught up with it and passed it and then embodied in a patent useful only for tribute. But patents are granted for inventions. The inventor may use his discovery, or he may not; but no one else can use it for 17 years. That 17 years begins whenever the United States so decrees by its patent grant. That the applicant for patent rights acquiesces in delay, or even desires delay, is immaterial to the courts, so long as the statute law is not violated. On these principles complainants are entitled to a decree.¹⁶

This decision was, of course, a sweeping victory for the Licensed Association and an equally crushing reversal for the independents, so that at the beginning of 1911 the only holdouts were Ford and Thomas B. Jeffery. Ford appealed with results which have become in the light of later events historic vindication of an obduracy which in itself has been considered to be one of the principal competitive forces in the subsequent annals of automobile manufacture.

On January 9, 1911, the Circuit Court of Appeals reversed the decision below, holding that the Selden patent, though valid, was restricted to the particular type of engine shown, that Ford construction did not infringe, and that in effect the patent did not blanket the industry.¹⁷ It is interesting to note that in commenting upon the element of delay, Judge Noyes stated,

This patent was applied for in 1879 and granted in 1895. For over 16 years the application lay in the Patent Office and the applicant took full advantage of the periods of inactivity permitted by the rules and statutes. It is apparent that he delayed just as long as possible the issue of the patent to him. During this long time the automobile art made marked advances along different lines and when, in 1895, the patent was granted, it disclosed nothing new. Others had then made the patentee's discovery and had reduced it to practice in ignorance of what he had done. While he withheld his patent, the public learned from independent inventors all that it could teach. For the monopoly granted by his patent he had nothing to offer in return. The public gained absolutely nothing from his invention, whatever it was. From the point of view of public interest it were even better that the patent had never been granted. . . . But the patentee acted wholly within

¹³ *Hearings before the TNEC*, Part 2, 75th Cong., 3d Sess. 268 (1938).

¹⁴ *Electric Vehicle Co. v. C. A. Duerr & Co.*, 172 Fed. 923 (S.D. N.Y. 1909).

¹⁵ EPSTEIN, *THE AUTOMOBILE INDUSTRY* 229, 230 (1928).

¹⁶ *Electric Vehicle Co. v. C. A. Duerr & Co.*, 172 Fed. 923, 937 (S.D. N.Y. 1909).

¹⁷ *Columbia Motor Car Co. v. C. A. Duerr & Co.*, 184 Fed. 893 (C. C. A. 2d 1911).

his rights. He merely took advantage of the delays which the law permitted him. . . . This patent, even if it be useful only for tribute, must be viewed without prejudice and with absolute judicial impartiality.¹⁸

This was, of course, a decision of major industrial importance, for if neither Ford nor the licensees for that matter were to be subject to the Selden patent the industry was in reality thrown open to all comers. To the last Selden held that the fruit of his perspicacity, if not indeed of his inventive ability, had been harshly taken away by the decision of the higher court.¹⁹

It is perhaps worth noting that numerous observers have sought to spell out the significance of the 1911 decision. Estimates of the amount of royalties which were collected from the industry vary from \$5,800,000²⁰ to \$10,000,000.²¹ During the years from 1903 to 1911 royalties were paid upon percentages of total production varying from seventy percent in 1903 to about fifty percent in 1908 (when the tempo of litigation obviated any immediate threat to a non-licensed maker) to 100 percent of the total in 1910 and 1911 (exclusive of Ford). Many differently situated observers have drawn portraits of the potential significance of the Selden patent and the ALAM to the industry, had the Court of Appeals sustained the original decision. Thus, for example, Henry Wallace has stated:

What the status of the automobile industry would be today if this combination had been allowed to restrict its growth, one cannot say. However, one can visualize the probability that the automobile might have remained a luxury commodity for many more years than it actually did, and that the system of belt-line and mass production which has proved such a benefit to people in the lower-income brackets might have been long delayed.

Highways, flat glass, rubber, steel, gasoline and all those other commodities depending upon the advancement of the automobile industry would have suffered considerably. The existence of gas stations and broad highways throughout the country is a tribute to an automobile industry built on price-and-quality competition, a condition which was completely frustrated as long as the Association of Licensed Automobile Manufacturers was able to use its accumulated power as a weapon in the ordinary market place.

