

PATENT LAW: REPAIR-RECONSTRUCTION A REVIEW, ANALYSIS, AND PROPOSAL

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INTRODUCTION

It has been estimated that one-half of all patents issued by the United States Patent Office involve a combination of elements as the patented entity.¹ Therefore, any sweeping legal decision affecting combination patents affects roughly 50% of the patents issued by the United States Patent Office. This article is largely concerned with such a decision affecting combination patents.

A combination patent is distinguished from a single element patent in that a combination patent covers the combination of two or more elements such as "A·B"; whereas a single element patent would cover either "A" alone or "B" alone. When a patentee holding a patent on the combination "A·B" sells one of his patented articles to a third party and, for example, "B" wears out, does the third party have the right to replace element "B" without infringing the patent? Answering this question involves a review of the legal doctrine of repair-reconstruction.

It is settled patent law that repair of a patented article is permissible and non-infringing, but that reconstruction of a patented article is impermissible and infringing. The theory is that a purchaser or other rightful user of a patented article has a license to keep the article in working condition, but that he does not have a license to re-create the patented entity as a whole. However, as is often the case with simplified statements of legal doctrines, the application of a doctrine is not as simple as the statement of it; moreover, upon careful analysis, the simplified statement itself becomes suspect.

The 1961 United States Supreme Court decision of *Aro Manufacturing Co. v. Convertible Top Replacement Co.*² [hereinafter *Aro I*] had far-reaching ramifications on the doctrine of repair-reconstruction, as well as on the very integrity of combination patents. It is the purpose of the Article to study the pre-*Aro I* development of the repair-reconstruction doctrine, to examine the literal effect of *Aro I* cases in order to determine the actual effect of *Aro I* on the repair-reconstruction doctrine, and lastly, to suggest some possible alternative methods of analysis in regard to the subject doctrine.

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¹ 36 N.Y.U.L. REV. 1395, 1399-1400 (1961).

² 365 U.S. 336 (1961).

I. THE PRE-ARO I REPAIR-RECONSTRUCTION DOCTRINE

A. *The Supreme Court Decisions*

From 1850 until the decision in *Aro I*, the United States Supreme Court had examined the repair-reconstruction doctrine only five times. Of the five decided cases, the first, *Wilson v. Simpson*,³ was, and still is, recognized as the leading case. In the *Wilson* case, the patent covered a wood planing machine comprised of cutting knives and a pressure roller.⁴ The patented planing machine was capable of lasting several years, but the cutting knives had to be replaced every 60 to 90 days.⁵ The defendant was assignee of a territorial interest in the patent, and in order to maintain use of the machines, replaced worn-out cutting knives. The plaintiff contended that the combination was the invention, and that whenever one of its elements was worn-out by use or otherwise, "the thing patented [the combination] no longer exists, and cannot be restored without the exercise of the right to make."⁶ The defendants contended their right was the right to continue to use the thing patented, and accordingly, by replacement of the cutting knives, they did not make a machine but merely continued in use that which they had a right to use.⁷

The Court held for the defendants, basing its decision upon two closely related grounds: (1) repairing partial injuries is only refitting the machine for use and not a reconstruction of the machine anew, as the machine never ceased to exist, and (2) the replacement was in accord with the intention of the inventor, that intention being implied from the nature of the replacement part relative to the arrangement and nature of the patented machine.⁸

The opinion in *Wilson* is very interesting because the language the Court used in justifying the decision could be interpreted to give a rightful user of a patented combination (1) an absolute right to replace unpatented parts of the combination, or (2) a limited right to replace only easily worn-out, temporary parts. Interpretation (1) is buttressed by the following quotations from the *Wilson* decision:

[R]epairing partial injuries, whether they occur from accident or from wear and tear, is only refitting a machine for use. And it is no more than that, though it shall be a replacement of an essential part of a combination. It is the use of the whole of that which a purchaser buys, when the patentee sells to him a machine; and when he repairs the damages which may be done to it, it is no more than the exercise of that right of care which everyone may use to give duration to that which he owns, or has a right to use as a whole.⁹

³ 50 U.S. (9 How.) 109 (1850).

⁴ *Id.* at 114.

⁵ *Id.* at 111.

⁶ *Id.* at 116.

⁷ *Id.* at 119-20.

⁸ For an excellent discussion of *Wilson* stating the two grounds mentioned herein as basis for the decision see Note, *Patents-Infringement Under 35 U.S.C. § 271(a)—Repair and Reconstruction*, 29 GEO. WASH. L. REV. 952, 954 (1961).

⁹ *Wilson v. Simpson*, 50 U.S. (9 How.) 109, 123 (1850).

. . . .
... Consisting of parts [the machine], its action is only suspended by the want of one of them, and its restoration reproduces the same result only, without the machine having been made anew.¹⁰

Interpretation (2) is supported by these quotations:

The other constituent parts of this invention [those other than the easily worn-out cutting knives], though liable to be wornout, are not made with reference to any use of them which will require them to be replaced. These, without having a definite duration, are contemplated by the inventor to last so long as the materials of which they are formed can hold together in use in such a combination. No replacement of them at intermediate intervals is meant or is necessary. They may be repaired as the use may require. With such intentions, they are put into the structure. So it is understood by a purchaser, and beyond the duration of them a purchaser of the machine has not a longer use.¹¹

Such a replacement of temporary parts does not alter the identity of the machine, but preserves it, though there may not be in it every part of its original material.¹²

An opinion dealing definitively with this apparent conflict would not be forthcoming until *Aro I*, some 111 years later.

Before proceeding sequentially to the next Supreme Court decision dealing with the subject doctrine, three points concerning the *Wilson* case, and the repair-reconstruction doctrine generally, which are relevant to later discussions, must be made. First, *Wilson* made it abundantly clear that the right of repair exists even though the part repaired is an "essential part of a combination";¹³ second, the right of repair does not extend to portions of a combination which are themselves patented;¹⁴ and third, the right of repair is not an absolute right and only exists when the person repairing has a right of use.¹⁵

The next Supreme Court consideration of the repair-reconstruction doctrine came in *Cotton-Tie Co. v. Simmons*.¹⁶ The plaintiff was assignee of three patents covering a cotton-bale tie comprised of metal buckle and a metal band.¹⁷ The ties were used to confine bales of cotton while in transit from the plantation to a cotton mill. At the cotton mill the tie was severed and the buckle and band were sold as scrap iron at one-fourth the original cost.¹⁸ The plaintiff licensed no one under the patent and stamped on the metal buckle, "Licensed to use once only".¹⁹ Defendants purchased the used buckles and

¹⁰ *Id.*

¹¹ *Id.* at 125-26.

¹² *Id.* at 126.

¹³ *Id.* at 123.

¹⁴ *Id.* at 123-24.

¹⁵ In *Wilson* the defendant was assignee of an interest and as such had a right of use. For details on this point see, 4 A. DELLER, DELLER'S WALKER ON PATENTS, § 399 (1965).

¹⁶ 106 U.S. 89 (1882).

¹⁷ *Id.* at 91.

¹⁸ *Id.* at 92.

¹⁹ *Id.* at 91.

bands as scrap iron, riveted the bands together, combined them with a buckle and resold them for use as cotton-bale ties.²⁰ Defendants did not contest the validity of the patents and pleaded as their sole defense non-infringement.²¹

The Court held that the defendants' acts were not a repair of the tie in any proper sense of the word, but were an infringing reconstruction. In so holding, the Court reasoned that the capacity of the cotton-ties for use as a tie was voluntarily destroyed at the cotton mill.²² This fact, according to the Court, distinguished *Wilson*, whose rule was "that temporary parts wearing out in a machine might be replaced to preserve the machine, in accordance with the intention of the vendor, without amounting to reconstruction of the machine."²³

Upon superficial examination, the decision in *Cotton-Tie* seems unquestionably fair and easily distinguishable from *Wilson*. In *Cotton-Tie* proper use of the patented article necessitated its destruction by severance after a short period of usefulness, and indeed the purchaser must have known this; whereas in *Wilson*, proper use of the planning machine for its intended purpose necessitated frequent replacement of the cutting knives. However, such a distinction is predicated upon the assumption that the rule of the *Wilson* case was only applicable to temporary parts which easily wear out. While the *Cotton-Tie* case so limited the rule of *Wilson*, much of the sweeping language of *Wilson* previously quoted herein does not justify such a limitation to temporary parts and is equally applicable to any part, temporary or not, of a patented combination. Under this broader language,²⁴ *Cotton-Tie* could have been decided as follows: the plaintiff's patent covered the combination of a metal buckle and a metal band, the defendants in replacing severed bands with mended bands merely replaced an unpatented element of the patented combination and therefore had a legal right to do so.

Another explanation can be offered for the dissimilar result in *Cotton-Tie*. As the Court stated, the capacity of the tie had been once voluntarily destroyed.²⁵ The defendants' acts increased the capacity of the patented combination, i.e. allowed the tie to be used to confine more than one bale of cotton, and therefore, was infringing reconstruction. A still different and perhaps most feasible explanation is that the Court was simply convinced by the marking on the buckle, "Licensed to use once only".

In any event, *Cotton-Tie* raised at least two questions; (1) did the

²⁰ *Id.*

²¹ *Id.* at 90.

²² *Id.* at 94; in stating that the "capacity" of the tie was increased, it is not clear whether the Court meant the functional life of the tie, or the ability of each tie to be used for more than one bale of cotton, i.e. in a volumetric or size-related sense. Subsequent pre-*Aro I* cases seemed to indicate that both acts amounted to infringing reconstruction. See *Leeds & Catlin Co. v. Victor Talking Machine Co.*, 213 U.S. 325 (1909). Cases cited notes 48 and 49 *infra*.

²³ *Cotton-Tie Co. v. Simmons*, 106 U.S. 89, 94 (1882).

²⁴ *Wilson v. Simpson*, 50 U.S. (9 How.) 109 (1850).

²⁵ *Cotton-Tie Co. v. Simmons*, 106 U.S. 89, 94 (1882).

Wilson rule apply only to temporary, soon to be wornout parts? and (2) did the *Cotton-Tie* case state as a rule that increase in the capacity of a patented combination is a reconstruction and infringement?

The third pre-*Aro I* repair-reconstruction case, *Morgan Envelope Co. v. Albany Perforated Wrapper Paper Co.*,²⁶ shed little light on the questions raised by *Cotton-Tie*. In *Morgan*, the plaintiff's patent covered, as a combination, a toilet paper roll and dispenser for the toilet paper roll. Defendants sold toilet paper for use in dispensers originally sold by plaintiff and also purchased used dispensers from other prior purchasers, supplied them with toilet paper and resold them.²⁷ The Court had serious doubts about the propriety of the combination covered by the patent, but assumed the combination was proper and stated the issue to be whether or not the sale of one element of the combination with the intent that it shall be used with the other element is an infringement.²⁸

The Supreme Court, in holding for the defendant, emphasized the intention of the patentee and the perishable nature of the replaced portion of the combination. The Court stated that the purchaser of new rolls had done precisely what the patentee had intended in using the perishable rolls and replacing them with additional toilet paper.²⁹ The Court noted the factual parallelism of the *Wilson* case by pointing out the perishable nature of the cutting knives in *Wilson*.³⁰ *Cotton-Tie* was distinguished, the Court saying it was there intended that the tie be used only once and the severance of the tie was intended to destroy its usefulness.³¹

Because *Morgan* involved replacement of a perishable portion of a combination, the Court was able to avoid a decision which would determine whether the *Wilson* rule, allowing replacement of worn parts, applied to only temporary parts of a patented combination, or all parts of the combination. However, the Court emphasized the parallelism of facts with *Wilson*, and by distinguishing *Cotton-Tie*, at least by implication gave approval to such a limitation of the *Wilson* rule. The second question raised by *Cotton-Tie*, i.e. whether increase in capacity is really reconstruction, was not dealt with in the *Morgan* case.

The question of whether the *Wilson* rule applied only to temporary, easily worn parts, and the question raised by *Cotton-Tie* as to whether an increase in capacity was always an infringement, were unequivocally answered in the following Supreme Court case of *Leeds & Catlin Co. v. Victor Talking Machine Co.*³² In *Leeds & Catlin* the defendant sold records to be used in plaintiff's patented combination which claimed a record player plus records. An injunc-

²⁶ 152 U.S. 425 (1894).

²⁷ *Id.* at 431.

²⁸ *Id.* at 432-33.

²⁹ *Id.* at 434.

³⁰ *Id.*

³¹ *Id.*

³² 213 U.S. 325 (1909). Connected decision at 213 U.S. 301 (1909).

tion was issued restraining defendant from selling records for use in plaintiff's device, and defendant was held in contempt for violation of the injunction. Defendant contended that no injunction should have issued as he did only what he had a legal right to do. In supporting his contention, defendant argued that *Morgan* and *Wilson* supported his position that "the person who has purchased a patented combination from the patentee has the right to replace an unpatented element of the combination."³³ Plaintiff, on the other hand, contended that the rule established by *Morgan*, and presumably *Wilson* also, "was never intended to be so sweeping and far-reaching."³⁴ The Court held for the plaintiff and found infringing reconstruction. The Court distinguished *Morgan* on its facts, saying here the combination was unquestionably a proper combination, and this was not so in *Morgan*; and further the records placed in *Leeds & Catlin* were not perishable, as was the toilet paper in *Morgan*.³⁵ The Court then turned to the issue of whether plaintiff can "find justification under the right of repair and replacement as described in *Wilson* . . ."³⁶ and affirmed the Court of Appeals decision to the effect that repair and replacement as defined in *Wilson* means restoration of worn-out parts, reasoning that in this case the replaced records were not worn-out but purchased to increase the capacity of the device, i.e. its repertoire of tunes.

Leeds & Catlin gave clear answers to the two questions raised by the previous decisions: (1) the right of repair as defined in *Wilson* only extends to replacing worn-out parts,³⁷ and (2) increase in capacity of a patented combination is infringing reconstruction.³⁸

The last pre-*Aro I* Supreme Court case, *Heyer v. Duplicating Manufacturing Co.*,³⁹ added little to previous discussions of repair-reconstruction. In *Heyer*, defendants made and sold gelatin bands specifically designed for use in plaintiff's patented duplicating machine.⁴⁰ The gelatin bands had to be replaced about every 60 days. The Court, speaking through Mr. Justice Holmes, distinguished *Leeds & Catlin*, saying in that case the question was not one of the right to substitute worn-out parts. It then proceeded to follow the *Wilson* case, noting the factual parallelism of the present case with *Wilson*. Because the facts presented did not compel it, no discussion of whether the *Wilson* rule extended to all unpatented parts of a patented combination or only worn-out parts was presented.

³³ *Id.* at 332.

³⁴ *Id.* at 329.

³⁵ *Id.* at 335.

³⁶ *Id.* at 336.

³⁷ *Id.*

³⁸ In so holding, however, the Court did not cite *Cotton-Tie*, which first used the increase in capacity rationale.

³⁹ 263 U.S. 100 (1923).

⁴⁰ *Id.* at 101.