The destruction of the automobile patent pool gave the American public at least twenty-five years of fruitful competition. . . .²²

Much this same view is expressed by Rice, who says:

If this litigation had been decided differently or if the Court of Appeals had agreed with the lower court, there is reason to believe that it would have kept out of the industry permanently the man who brought mass production to the automobile field and made automobiles available to the man in the street.

If the Selden patent had been sustained it would have brought the entire industry for many years under monopolistic control of a patent owner who had in fact played only

¹⁸ *Id.* at 894, 895.

¹⁹ KENNEDY, *THE AUTOMOBILE INDUSTRY* 47 (1941).

²⁰ EPSTEIN, *THE AUTOMOBILE INDUSTRY* 232 (1928).

²¹ *Hearings before the Committee on Patents on H. R. 4523, Part 1, 74th Cong., 1st Sess. 555, 556 (1935).*

²² Wallace, *We Must Save Free Enterprise*, *THE SATURDAY EVENING POST*, Oct. 23, 1943, p. 13 *et seq.*

the part, economically speaking, of a highwayman although we do not mean to suggest moral obliquity. Under our law a patentee has a right to do just that thing. The effort failed in the Selden case only because the court held that his patent was faultily drawn.²³

In modern parlance, there would be no hesitancy in recognizing the ALAM as a patent cartel, having most of the customary attributes of the species. It has been said, however, that "the influence of the Selden association upon the development of the industry, although most important from the point of view of standardization and technical research, was neither so dominant nor so oppressive upon the purely commercial side of things as might perhaps be imagined. . . ."²⁴ There is apparently dispute over the question whether the Association attempted to set figures for the production of cars.²⁵ There would, however, not seem to be much question that many of the early manufacturers did consider the automobile a luxury product and that it was Ford's social invention of the automobile as a mass carrier, cheaply manufactured, which transformed the industry from one which catered primarily to conspicuous consumption to one which motorized a nation.²⁶ Once released from the legal oubliette into which it might have otherwise been confined under the Selden patent, the industry took its character not so much from the contours of a system of patent control as from those of the broad economic environment into which it merged.

Following the 1911 decision which removed the hegemony of the ALAM from the industry the Association was dissolved, to be followed shortly by the formation of the Automobile Board of Trade and then, in 1913, by the Automobile Chamber of Commerce. Quite separately the Society of Automotive Engineers continued the technical research functions which had been carried on by a branch of the original association. From the standpoint of competition the National Automobile Chamber of Commerce altered competitive relations of automobile manufacturers in the same way that many other industrial trade associations have done. In addition to fulfilling these trade association functions, however, it was the National Chamber of Commerce which inaugurated the famous cross-licensing policy which has continued to represent the prevailing patent policy of much of the automobile industry. As the representative of the Patent Department of the present Automobile Manufacturers Association stated, if the patent pool was not the essential *raison d'être* for the formation of the new association, it was at least a major consideration:

This [the 1911 decision] meant that the defendants did not infringe and the destruction of the plan upon which the Association of licensees was built.

Of course the group reorganized themselves immediately on different lines in order to continue the benefits of mutual association.

²³ WILLIS B. RICE, A CONSTRUCTIVE PATENT LAW (N. Y. U. L. Q. REV. Contemporary Law Pamphlet, Series I, No. 12, 4-5 (1939)).

²⁴ EPSTEIN, *op. cit. supra*, note 20, at 231, 232.

²⁵ Cf. EPSTEIN, *op. cit. supra*, note 20, at 232 *et seq.*

²⁶ See Mark Adams, *The Automobile—A Luxury Becomes a Necessity*, in WALTON HAMILTON AND ASSOCIATES, PRICE AND PRICE POLICY 27-81 (1938); Seltzer, *Automobile Industry*, 2 ENCYC. SOC. SCI. 324 (1930).

Our present association is a direct descendant of this early one. . . .²⁷

The roster of members of the Association has risen and fallen since 1913 in correspondence to the rise and decline of the numbers of automotive manufacturers.