B. *Lower Court Decisions*

Pre-Aro I non-Supreme Court cases tended to be in accord with the *Wilson* interpretation espoused in *Leeds & Catlin* and *Cotton-Tie*. As stated in an excellent case note:⁴¹

[T]hey [Courts of Appeals] have found that when the combination has an expected life or capacity, it is reconstruction to alter the combination to create a new life or capacity. In determining whether an act was repair or reconstruction under these principles, the Courts of Appeals have considered the following facts relevant: (1) cost of part replaced relative to the cost of the entire patented device; (2) temporariness of part or parts replaced relative to the expected life of the patented device; (3) importance of the replaced part to the inventive concept; (4) difficulty or ease of making the replacement; (5) physical domination of the parts replaced relative to the remaining parts of the patented device; and (6) intention of the inventor.⁴²

Utilizing the above principles and relevant factual tests as guidelines, patentees were not allowed to prevent replacement of razor blades in a safety razor,⁴³ needles in a hypodermic syringe,⁴⁴ abrasive stones in a grinding stone,⁴⁵ or insertion of new bearings in reground bearing grooves.⁴⁶ On the other hand, infringing reconstruction was found when users or suppliers increased the useful life of a patented light bulb by replacing filaments,⁴⁷ altered a candy wrapping machine to wrap larger candies,⁴⁸ and increased the capacity of a patented incubator.⁴⁹

C. *Summary of the Status of the Law Prior to Aro I*

Seemingly, the law of repair-reconstruction had finally become adequately defined. The five Supreme Court cases decided on this doctrine, when all interpreted together, could lead one to reasonably conclude that the rule of the *Wilson* case only applied to replacing temporary and worn-out parts, and replacement of other parts was infringing reconstruction. In accord with *Cotton-Tie* and *Leeds & Catlin*, an increase in capacity of a patented combination was clearly an infringing reconstruction and not a rightful repair of a patented combination. In determining whether or not the activities of an alleged infringer were actually infringement or merely an exercise of his implied right of repair, lower courts had developed a series of subsidiary tests which were

⁴¹ See note 8 *supra*.

⁴² Note, *Patents-Infringement Under 35 U.S.C. § 271(a)—Repair and Construction*, 29 GEO. WASH. L. REV. 952, 955 (1961).

⁴³ *Gillette Safety Razor Co. v. Standard Razor Co.*, 64 F.2d 6 (2nd Cir. 1933).

⁴⁴ *Payne v. Dickinson*, 109 F.2d 52 (3rd Cir. 1940).

⁴⁵ *Micromatic Hone Corp. v. Mid-West Abrasive Co.*, 177 F.2d 934 (6th Cir. 1949).

⁴⁶ *Hess-Bright Mfg. Co. v. Bearing Co.*, 271 F. 350 (E.D. Pa. 1921).

⁴⁷ *Davis Elec. Works v. Edison Elec. Light Co.*, 60 F. 276 (1st Cir. 1894).

⁴⁸ *George Close Co. v. Ideal Wrapping Mach. Co.*, 29 F.2d 533 (1st Cir. 1928).

⁴⁹ *Miller Hatcheries Inc. v. Buckeye Incubator Co.*, 41 F.2d 619 (8th Cir. 1930).

indeed quite logical. Such tests included an examination of the cost of the replaced part relative to the cost of the entire device, the temporariness of the part compared to the expected life of the patented device, the reasonable intentions of the patentee when he sold the article, and other tests previously enumerated. However, as is often the case when a lawyer finds the law becoming comfortably settled in any given area, the Supreme Court finds that change is necessary. Such was the situation for patent lawyers in 1961.

II. ARO I AND REPAIR-RECONSTRUCTION

A. *Aro I*—The Decision

In 1961 the Supreme Court decided *Aro Manufacturing Co. v. Convertible Top Replacement Co.*⁵⁰ Much has been written about this case, and as one frustrated judge stated:

It is not surprising that the position of the Court in that case is subject to varying interpretations. There, we have first, the opinion of the Court followed by a lengthy concurring opinion which, in turn, is followed by an opinion "concurring in the result." This is followed by a dissenting opinion representing the views of three Justices.⁵¹

The facts of *Aro I* are extremely complicated, as are the legal issues involved. For the sake of brevity, only those facts and those legal issues relevant to the doctrine of repair and reconstruction will be discussed herein. While much of the opinion in *Aro I* deals with the doctrine of contributory infringement, it is to be remembered that contributory infringement, while often an issue in repair-reconstruction cases, is a separate and distinct doctrine and therefore will not be discussed here.⁵²

In *Aro I*, plaintiff acquired the Massachusetts patent rights under a combination patent claiming the combination of an automobile body, a flexible top, a fabric, a support structure, and a sealing mechanism for sealing the fabric to the automobile body. It was proven during the trial that the convertible top fabric wears out approximately every three years and that the rest of the elements of the patented combination do not wear out for considerably longer time. The defendant was the maker of replacement fabrics which he advertised as suitable for utilizing in plaintiff's combination. The plaintiff brought suit, alleging infringement by the users of defendants' fabric tops, and contributory infringement by the defendants.⁵³ General Motors was licensed under the plaintiff's patent rights, whereas Ford was not licensed under plaintiff's patent rights.⁵⁴ The trial court held the patent valid and infringed,

⁵⁰ 377 U.S. 476 (1964).

⁵¹ *TSC Industries, Inc. v. International Harvester Co.*, 406 F.2d 53, 55 (7th Cir. 1968).

⁵² Contributory infringement is defined in 35 U.S.C. § 271 (1964).

⁵³ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 337 (1961).

⁵⁴ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 478 (1964).

contributorily infringed, and granted the plaintiff an injunction prohibiting further infringement.⁵⁵ In holding for the plaintiff, the trial court looked at some of the subsidiary tests of reconstruction previously presented. The First Circuit Court of Appeals,⁵⁶ in upholding the trial court, said that fabric replacement was reconstruction principally on the ground that "the life of the fabric is not so short, nor is the fabric so cheap, that we can safely assume an owner would rationally believe that in replacing it he was making only a minor repair to his top structure."⁵⁷ The defendant petitioned for a writ of certiorari, which was granted.

The Supreme Court stated the issue to be "whether the owner of a combination patent, comprised entirely of unpatented elements, has a patent monopoly on the manufacture, sale or use of the several unpatented components of the patented combination."⁵⁸ As one might guess from the Court's phrasing of the issue in such broad terms, the Supreme Court held for the defendant and found the patent not directly infringed and not contributorily infringed. The Court said that the defendant's acts amounted to nothing more than the rightful exercise of the right of repair. In so holding, the Court reasoned through Justice Whitaker, who spoke for four members of the Court, that the patent claimed the combination only, and the fact that an unpatented part of the combination distinguishes the invention from the prior art does not draw to it the privileges of a patent. In other words, a combination patent covers only the combination and affords no protection of the unpatented elements of the combination, and, therefore, a rightful user may replace any element without liability. Liability would arise only when each element is simultaneously replaced. Since there was no direct infringement according to the Court's reasoning, it follows that contributory infringement would be an impossibility.

In holding for the defendant, the Court stated that *Wilson v. Simpson* cites the true rule of repair-reconstruction, and that none of the other previously decided cases have added anything to *Wilson*. In footnote 9 of the opinion the Court indicated that *Morgan* and *Heyer* fell into the category of adding nothing to *Wilson*, and that *Cotton-Tie* was easily distinguishable. The Court continued, stating erroneously that *Morgan*, *Heyer*, and *Cotton-Tie* were the only repair-reconstruction cases decided since *Wilson*. This footnote is of peculiar interest because the Court forgot to mention *Leeds & Catlin*. While *Leeds & Catlin* was cited subsequently, as incredible as it may seem, the Court never distinguished it. The Court's holding can be summarized by the following quotations:

[T]he combination patent covers only the totality of the elements in the claim and no element, separately viewed, is within the grant.

. . . [M]aintenance of the "use of the whole" of the pat-

⁵⁵ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 338 (1961).

⁵⁶ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 270 F.2d 200 (1st Cir. 1959).

⁵⁷ *Id.* at 205.

⁵⁸ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 338-39 (1961).

ented combination through replacement of a spent, unpatented element does not constitute reconstruction.

. . . In order to call the monopoly, conferred by the patent grant, into play for a second time, it must, indeed, be a second creation of the patented entity, as for example in *Cotton-Tie Co. v. Simmons, supra*. Mere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or different parts successively, is no more than the lawful right of the owner to repair his property.⁵⁹

Justice Black, who wrote a concurring opinion, added his views only because of the concurrence of Justice Brennan and the dissent of Justice Harlan. It was Justice Black's view that utilizing subsidiary tests of repair-reconstruction, as advocated by Brennan and Harlan, would open a Pandora's box which would only obfuscate the issue of whether a making of an unpatented element of a patented combination amounted to infringing reconstruction or permissible repair. Interestingly enough, Justice Black cited *Leeds & Catlin* and stated that Justice Holmes, in *Heyer*, had previously distinguished *Leeds & Catlin* on the basis that it did not concern a right to substitute worn-out parts.⁶⁰

Justice Brennan, who wrote an opinion concurring in result, stated that the majority of the Court and Justice Black reached the correct decision but in so doing made a mistake of setting down one test, i.e. a second creation of the patented entity as a whole. Justice Brennan would have the Court consider the previously mentioned incidental and subsidiary tests of repair-reconstruction, such as the life of the replaced part versus the life of the whole, the importance of the replaced part to the inventive concept, the cost of the replaced part versus the cost of the combination, common sense understanding and the intent of the patent owner and the buyer as to perishable components, whether or not the purchased part was to replace a worn-out part or purchased for another purpose, the physical dominance of the replaced part in regard to the entire structure, or the physical destruction of the combination from the use of the component.⁶¹ Justice Brennan further stated that the question of repair or reconstruction is so far a question of law as to be properly reviewable by the Appellate Courts without the restraints of Federal Rule of Civil Procedure 52(a) with regard to appellate review of questions of fact.⁶²

Mr. Justice Harlan, in writing a dissent expressing the views of Justice Frankfurter and Justice Stewart as well as his own, had yet another view. It was the view of the dissent that the cited case law shows clearly that there is no single yardstick of repair or reconstruction. To Justice Harlan and the others

⁵⁹ *Id.* at 344, 346.

⁶⁰ It is submitted that Justice Black's comment concerning *Leeds & Catlin* and its previous distinction by Justice Holmes is irrelevant, because under the majority rule the difference between worn-out parts of a patented combination and other more permanent parts is irrelevant.

⁶¹ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 363-64 (1961).

⁶² In pertinent part Fed. R. Civ. P. 52(a) provides, "Findings of fact shall not be set aside unless clearly erroneous, and due regard shall be given to the opportunity to the trial court to judge of the credibility of the witnesses."

joining in the dissent, it was impractical as well as unwise to lay down any rule having overall applicability because of the number and infinite variety of patented inventions. The dissenting Justices further had the view that repair-reconstruction is a mixed question of law and fact and, therefore, when the legal ingredient of the mixed question is correct, the Court should not review other than gross misapplications, which certainly was not the present situation.

B. *The Literal Effect of Aro I*

To summarize briefly, in *Aro I*, the Court held that a rightful user has an absolute right to replace a single element of a patented combination where the patent covers *only* the combination. This was the view of four Justices. Justice Black concurred, stating that there could only be one test of repair or reconstruction, and the Court had correctly stated it. Justice Brennan, who concurred in result, stated that, while he agreed there was only permissible repair in this case, the Court had incorrectly stated that there was only one test; he was of the view that the Court should use subsidiary tests; he further stated that review was proper in this case as repair-reconstruction is a question of law and, therefore, not restrained by Federal Rule of Civil Procedure 52(a). Justice Harlan, in dissenting for himself and Justices Frankfurter and Stewart, said that the Court should have found reconstruction and infringement and that the Court had misinterpreted its prior cases concerning the doctrine of repair-reconstruction. Finally, the dissenters were of the opinion that appellate review of the lower Court finding of reconstruction was improper because repair-reconstruction is a mixed question of law and fact and the Court should review only gross misapplications, especially when the lower Court has correctly applied the law.

Contrary to most patent cases, Supreme Court or otherwise, which are usually ignored in a seemingly conspiratorial fashion by most law journals, *Aro I* received a surprising number of treatments.⁶³ Indeed, the ire of the Patent Bar had been raised, and the vindictive assault began. The general feeling of appalling dismay, which was perhaps overstated, can be seen from the following excerpts from some of the articles written. *California Law Review* stated, ". . . it seems doubtful that *Aro* is the restatement of the prior law that it purports to be."⁶⁴ *Fordham Law Review* stated, "it would appear that the complete rebuilding of a patented object which had been completely destroyed must now be shown to establish a reconstruction."⁶⁵ *The University of Illinois Law Forum* stated, "the least that can be said for this case is that it is in accord with the Supreme Court's long-standing policy of restricting the scope of protection for patent rights."⁶⁶ Finally, *New York University Law*

⁶³ See, e.g., 49 CALIF. L. REV. 988 (1961); 30 FORDHAM L. REV. 373 (1961); 37 N.D. LAWYER 263 (1961); 36 N.Y.U.L. REV. 1395 (1961); 40 TEXAS L. REV. 728 (1961); 32 U. CHI. L. REV. 353 (1965); 31 U. CIN. L. REV. 61 (1962); 1961 U. ILL. L. FORUM 343; 23 U. PITT. L. REV. 184 (1962); 70 YALE L.J. 649 (1961).

⁶⁴ 49 CALIF. L. REV. 988, 993 (1961).

⁶⁵ 30 FORDHAM L. REV. 373, 376-77 (1961).

⁶⁶ 32 U. ILL. L. FORUM 343, 350 (1965).

Review stated, ". . . it would seem that if the complainant alleges infringement of a non-patented part of a combination patent, the defendant can rely on the *Aro* case to secure summary judgment. . . . [T]he holding virtually immunizes the supplier of unpatented components from a contributory infringement action."⁶⁷

Just as some soothsayers continually predict California will fall into the ocean, many patent lawyers were predicting the beginning of the end for combination patents. Still, the literal effect of *Aro I* on the doctrine of repair-reconstruction seemed clear; the ambiguity created by the language of *Wilson* had been resolved in favor of giving the rightful user of a patented combination an absolute right to replace unpatented elements one at a time. Because of the specific facts involved, no answer was given on the question of whether increase in capacity was infringing reconstruction. It remained to be seen what the lower courts would do with the *Aro I* case.

III. THE POST-ARO I ERA

A. Supreme Court Decisions

The Supreme Court was not yet finished with the *Aro* case because in 1964 the case came before the Court again.⁶⁸ While at least one writer is of a different opinion,⁶⁹ it is the author's opinion that *Aro II* has no effect upon the doctrine of repair-reconstruction. In *Aro II* the distinction between Ford and General Motors was the all-important factor. In the previous discussion of *Aro I* it was mentioned that General Motors had a license under the convertible top patent, whereas Ford Motor Company did not. *Aro II* held that, as to General Motors automobiles having replacement tops, there was no liability because the original use of the patented combination by the owners of General Motors convertibles was rightful and gave to them a right of repair.⁷⁰ However, as to Ford which was unlicensed under the convertible top patent, the Court stated that the original use of the convertible top by purchasers of Ford automobiles was infringement, and because the original use was infringement, their action in replacing wornout convertible tops was also infringement whether or not it was repair or reconstruction.⁷¹ In other words, the Court was merely restating one of the original rules of repair and reconstruction previously cited, i.e. the right of repair is not an absolute right and, for it to come into being, the original use of the patented article must be a rightful use. In the *Aro* situation the original use of the patented combination by Ford automobile purchasers was infringement, and it followed that the subsequent replacement of automobile tops was also infringement, whether or not it was repair or reconstruction. This

⁶⁷ 36 N.Y.U.L. REV. 1395, 1399 (1961).