In 1913 there were sixty-three members; in 1922 there were 131 members; in 1938 membership had fallen to thirty-one manufacturers.²⁸

In 1939 all manufacturers of passenger vehicles in the United States with the exception of Ford and Lincoln (which was at one time a member), the American Bantam Car Company, and "some small companies not actually manufacturing" belonged to the AMA.²⁹ There are "numerous motor truck manufacturers who are not members" but those who are members control considerably more than half of total truck production.³⁰

The most important inquiry into the patent policies existing in the automobile manufacturing industry and the effects of such policies upon competition is that which was conducted by the Temporary National Economic Committee.³¹ The testimony and analysis covered research, patents, licensing, and litigation policies with respect to patents. Three separate "systems" or variations in attitudes and policies toward patents were distinguished by the inquiry—that of Ford, that of Packard, and that of the AMA.³² It is in the interplay of these three major types of policies that the effect of patents on the conduct of automobile manufacturers has been determined, if for the moment consideration is omitted of policies in the immediately adjacent fields of supply, or in the broader network of industrial operations in which patent practices necessarily impinge or even collide head-on at some points with the nucleus of practices in the automobile industry proper.

The patent policy which is most clearly motivated by what may be called an "instinct of competition" is that which has been pursued by the Ford Motor Company.³³ According to the testimony of the representatives of the Ford Company before the TNEC, the company's primary reason for taking out patents is protection against possible infringement suits. Once the patent has been acquired, however, it is Ford practice to grant a license under the patent to anyone who asks for it, without royalty. It was testified that in only one instance has the Ford Company

²⁷ FEDERAL TRADE COMMISSION, REPORT ON MOTOR VEHICLE INDUSTRY, H. R. DOC. NO. 468, 76th Cong., 1st Sess. 44 (1939). There have been several changes in the name of the Association. In October, 1934, the board of directors ordered the adoption of the present name, the Automobile Manufacturers Association, Inc.

²⁸ Duplications have been eliminated in the listing of members, as, for instance, where some members manufacture more than one kind of vehicle. The distribution of membership in 1938 consisted of seventeen passenger car manufacturers, nineteen truck manufacturers, nine bus manufacturers, two taxi manufacturers, three ambulance manufacturers, and four manufacturers each of motor fire apparatus and trailers. Members of the AMA are separate manufacturing companies or separate manufacturing divisions of companies producing more than one type of vehicle, e.g., each of the divisions of General Motors and Chrysler is a separate member.

²⁹ FEDERAL TRADE COMMISSION, REPORT ON MOTOR VEHICLE INDUSTRY, cited *supra* note 27, at 46.

³⁰ *Ibid.*

³¹ *Hearings before the TNEC*, Parts 2, 25, 75th Cong., 3d Sess. (1938).

³² *Id.*, Part 2, 312.

³³ WALTON H. HAMILTON, PATENTS AND FREE ENTERPRISE 121 (TNEC Monograph 31, 1941).

ever collected royalties. Where Ford patents, or inventions covered by Ford patents, are used without the authority of a license, it has not been Ford policy to sue for infringement. In fact, in only one instance, in 1909, was an infringement suit started; since that time there have been no suits for patent infringement in which Ford has been a plaintiff. All told, Ford has granted licenses under ninety-two patents and has taken licenses under 515 patents owned by others. In none of these cases, however, have royalties been given or received.

Although Ford has refrained from suits for infringement against others, it has not itself escaped patent litigation. In the period from 1926 to 1938 a total of 346 threats of suit for infringement were received. Of this total, sixty suits reached court, but in only one case was an action lost and decided against Ford in a court of last resort. According to the testimony of Ford's patent attorney, 95 per cent of the actions brought against the Ford Company have been instituted by holders of patents who were not engaged in manufacturing, and the implication is stressed that the company, in consonance with its general point of view, has regarded such patents as "paper patents."³⁴

It is, of course, extraordinarily difficult to place a categorical value upon any of the patents held by the Ford Company; but it is not necessary to do so in order to draw the conclusion that the Ford patent policy has in itself been a definite competitive factor in the industry. The mere existence of so redoubtable an intransigent would tend to make it difficult, if not impossible, for any other group in the industry to create a patent structure capable of dominating automobile technology. Moreover, the existence of such a heterodox position on patents, in addition to obviating the likelihood of their use as power weapons in the industry, has apparently not impeded technical development and progress in the field.³⁵

There is some evidence, however, that other members of the industry regard the Ford system as an idiosyncrasy made possible by the relative unimportance of many of the Ford patents, or a utopian practice not generally applicable.³⁶ Nevertheless, the Ford patent policy constitutes a persistent interrogation to the industry at large which cannot, in view of the role which the company has played in the development of the product and the market, be lightly dismissed as a peculiar deviation of industrial dissent.

The second principal policy with respect to patents in the automobile industry is embodied in the cross-licensing agreement administered by the Automobile Manufacturers Association. Whether it is considered to be the outcome of early experience transforming necessity into virtue or whether it is regarded as a prime manifestation of enlightenment dispelling shadows over the future, the cross-licensing agreement has long been considered a paragon among patent pools. It may be trans-

³⁴ See the comment on infringement litigation in the automobile industry in W. B. BENNETT, *THE AMERICAN PATENT SYSTEM* 105-108 (1943).

³⁵ Compare the testimony of Edsel Ford and I. J. Farley in *Hearings before the TNEC*, Part 2, 75th Cong., 3d Sess. 272 *et seq.* (1938). See also HAMILTON, *op. cit. supra*, note 33, at 118.

³⁶ *Hearings before the TNEC*, Part 2, 75th Cong., 3d Sess. 299-303, 312-313 (1938).

lucent because it is relatively shallow in depth, but there would seem to be little question that, in contrast to the character of patent pools which have been encountered in other industries such as the chemical, electronic, and communications fields, the automobile patent pool reflects a serene tranquillity on its members.

The first cross-licensing agreement was executed in 1915 and extended to 1925. In effect, the cross-licensing agreement to which nearly all members of the Association subscribed was simply a reciprocal interchange of patents among the parties obviating the payment of royalty by one member to another. Since that time there have been a number of subsequent extensions for shorter periods. When the 1935 agreement expired in 1940, temporary renewals were made to give an opportunity for reevaluation of the patent position of the industry.³⁷ The most recent extension of the cross-licensing agreement, entered upon in the spring of 1947, does not seem, however, to represent any substantial alteration of the general provisions of previous agreements.

The initial cross-licensing agreement included 547 patents of 136 companies.³⁸ It applied to all patents which were owned at the time of the execution of the agreement and to all patents acquired during the life of the agreement. Provision was made for the exception of what were called Class B patents from the pool. A Class B patent, interestingly enough, was defined "as an extraordinary patent of a revolutionary character."³⁹ Only one attempt was ever made to have a patent classified in this category. The application was submitted to arbitration by an independent board after the Patent Committee of the Association had rejected the claim, and the arbitrators voted unanimously that the patent in question did not constitute a revolutionary departure from the existing art.⁴⁰ The agreement did not include patents of parts manufacturers, patents that were "strictly applicable to trucks, fire engines, tractors, [or] hoisting devices," or so-called design patents which were held to identify the product of a particular manufacturer.

The 1925 extension applied only to patents held at that date, so that no patents thereafter acquired in the life of the agreement were subject to cross-licensing. This provision eliminated the necessity for anticipating the possible development of Class B patents. Similarly, the 1930 extension applied only to patents held at that date, and the 1935 extension also was based upon patents in the field as of 1930. Some idea of the plateau in numbers of patents during this period is given in the comparative figures: in 1925 there were 1066 patents in the pool, in 1930 there were 1687, in 1935 there were 1285, and in 1938 there were 1058 subject to agreement.⁴¹ The 1947 extension covers patents owned as of January 1, 1940.

As the older patents have expired there has been a corresponding decline in the

³⁷ L. I. WOOD, PATENTS AND ANTITRUST LAW 145, 146 (1942).