⁶⁸ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476 (1964).

⁶⁹ See Conner, *The Second Aro Case: A realignment of the Supreme Court on the Matter of Contributory Infringement of a Combination Patent*, 34 U. CIN. L. REV. 123 (1965).

⁷⁰ 377 U.S. 476, 498 (1964).

⁷¹ *Id.* at 484.

being so, the Court correctly held that the users of Ford convertible automobiles were infringers and the sale by Aro of replacement tops to users of Ford convertible automobiles was contributory infringement under 35 U.S.C. § 271(c).⁷² The major portion of the opinion dealt with the doctrine of contributory infringement and therefore will not be discussed.

A dissent in *Aro II*, written by Justice Black and concurred in by Chief Justice Warren and Justices Douglas and Clark, stated that *Aro I* had rejected the distinction between Ford and General Motors automobiles as irrelevant, and *Aro I* was merely based upon the fact that the fabric top itself was not patented and that the patentee could not extend his own monopoly to unpatented elements of the combination.⁷³ On this point it seems that the majority opinion was correct. The right of repair never has been absolute and was always dependent upon a rightful use by the user or purchaser in the original instance. The remaining portion of the dissent also dealt with the problem of contributory infringement and therefore is not relevant to the present discussion.

*Wilbur-Ellis Co. v. Kuther*⁷⁴ was decided on the same day as *Aro II*. The *Wilbur* case answered the question originally raised by *Cotton-Tie* as to whether an increase in capacity was an infringing reconstruction or a rightful repair. In *Wilbur* the defendant, Wilbur-Ellis Company, was the second-hand purchaser of four of plaintiff's patented fish-canning machines.⁷⁵ Three of the machines were corroded, rusted, and unfit for use, and the defendant, Wilbur-Ellis, hired one Leuschner, also a defendant, to rebuild the machines and make them suitable for use.⁷⁶ The original machines were designed to fill one-pound cans, whereas the rebuilt machines were designed to fill five-ounce cans.⁷⁷ In the process of rebuilding the machines defendant Lueschner replaced six parts of the patented combination and reground one of them in order to accommodate the smaller cans.⁷⁸ Kuther, the patent owner, brought suit arguing that the defendants had infringed, as their activities amounted to infringing reconstruction. The defendants argued under *Aro I* that if replacement of unpatented individual components was rightful, then a change in size of those unpatented components in order to vary the capacity of the machine was also rightful.⁷⁹ The District Court for the Northern District of California held that,

⁷² 35 U.S.C. § 271(c) (1964):

Whoever sells a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.

⁷³ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 518-19 (1964).

⁷⁴ 377 U.S. 422 (1964).

⁷⁵ *Id.* at 423.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ See *Wilbur-Ellis v. Kunther*, 377 U.S. 422, 425 (1964); and lower court decisions cited *infra* nn. 80, 81.

as to those machines whose capacity was changed by changing the size of parts, there was infringing reconstruction; however, as to those machines which were sandblasted and merely readied for reuse, there was no re-creation of the patented entity and *Aro I* controlled.⁸⁰ The Circuit Court of Appeals for the 9th Circuit affirmed the lower Court, and seemingly established the rule that the identity of an invention is lost by a change in size which, therefore, is an infringing reconstruction and not a permissible repair.⁸¹

The Supreme Court, with Mr. Justice Harlan dissenting, reversed the lower Courts and stated that whatever may be the view of the holding in *Aro I*, it governed the present case. The Court further stated that the adaptation of the machine for use in packing smaller five-ounce cans of fish was within the patent rights purchased, since size was not a part of the invention.⁸² The Court further noted that the patent covered only the combination of elements and therefore fell squarely within the rule of *Aro I*.⁸³ To summarize, *Wilbur* held that the replacing of individual elements of a patented combination by other elements in accord with *Aro I* is not infringing reconstruction even if the replaced elements change the capacity or size of the original machine.

Aro II and *Wilbur* are the only post-*Aro I* decisions handed down by the Supreme Court. *Aro II* did not change the holding of *Aro I* and merely reiterated that the right of repair is not an absolute right and only exists when the person repairing has the right of use. The remaining portion of the decision in *Aro II* dealt with the doctrine of contributory infringement. The *Wilbur* case made it quite clear that the *Aro I* holding applied even in situations where replacing of parts resulted in a change of capacity, and in the absence of size being a part of the invention, such replacement is only permissible repair and not infringing reconstruction.

B. Lower Court Decisions

A review of the post-*Aro I* lower court decisions is fascinating, for whatever else these decisions teach, they clearly indicate that unpopular Supreme Court decisions are often ignored while still given lip service to their rule of law, "that old legal doctrines, like old soldiers, never die", and that the creative ingenuity of lawyers should never be underestimated.

Since *Aro I*, fourteen lower court decisions dealing with the repair-reconstruction doctrine have been decided.⁸⁴ Of these decisions, only four found infringing reconstruction. One of these decisions was reversed on appeal; a second failed to cite a single case and simply stated the defendant's actions amounted to infringing reconstruction; a third gave lip service to the rule

⁸⁰ *Leuschner v. Kunther*, 200 F. Supp. 841 (N.D. Cal. 1961).

⁸¹ *Leuschner v. Kunther*, 314 F.2d 71 (9th Cir. 1963).

⁸² *Wilbur-Ellis Co. v. Kunther*, 377 U.S. 422, 424 (1964).

⁸³ *Id.* at 423-24.

⁸⁴ This includes both District Court and Court of Appeals decisions but excludes *Aro II* and *Wilbur*.

of *Aro I* and then based its holding primarily upon the subsidiary test of intention of the patentee and the purchaser, both of which were specifically discounted as improper in *Aro I*; and the fourth found infringing reconstruction on the same facts that the Ninth Circuit Court of Appeals examined and held to be only rightful repair.

*Hydril Co. v. Crossman Engineering, Inc.*⁸⁵ involved a combination patent covering a sealing device known as a packer. The packer was comprised of a rubber structure having steel ribs embedded within the rubber. The defendant purchased, or took as trade-in, worn-out packers, burnt off the worn-out rubber portion, and used the steel ribs in molding a second packer identical to those sold by plaintiff. The district court held that the defendant's activities in recasting the resilient rubber material and in placing steel inserts therein, which were salvaged from worn-out packers, amounted to infringing reconstruction. Amazingly, the court failed to cite a single decision.

*Monroe Auto Equipment Co. v. Precision Rebuilders, Inc.*⁸⁶ involved a defendant who purchased used shock absorbers from automobile dealers and junk dealers. The shock absorbers were covered by plaintiff's patent, and it was proven at trial that the plaintiff intended the shock absorbers to last a useful life of about 40,000 miles. The defendant, after obtaining used shock absorbers, rebuilt them and sold them to garage dealers. In holding for the plaintiff that the defendant's activities amounted to infringing reconstruction, the court first gave lip service to the rule of *Aro I* and then based its decision primarily upon two grounds: first, the court looked at the intent of the patentee and the intent of the purchasers, tests which were both specifically discounted by *Aro I*,⁸⁷ second, the court [apparently] was of the opinion that the defendant had rebuilt the patented article after it had ceased to exist.⁸⁸ The court also based its decision on another independent ground not connected with the repair-reconstruction doctrine. The court noted that the defendant, while he acquired all the rights of the old owners when he purchased abandoned and discarded shock absorbers, since the previous owners only intended to sell these shock absorbers as junk, acquired only the right to destroy the shock absorber cores and not to reuse them in building rebuilt shock absorbers.⁸⁹

*Fromberg, Inc. v. Thornhill*⁹⁰ involved a patent covering the combination of a repair cartridge and rubber plugs fitted within the repair cartridge in such a manner that they could be dispensed to plug tire leaks. The defendant manufactured plugs to replace those used in plaintiff's cartridge and advertised his plugs for use in plaintiff's cartridge. In holding for the plaintiff that the defendant's activities amounted to infringing reconstruction, the court stated that while *Aro* had eliminated all of the subsidiary inquiries as to repair-re-

⁸⁵ — F. Supp. —, 152 U.S.P.Q. 171 (E.D. Tex. 1966).