³⁸ The list of charter members of the Association which was placed on file with the TNEC gives 136 member companies including subsidiaries. Cf. Wood, *op. cit. supra*, note 37, at 145.

³⁹ *Hearings before the TNEC*, Part 2, 75th Cong., 3d Sess. 288 (1938).

⁴⁰ *Ibid.*

⁴¹ *Id.* at 292.

importance of the cross-licensing agreement. At the time of the TNEC hearings the witness for the Association conceded that the patents then in the pool were not of great value and "not as important as the patents that were in the early part of the industry."⁴² Hence it may be concluded that the pool itself, containing for the most part innocuous or obsolescent patents, has come to be more of a symbol than an operative factor in the development of the industry.

That the cross-licensing agreement has held patent litigation in the industry to a minimum may be freely conceded. The most important characteristic of the agreement from the standpoint of patent competition is that in the phase of development, at least subsequent to the Selden episode, the agreement constituted "a complete abrogation of the patent law" with respect to the industry and the substitution of "a different system not provided by the patent law."⁴³ The problem of producers in "seeking within the law, though not through the law, to attain a technologically desirable end" has in effect "altered our patent law system without the formality of statutory amendment."⁴⁴ These considerations, however, clearly apply more directly to the formative period of the industry than to its more mature phases, so that "today the practice is in general that of licensing use of inventions in return for royalties."⁴⁵ It must, of course, be added that, while it is apparently expected that having reached its present state future progress in the industry will tend to be specific rather than revolutionary in nature, it would seem likely that future cross-licensing agreements of the AMA will probably embody more "psychical or spiritual"⁴⁶ cooperation than basic technical relationships. At the same time the whole field of technology is in flux today, and it is conceivable that revolutionary developments may occur. What policy would be adopted by the Association under such circumstances is indeterminable.

The most prominent dissent from the patent policy of the AMA by a member of the Association is that of the Packard Company. This company has never entered into the cross-licensing agreement because it believes that its own patents possess unique value. It had issued at the time of the TNEC hearings a total of 197 licenses and had taken licenses under 176 patents held by others. Generally the Packard policy had been to receive royalties on licenses, with a few exceptions, and upon occasion to restrict licensees as to field of use but not as to quantity of production nor price.⁴⁷ As the Federal Trade Commission pointed out, there has been some tendency for other firms, such as General Motors, to adopt policies toward recent developments which in effect resemble those of Packard, even though they subscribe to the cross-licensing agreement.

⁴² *Id.* at 295.

⁴³ Testimony of Willis Rice, *Hearings before the Committee on Patents on H. R. 4523*, Part 1, 74th Cong., 1st Sess. 558 (1935).

⁴⁴ L. I. WOOD, *PATENTS AND ANTITRUST LAW* 100, 98 (1942).

⁴⁵ *Id.* at 147.

⁴⁶ *Cf. Hearings before the TNEC*, Part 2, 75th Cong., 3d Sess. 295 (1938).

⁴⁷ *Id.* at 304-313.

There are, however, still other coordinates which it is necessary to include in the patent equation in the automobile industry. It has been estimated that one-fifth of all applications for patents have to do with the automobile.⁴⁸ In 1940, there were some 175,000 live automotive patents. Even though quietude prevailed on the surface of the automobile industry in consequence of the relative liberalism and even distrust of patents which has distinguished car manufacturers, it is obvious that such numbers of claims cannot move wholly in unison without friction. The question arises whether other, stronger forces now lubricate the flow of patents in the industry and whether the stoppages that do occur, even though they may be small in number, do not indicate a state of tension rather than a state of complete patent equilibrium.⁴⁹

It is particularly interesting that "patent competition" is keenest among parts manufacturers. But parts manufacturers are an integral part of the industry, even when they are not integrated subsidiaries of the major automobile makers. There have been at times some indications that newcomers or would-be entrants into parts manufacture encounter practices which can hardly be said to accord with the general reasonableness which the industry has perforce displayed since 1915.⁵⁰ As might be expected, there is a greater frequency of patent litigation in the parts field. Some of the reasons for the contests which have occurred in this field are found in the increasing importance of the parts business and perhaps also in the tendency toward concentration both in parts and automobile production, as well as in the volume of research which some of the larger concerns conduct and in the nature of some of the patents which have been developed.⁵¹ Moreover, parts manufacturers take the position that pooling of the type incorporated in the AMA agreement is inapplicable to them. For instance, the official representative of the Automotive Parts and Equipment Manufacturers Association, in testimony before the TNEC, endeavored to accentuate the risk position and the need for patent independence of parts manufacturers, emphasizing that the purchasing agent of an automobile company "has competition . . . offered him on every single part that he wants to buy," and that in effect anything like a market monopoly based on patents in parts is an improbable, if not impossible, contingency.⁵²

Short of an invention rendering the automobile as we know it obsolete, such as the

⁴⁸ WALTON H. HAMILTON, PATENTS AND FREE ENTERPRISE 115 (TNEC Monograph 31, 1941).

⁴⁹ See HAMILTON, *op. cit. supra*, note 48, at 115.

⁵⁰ Compare, for example, the testimony concerning patent infringement litigation given in *Hearings before the TNEC*, Part 3, 75th Cong., 3d Sess. 938-947 (1938).

⁵¹ Compare upon this point Hamilton's remarks concerning the Delco patents and the memoranda submitted by the patent counsel of General Motors to the TNEC. *Hearings before the TNEC*, Part 2, 75th Cong., 3d Sess. Exhibits 104, 105, Appendix 691, 697 (1938).

⁵² See the testimony of Clarence C. Carlton, *Hearings before the TNEC*, Part 3, 75th Cong., 3d Sess. 1045, 1053, 1055, 1057, 1058 (1938). Parts manufacturers do, of course, cross-license and license, generally upon a non-exclusive basis. In some cases royalties are paid; in others not, depending upon the bargaining positions of the parties. It may be said, however, that monopoly situations in adjacent fields can sometimes produce litigation which bears directly upon the automobile industry itself, as for instance the litigation stemming from the development of aluminum pistons. The series of patent cases following the establishment of the Piston Trust Estate illustrates that a monopoly situation in one sector of industry can ramify via patents into the patent structure of an entirely separate industry.

development of jet-propelled vehicles or automobiles using atomic energy, it is apparent that the web of automotive technology is so far-flung and is already in the public domain to such an extent that there is only a remote possibility that any individual or group could command enough of the patent strands in the network to control the industry today. Moreover, even in those sectors in which there is some evidence of an increasing disposition upon the part of the major manufacturers to create a patent structure capable of dominating one or more segments of the industry, any effort to pursue tactics of patent aggression would be likely to precipitate a titanic field day of costly litigation. Such litigation would not only injure the industry publicly, but might well have untoward results for both the patent system and other industries as well. Only a Pyrrhic victory could ensue. It is especially interesting to note, from this standpoint, that postwar newcomers to the industry have not, so far as has been publicly acknowledged at least, encountered any difficulties of access patent-wise. Other shortages have been, so far as is known, the principal obstacles met by new entrants such as Kaiser-Frazer.⁵³

From another standpoint also, it is possible to ask whether the principal types of patent abuse are frequently encountered in the automotive art. With few exceptions, the practices associated with misuse of patents in other fields, such as restrictions on territory, limitations on output, harassing litigation, narrow restrictions on use, tying-in clauses, and price fixing, have not constituted a primary means of control nor a problem to the general maintenance of competition within the industry. Some of the most astute and caustic critics of patent abuse have bestowed an accolade of approval on this aspect of the industry as a whole. Walton Hamilton has said, for example, "It is hard to think of a form of cooperation between competitors which has brought as much benefit to the public as the cross-licensing agreement with respect to the automobile."⁵⁴ Under the patent policies which have prevailed in the industry, competition is technically marginal. In other words, while the open pool and the patent liberalism of non-members of the pool have in effect been *pro tanto* reformations of the patent law, economically the partial nullification of the patent monopoly has set the stage for greater competition in the manufacture of the patented article.⁵⁵ In this sense, the entire patent policy of the automotive industry can be spoken of as a pooling operation and stands in dazzling contrast to the man-

⁵³ It may be noted that the Kaiser-Frazer group, by virtue of the latter's control of the Graham-Paige organization, is in effect a party to the cross-licensing agreement.