⁸⁶ 229 F. Supp. 347 (D. Kan. 1964).

⁸⁷ *Id.* at 353.

⁸⁸ *Id.* at 352.

⁸⁹ *Id.* at 354.

⁹⁰ 315 F.2d 407 (5th Cir. 1963).

construction, "it does not take long to recognize that such simplicity is beguiling, and in the process of a judicial determination a number of factors must be considered."⁹¹ The court then proceeded to examine the function and purpose of the patented device and the reasonable intentions of the patentee when he sold the device. In concluding, the court stated that the present facts fell squarely within the rule of *Cotton-Tie*, i.e. where proper use of the combination is intended to destroy the combination, rebuilding is reconstruction and infringing.⁹² Therefore, the purchasers of replacement plugs were infringers and under 35 U.S.C. § 271(b),⁹³ the defendants were held liable for inducing infringement. It is clear that the judge writing the opinion in *Fromberg* was bothered by the breadth of the decision in *Aro I*, and therefore intended to limit its application.⁹⁴

In an effort to distinguish the sweeping effect of *Aro I*, at least two new theories were developed in these cases. First, in the *Monroe* case, the decision was at least partially based upon the fact that the articles rebuilt by the defendant were abandoned by the rightful owners, and once abandonment or discarding had taken place, a rightful user could do no more than use the article for salvage purposes, and therefore, rebuilding amounted to infringing reconstruction. Secondly, the *Fromberg* case cited *Cotton-Tie* and emphasized that proper use necessitated voluntary destruction and that in instances such as this, any use after rebuilding amounts to infringing reconstruction and any sale of parts specifically for rebuilding amounts to inducement to infringe and creates liability.

Several of the pre-*Aro I* decisions citing the repair-reconstruction doctrine are really not relevant to a definitive analysis of that doctrine.⁹⁵ Each of these decisions involved the replacing of a part of a combination which itself was patented. In each instance, the court cited the well-known rule that the right of repair does not extend to portions of a patented combination which are themselves patented.⁹⁶

The remaining repair-reconstruction cases all found defendants' activities amounted to permissible repair largely on the basis that *Aro I* compelled such a decision.

In *Tractor Supply Co. v. International Harvester Co.*,⁹⁷ the defendant was assignee of a patent covering a cotton picker doffer. The doffer was comprised of a metallic plate having spaced peripheral fingers, each of which had

⁹¹ *Id.* at 412.

⁹² *Id.* at 413.

⁹³ 35 U.S.C. § 271(b) (1964): Whoever actively induces infringement of a patent shall be liable as an infringer.

⁹⁴ J. STEDMAN, THE SOUTHWESTERN LEGAL FOUNDATION, PATENT LAW DEVELOPMENTS, at 148 (1964).

⁹⁵ *Warner & Swasey Co. v. Held*, 256 F. Supp. 303 (E.D. Wisc. 1966); *Eversharp Inc. v. Phillip Morris Inc.*, 256 F. Supp. 778 (E.D. Va. 1966); *Esco Corp. v. Hensley Equip. Co.*, 251 F. Supp. 631 (N.D. Texas 1966), *aff'd* 383 F.2d 252 (5th Cir. 1967).

⁹⁶ See *Wilson v. Simpson*, 50 U.S. (9 How.) 109, 123 (1850).

⁹⁷ — F. Supp. —, 151 U.S.P.Q. 447 (N.D. Ill. 1966), *rev'd in part, sub. nom* 406 F.2d 53 (7th Cir. 1968).

a rubber log bonded to it. The doffer was used to unwind cotton from picking spindles. The plaintiff purchased worn-out doffers, stripped them down to the component parts, replaced the worn-out rubber lugs, and resold the doffers. The plaintiff brought a declaratory judgment action. The trial court held that the plaintiff's activities were infringing reconstruction in that the plaintiff had re-created the patented entity as a whole.⁹⁸ The Court of Appeals for the Seventh Circuit reversed, stating that *Aro I* compelled their decision.⁹⁹

Stukenborg v. United States,¹⁰⁰ involved a locking turnbuckle, comprised of a barrel, a terminal and a locking clip, which was used to lock two cables together and to control the tension on the locked cables. The turnbuckle had particular utility in airplanes. The defendant purchased huge quantities of locking clips from unlicensed sources and replaced old art clips when periodically tightening the cables on Government airplanes. In addition, the defendant purchased each of the elements and put them together to make new turnbuckles. The Court of Claims held that as to those incidents wherein old clips were replaced, *Aro I* compelled a holding that such partial replacement of individual unpatented components was permissible repair.¹⁰¹ However, as to those turnbuckles which were completely assembled from component parts, the court held this activity clearly amounted to an infringement of the patent as the defendant had created the patented entity.¹⁰²

*Fromberg Inc. v. Gross Mfg. Co.*¹⁰³ represents the Ninth Circuit Court of Appeal's view with respect to replacing rubber plugs in the repair cartridge previously discussed with respect to *Fromberg v. Thornhill*. While the facts of the two cases are identical, the results reached are diametrically opposed. The fifth circuit found infringing reconstruction, but the ninth circuit felt that *Aro I* compelled the inescapable conclusion that the defendant's activity amounted to replacement of unpatented elements of the patented combination, and therefore was only rightful repair.¹⁰⁴ The court, in noting the fifth circuit's previous decision, stated they disagreed with the result and further intimated that *Cotton-Tie*, which was cited as authority by the fifth circuit, may not now be good law.¹⁰⁵

*Aluminum Extrusion Co. v. Soule Steel Co.*¹⁰⁶ is of interest only because of its unusual facts and because of the creative ingenuity (albeit to no avail) of the plaintiff's lawyer. The defendant was a subcontractor who installed windows in the Engineering Building of San Fernando State College. The defendant in his contract with the prime contractor agreed to a hold harmless clause with respect to patent infringement. After the defendant had placed

⁹⁸ — F. Supp. at —, 151 U.S.P.Q. at 452.

⁹⁹ TSC Industries, Inc. v. International Harvester Co., 406 F.2d 53, 57 (7th Ed. 1968).

¹⁰⁰ 372 F.2d 498 (Cl. Cl. 1967).

¹⁰¹ *Id.* at 504.

¹⁰² *Id.* at 504-05.

¹⁰³ 328 F.2d 803 (9th Cir. 1964).

¹⁰⁴ *Id.* at 808.

¹⁰⁵ *Id.* at 809.

¹⁰⁶ 260 F. Supp. 221 (C.D. Calif. 1966).

all of the windows in the building, the plaintiff's patent issued, claiming the window combination. The plaintiff sued and the defendant moved for summary judgment. The plaintiff argued that summary judgment should not be granted for three reasons, each of which raised a disputed material fact: (1) while the defendant put the windows in the building prior to the issuance of the patent, payment was not received until after the patent issued and this act amounted to direct infringement; (2) the patent indemnity clause was an inducement to the prime contractor and the building owner to infringe; and (3) the defendant had a contractual obligation to "repair" the windows for one year, and, since any such work would be infringing reconstruction, the plaintiff is entitled to an injunction restraining future infringement. The court granted the defendant's motion for summary judgment and held: (1) receipt of payment after the issue date of the patent was not direct infringement; (2) the indemnity agreement was completed more than two years before the patent issued and did not induce the contractor's infringement because the building was completed before the patent issued, and as to the building owner, the court said that reason would have to be stretched too far to regard the indemnity agreement as an inducement to the owners to continue to use their building; and (3) any work on the windows within one year would more than likely be so minor they could not be considered reconstruction.