⁵⁴ WALTON H. HAMILTON, PATENTS AND FREE ENTERPRISE 122 (TNEC Monograph 31, 1941).

⁵⁵ It is interesting to note that, despite the efficacy of the patent policies in the automobile industry in reducing litigation and making possible the scale of manufacture which exists in this country, prominent critics have pointed out that some of the very important advances in the automobile have come in Europe before they have appeared in America. The implication is that stricter patent policies would spur significant advances here. See the testimony of Dr. Vannevar Bush, *Hearings before the TNEC*, Part 3, 75th Cong., 3d Sess. 889 (1938). In opposition to this position, however, is that taken by Kirsh, who says: "It has been demonstrated by the recorded experience in the automobile industry that such agreements give an impetus to further invention." B. S. Kirsh, *Patent Pools and Cross-Licensing Agreements*, 20 J. PAT. OFF. SOC'Y 733, 744 (1938).

ner in which closed pools have magnified rather than mitigated abuses in other fields.⁵⁶

There have been, of course, attempts—sometimes ludicrous—to apply a single patent lever upon the fulcrum of this or that sensitive point in the industry to compel the acceptance of licenses.⁵⁷ There are apparently some grounds also for recognizing that many of the patents in the automobile industry on ostensible modifications and improvements have far more tactical importance as devices for enhancing market appeal than genuine technical merit. What may be a jabberwock or a “widget”⁵⁸ from an engineering point of view (*i.e.*, a more or less ornate device representing no genuine technological advancement but designed to impress the lay consumer) can be employed as a market lure, for, despite the very high degree of technical sophistication upon the part of the public (or perhaps because of it), a minor gadget or unimportant contrivance can assume disproportionate importance in consumer choice. Nor can it be denied that what technologists have referred to as “the new illiteracy” makes possible a certain amount of “selling the sizzle rather than the steak.”⁵⁹

Within the internal structure of the industry, however, there are some rather crucial questions which may well be decided within the next few years concerning the depth and reality of competition among automobile manufacturers as well as among parts manufacturers. The automobile industry has happily not had the cartelization experience of some of the large industries which surround and supply automobile manufacture, such as, for example, rubber, petroleum, glass, plastics, chemicals, and metals. Nevertheless, merger, combination, and shifts in the balance of power within the industry during the depression years and through World War II have given disturbing suggestions of a much tighter monopoly development, partly in accordance with the trends which have lessened competition in other fields and partly in consequence of increasing concentration and size of major units within the industry. Even if the current situation is discounted, price inflexibility bespeaks the lessening of competition.⁶⁰ In this connection it should perhaps be remarked that the Federal Trade Commission contends that active price competition has existed in the lower-priced group largely because “Ford has never been a member of the powerful motor-vehicle manufacturers’ trade group . . . or its predecessor organizations, but followed an independent course with respect to production, price and sales policies.”⁶¹

⁵⁶ Cf. C. A. Welsh, Economic Significance of Patent Pools and Cross-Licensing Agreements, in *Hearings before the Committee on Patents on H. R. 4523*, Part 1, 74th Cong., 1st Sess. 2250, 1151 (1935).

⁵⁷ Cf. the testimony concerning radiator thermometer patents, *id.* at 571-572, 584-585.

⁵⁸ *Fortune*, March, 1946, p. 233.

⁵⁹ See the testimony on this point in *Hearings before the Committee on Patents on H. R. 4523*, Part 1, 74th Cong., 1st Sess. 940-941; and Mark Adams, *The Automobile Industry—A Luxury Becomes a Necessity*, in WALTON HAMILTON AND ASSOCIATES, PRICE AND PRICE POLICY 47 (1938).

⁶⁰ Cf. CLAIR WILCOX, COMPETITION AND MONOPOLY IN AMERICAN INDUSTRY 196, 197 (TNEC Monograph 21, 1940).