To summarize briefly, the post-*Aro I* lower court decisions have done little to clear the muddled waters. At least two possible theories to avoid *Aro I* are suggested by cases: (1) Where the patented combination is abandoned by the owner, a rightful user can do no more than use the article for salvage; and (2) Where proper use necessitates voluntary destruction, rebuilding is infringing reconstruction. However, a majority of the decisions have interpreted *Aro I* literally and have found that *Aro I* compels a finding of only permissible repair unless the defendant simultaneously replaces every component of the patented combination. The confused state of affairs is no better exemplified than by the *Fromberg* cases where the Fifth Circuit and the Ninth Circuit Courts of Appeals examined the same facts and the fifth circuit found infringing reconstruction while the ninth circuit found only permissible repair.

IV. A PROPOSED METHOD OF ANALYSIS

The foregoing analysis has been confined to a definitional inquiry stressing the legal definitions of the terms "repair" and "reconstruction" as abstracted from a long line of cases. However, as one can see, while the case law has culminated with the single test espoused in *Aro I*, i.e. did the defendant's acts amount to a second creation of the patented entity as a whole?, the post-*Aro I* cases have struggled with the apparent simplicity and often harsh result dictated by this test. While most courts have literally followed the *Aro I* decision, a few, and most notably the Fifth Circuit Court of Appeals,¹⁰⁷ have made an effort

¹⁰⁷ See n.90 (the *Fromberg* case) and cf. n.84 (the *Hydril* case).

to sidestep the broad sweep of *Aro I*.

In determining what the law is, or should be, an examination in the abstract of prior cases is seldom sufficient; therefore, in this section an analysis of public policy considerations and general equitable principles relevant to the repair-reconstruction doctrine will be presented.

In any patent case the overriding public policy has to be the constitutional mandate to "promote the Progress of Science and useful arts."¹⁰⁸ In *Aro II*, Justice Black in his dissent stated:

The granting of patent monopolies under this constitutional authority represents a very minor exception to the Nation's traditional policy of a competitive business economy, such as is safeguarded by the antitrust laws. When articles are not patentable and therefore are in the public domain, as these fabric covers were, to grant them a legally protected monopoly offends the constitutional plan of a competitive economy free from patent monopolies except where are patentable "Discoveries."¹⁰⁹

It is agreed that to grant a legally protected patent monopoly *per se* to an unpatented element of a combination offends the constitutional plan of a competitive economy free from patent monopolies, except where there are patentable "Discoveries." However, it is submitted that Justice Black's argument overlooks the full contribution of a combination-patentee to the art. In most situations the patentee has not only taught the art the combination *per se*, but has also taught the advantages of use of one particular element (which often is unpatentable *per se*) in the combination. For example, in the light bulb case previously cited,¹¹⁰ the sole distinction over the prior art light bulbs was the use of a carbon filament which provided long life bulbs. In that case, the defendant's replacement of filaments was held infringing reconstruction; however, it is submitted that under the test of *Aro I* the defendant's activity would today be held only rightful repair by most courts. Certainly, the patentee made a worthy contribution to the progress of science and the useful arts, and therefore should have been entitled to a 17-year patent monopoly for his contribution to the art. And yet, if third party rightful users could replace at will burned-out filaments, has not the patent monopoly of a worthy contributor to the art been seriously diluted? It is submitted that the patent monopoly has been diluted if *Aro I* were to control the light bulb case because the patentee not only taught the combination *per se* of the particular filament with conventional light bulb components, but also taught *the use* of carbon as a long-life light bulb filament.¹¹¹

In an effort to induce inventors to place their inventions in the public domain for free use after a limited 17-year constitutionally approved right of

¹⁰⁸ U.S. Const., art. I, § 8.

¹⁰⁹ *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 522 (1964).

¹¹⁰ See n.47; in this case the defendant made a small hole in the light bulb, removed the old filament, put in a new one, evacuated the bulb and fused the small hole.

¹¹¹ See U.S. Patent 223, 898.

excluding others from making the patented invention, the patent granted to an inventor should protect the metes and bounds of the patentable contribution of the art. With respect to combination patents, the inventor not only teaches the combination *per se*, but, where the invention is patentable because of the use of one element which has never before been used in such a combination, the inventor also teaches the use of that element in the combination and should be entitled to protection of that use for the duration of his patent. To apply *Aro I* literally to a case falling within the above principles, for example, the light bulb case, allows third parties to use the teachings of the patentee during the life of the patent and avoid paying royalties. Such a rule can only discourage inventors from obtaining combination patents and encourage a reliance upon trade secrets which of course denied the public access to the inventor's teachings.

All of the cases heretofore examined in connection with the repair-reconstruction doctrine can be fitted into four basic types of cases: (1) those cases where the part replaced made the combination patentable over the prior art;¹¹² (2) those cases where the part replaced is of a highly perishable nature and proper use exhausts the life of the part replaced in a short period of time;¹¹³ (3) those cases where the part replaced is expected to last as long as the combination but has not done so because of unusual circumstances;¹¹⁴ and (4) those cases where proper use of the combination destroys it.¹¹⁵ The equities of each of the four enumerated situations are different and therefore it is only fair that the results in cases falling into each of the four categories be different.¹¹⁶

In regard to the first situation where the part replaced made the combination patentable over the prior art, the total contribution of the patentee to the art is his teaching of the combination *per se* as well as the teaching of the use of one particular element in the combination. Since the patent grant, if it is to be meaningful, should protect the patentee's entire patentable contribution to the art, it is submitted that in cases such as this the replacement of the element (assuming it is not perishable), which had never been before used in the combination, should amount to infringing reconstruction. A typical example of such a case is the light bulb case wherein the defendant replaced filaments.

In regard to the second situation where the part replaced is of a perishable nature, it is submitted that equities lie in favor of replacement by the rightful user. The rightful user of a patented combination in most instances pays a fair consideration for that right of use, and to say that his right of use lasts only as

¹¹² See, e.g., n.47 (the light bulb case).

¹¹³ See, e.g., *Wilson* n.3, *Morgan* n.26, and *Heyer* n.39.

¹¹⁴ See, e.g., *Wilbur* n.74.

¹¹⁵ See, e.g., *Cotton-Tie* n.16 and *Fromberg* n.90.

¹¹⁶ It should be mentioned that these categories are not mutually exclusive and one combination may fall into more than one category. Under the analysis presented here, if one fact pattern falls into two categories and if one of those categories involves substantial equities in favor of repair, the activity involved would have to be held as only rightful repair.

long as a perishable element of the combination makes little sense from either a business or legal point of view. Indeed, it is submitted that in most instances the parties to the transaction which gave rise to the right of use both assume that perishable parts having a life much shorter than the rest of the portions of the combination can be properly replaced. Typical examples of cases falling into this category are the *Wilson* case, the *Heyer* case, and the *Aro* case. Based upon the above analysis, it is submitted that replacement in these instances should only amount to rightful repair.

In regard to the third situation where the part replaced is expected to last as long as the combination, but because of extenuating circumstances did not, it is submitted that equities lie in favor of holding replacement to be only permissible repair. A typical example of this situation is the *Wilbur* case, where the patented fish-canning machine became corroded and unfit for use because of exposure to unusual weather conditions. In these cases, after the bargained-for exchange has been agreed upon, the patentee has given up his right to control the use of the patented combination and, in the absence of such control, equities lie in favor of replacement where unusual circumstances have ended the life of one component. In these cases, the defendant's activity in replacing a component should amount to permissible repair and not infringing reconstruction.