⁶¹ FEDERAL TRADE COMMISSION, REPORT ON MOTOR VEHICLE INDUSTRY, H. R. Doc. No. 468, 76th Cong., 1st Sess. 32-33 (1939).

The appearance of new producers in the postwar period is, however, a sign that the industry still retains a basic area of competition and that it has not yet evolved to a point at which there is any permanent threat to the competitive mainsprings of automotive manufacture—even though as much cannot be said for some policies which have arisen from time to time in the control of the supply of parts.

It must be recognized that the industry is not entirely autonomous either in respect of product competition or the maintenance of patent policies which facilitate, or at least do not impede, market rivalry. One of the foremost authorities on research in the automobile industry has pointed out, although in a different context, that “each one of the industries which served the automobile field before the war has a long and detailed patent history of its own which has just as much effect as if it were part of the automobile industry.”⁶² Hypothetically at least, it is conceivable that the whole policy of the industry could be altered, not so much by a revolutionary development within itself, or even by the increasing tendency which has been noted for integrated control by a single member, especially over parts, to orient the industry further toward monopoly, but rather by the appearance of a radical development in a tangential field, such as fuel, where patent policies may be guided by a cartel philosophy. The coefficient of probability attaching to such an event may be small, but it can never be reduced to zero.⁶³

There are undoubtedly many steps that could be taken to achieve even better results than those which men, circumstances, technology, and the law have evolved thus far. Walton Hamilton has attempted to visualize abstractly an ideal system for the industry under which free access to all technology in both automotive manufacture and parts manufacture would remove any threat of the resurgence of monopoly based on patents.⁶⁴ Admittedly, however, such a solution does not at the moment seem feasible. There is some hazard that in the process of the fusion of technology and patents it tends to be the existing small manufacturer and the potential newcomer who are placed at a bargaining disadvantage, should the trading philosophy of the industry become more inflexible either as the rate of technological change declines or as the market approaches saturation. Neither of these conditions yet exists, but experience in other industries has illustrated the danger.

What conclusions emerge? The entire complex of patent practices in the automobile industry is a challenge to that interpretation of the patent system so often advanced in other fields in justification of demonstrable abuse of patents, such as that involved in cartel arrangements, that any such live-and-let-live attitude toward patents is a hindrance to progress or the removal of an incentive to produce. The automobile industry is not a unique exception which proves the rule, but rather

⁶² Dr. C. F. Kettering, *Role of Patents in the Automobile Industry's Growth*, THE JOURNAL OF COMMERCE, March 11, 1943, §2, p. 11, col. 2.

⁶³ Dr. Kettering has stated, “The most important single problem the industry has is the question of fuels.” *Hearings before the TNEC*, Part 30, 75th Cong., 3d Sess. 16295 (1938).

⁶⁴ WALTON H. HAMILTON, PATENTS AND FREE ENTERPRISE 120-121 (TNEC Monograph 31, 1941).

an unanswerable deliverance of experience which contradicts the thesis that without monopolistic patent structures industrial advancement cannot occur.

By and large, it may be said that in an industry where the consumer is still an *arbiter elegantiarum*, and ultimately of success or failure, patents are a necessary but not a sufficient condition of industrial primacy. In the automobile industry as in other fields, the thrust of economic development has for some time past abetted concentration rather than competition. There are valid reasons for believing that while the industry still passes the basic test of competition, *i.e.*, access to the market by newcomers is possible, there is a strong collocation of forces within and without the industry tending once more, as in the industry's infancy, to bring about an unhealthy domination of the market. Should these elements increase rather than decrease in the years ahead, one of the basic spheres of competition in the economy would be placed in jeopardy.

Both the industry and the public have much at stake in this question, for any final termination of competition in the automobile industry would be a profound shock to the competitive structure everywhere. This potentiality can be mitigated, if not completely held in check, by factors which are also acting upon the industrial scene, such as the enforcement of antitrust laws, the breadth and scope of automotive technology, and the allure which the industry has for newcomers. Withal, it can still be said that while monopoly in the automobile industry cannot be achieved without patent control, it has not been and is not likely to be achieved by means of patents. Neither the state of the arts nor the climate of opinion would readily tolerate such a condition.