In regard to the fourth situation where proper use of the combination necessitates its destruction, it is submitted that equities lie in favor of holding any rebuilding of a combination as infringing reconstruction. Typical examples of cases where proper use necessitated destruction are the baling tie in the *Cotton-Tie* case and the tire repair cartridge in *Fromberg*. An even more vivid example would be a situation where the patent covered the combination of elements comprising a torpedo. In these instances, when consideration was given for the right of use, and both parties knew that proper use dictated destruction, to hold that the rightful user after using and destroying the combination can salvage any single existing element and thereafter remake the combination without liability to the patentee, is certainly contrary to the reasonable intentions of the parties at the time of the bargained-for exchange, as well as a serious dilution of the value of the patent.

To summarize briefly, it is submitted that public policy and general principles of equitable fairness dictate that in situations (1) and (4) any remaking should be held impermissible and reconstruction; whereas in situations (2) and (3) any remaking of the patented combination should be held to be only permissible repair and non-infringing. However, in spite of the difference in equities involved in these four situations, the single test espoused by *Aro I* fails to distinguish between these situations and the literal use of the *Aro I* single test would compel a decision that the defendant was only exercising his permissible right of repair. The crux of the problem lies in attempting to devise a rational test that does not run afoul of the *Aro I* decision which would allow a holding of infringing reconstruction in situations (1) and (4), and a holding of rightful repair in situations (2) and (3).

The present case law is sufficient to provide a holding of infringing reconstruction in situation (4). This statement is based upon the rationale utilized in the *Cotton-Tie* case, and in the Fifth Circuit Court of Appeals opinion with respect to the *Fromberg* case. While some Courts have criticized and questioned the holding in *Cotton-Tie*,¹¹⁷ it has not been specifically overruled.

The real conflict comes in attempting to distinguish situation (1) in a manner consistent with *Aro I*. One possible approach might be that where the element replaced is not perishable in nature (situation 2), and where the element replaced was not an element expected to last as long as the combination, but that failed to do so because of unusual circumstances (situation 3), and where the element replaced distinguished the combination from the prior art combinations, the claimed invention has lost its identity upon exhaustion of that element; therefore, any replacement of that element amounts to a re-creation of the combination, i.e. the patented entity as a whole, and is infringing reconstruction.¹¹⁸ There is some logic in this approach because once the element which distinguishes the combination over the prior art has been spent, the combination is no different than the prior art and accordingly the identity of the invention has been lost; therefore, any re-creation of that identity is a reconstruction of the patented entity as a whole, and under *Aro I*, amounts to infringing reconstruction.¹¹⁹ Other tests have been suggested by other writers which could be utilized in the present situation.¹²⁰

V. CONCLUSION

In spite of the *Aro I* decision, the law of repair and reconstruction is still thriving, albeit at a somewhat less than satisfactory level. The literal application of the rule of *Aro I* without regard to equitable considerations compels a holding of permissible repair in every situation except those in which the element replaced is itself patented, and those in which the defendant's activity amounted to a simultaneous replacement of every element of the combination. Such a sweeping rule fails to distinguish the differing equitable considerations involved where the part replaced made the combination patentable over the prior art and was not of a perishable nature and was not a part expected to last as long as

¹¹⁷ See, e.g., the 9th Circuit *Fromberg* case, n.90.

¹¹⁸ Some may say this smacks of the "heart of the invention" or vital element tests specifically discounted by *Aro I* and before that with respect to patent misuse in the *Mercoid* cases: *Mercoid Corp. v. Mid-Continent Invest. Co.*, 320 U.S. 661 (1944) and *Mercoid Corp. v. Minneapolis Honeywell Regulator Co.*, 320 U.S. 680 (1944). However, there are distinctions in that here the test is drawn more narrowly so as to only include the light bulb filament type case where equities are clearly in favor of the patentee and to exclude the *Wilson* and *Wilbur* type cases where equities are in favor of the user. Such a narrower drawing of the rule may be more palatable to jurists.

¹¹⁹ *Wilson v. Simpson*, 50 U.S. (9 How.) 123, 109 (1850) states that a combination does not cease to exist but it is only suspended by a want of one of its parts; however, it is unclear whether or not this statement was made in connection with a part which distinguished the combination over the prior art.

¹²⁰ See 70 YALE L.J. 649 at 660 (1961), which suggests that the sale of a replacement part should be held infringement only when the patentee could reasonably have made a sale of a whole unit if no replacement part was available.

the combination that was destroyed because of unusual circumstances; the rule of *Aro I* further fails to distinguish the situation where proper use of the combination involves a destruction of the combination. In regard to the latter situation, the *Cotton-Tie* case, assuming it is still good law, should provide a sound argument for holding of infringing reconstruction; in regard to the former case, more difficulty is presented. However, one possible argument might be that once the element which distinguished the combination over the prior art has been spent, assuming that element is not perishable and was not destroyed because of unusual circumstances, the inventive entity ceases to exist and any replacement of that element re-creates the patented combination as a whole and accordingly is an impermissible reconstruction.

THE PEN REGISTER*

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INTRODUCTION

The telephone is so much a part of modern life¹ that few people give it much thought until its use becomes impaired. Fortunately, mechanical difficulty is not common and, when it does occur, repair is available with a minimum of inconvenience to the customer. However, regardless of periodic advances toward perfection of telecommunications, invariably there are those who insist upon using the telephone for purposes which are unacceptable to society. To be sure, abuse of the telephone system is not widespread though it is often used by the kidnapper, the gambler, the "mad bomber," the black-mailer, and other criminals needing fast, efficient communication.² However, the most common problem is not the serious crime but the annoying call.³ As a result, nearly all states have adopted legislation prohibiting annoying, harassing, or threatening calls.⁴ The primary obstacle to the enforcement of these laws is difficulty in identifying the source of the calls and gathering admissible evidence for prosecution without infringing upon the right to privacy.

* The views expressed herein are solely those of the author and do not necessarily reflect the views of his employer. The author also reserves the right to later concur in, modify, or dissent from any opinions stated herein.—Ed.

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¹ Statistics show that in 1968 the United States led the world in telephone use, possessing over 109 million telephones (45.9% of world total; 54 telephones per 100 persons) and that the average person had 701 telephone conversations in that year. A.T. & T. LONG LINES, *The World's Telephones* 1, 2, 10 (1969).

² In an internal survey taken over the first six months of 1970, Northwestern Bell Telephone reported 5,688 complaints in Iowa, 88% of which were classified as obscene or harassing, 5% were classified as threatening, and 7% classified as interference calls. Of all these calls, 50% were disposed of immediately after the initial complaint simply because these calls ceased, 15% of which were closed after the phone company had those receiving the calls keep logs. No statistics were gathered on the use of the telephone in perpetration of major crimes.

³ In *State v. Holliday*, 169 N.W.2d 768, 778 (Iowa 1969), the Supreme Court of Iowa acknowledged a statement in the state's brief that Bell System annoyance call complaints exceeded three-quarters of a million annually.

⁴ For a compilation of state statutes, see *Unwanted Telephone Calls—A Legal Remedy*, 1967 UTAH L. REV. 379. 404 IOWA CODE ANN. §§ 714.37-40 (Supp. 1970) which was enacted in 1967 states:

It shall be unlawful for any person, with intent to terrify, intimidate, threaten, harass, annoy or offend, to telephone another and use any obscene, lewd or profane language or suggest any lewd or lascivious act, or threaten to inflict injury or physical harm to the person or property of any person. It shall also be unlawful to attempt to extort money or other thing of value from any person, or to otherwise disturb by repeated anonymous telephone calls the peace, quiet or right of privacy of any person at the place where the telephone call or calls were received.