



United States Court of Claims.
 Jo. C. CALHOUN, Jr., and Esther C. Young, Ex-
 ecutors of the Estate of Niels A. Christensen
 (Deceased)
 v.
 The UNITED STATES.

No. 432-55.
 Jan. 21, 1972.

Patent owners' action against Government for compensation for patent infringement. The Court of Claims, Davis, J., held that where Government procurement records were not available because they had been routinely destroyed and patent owners who sought compensation for Government's unlicensed use of invention introduced various sales records of Government suppliers and other data as to number of units used by Government, court would accept a "reasonable approximation" of infringing and noninfringing uses and would not hold Government accountable for all its procurement without reduction for noninfringing uses.

Judgment accordingly.

Nichols, J., concurred in part, dissented in part, and filed opinion.

West Headnotes

[1] United States 393 **108**

393 United States
 393VIII Claims Against United States
 393k108 k. Amount. [Most Cited Cases](#)

Where up to April 28, 1952 Government was authorized to use for aircraft an invention which was patented on November 21, 1939, accounting period in action to recover compensation for unlicensed use of such invention ran from April 28, 1952 to November 21, 1956. [28 U.S.C.A. § 1498](#).

[2] United States 393 **113.11(10)**

393 United States
 393VIII Claims Against United States
 393k113.1 Court of Federal Claims
 (Formerly Claims Court and Court of Claims)
 393k113.11 Time to Sue and Limitations
 393k113.11(10) k. Availability and
 pendency of administrative proceedings. [Most Cited Cases](#)

(Formerly 170Bk1108, 106k461)

Period during which parties sought administrative relief for Government's unlicensed use of invention tolled running of statute of limitations. [28 U.S.C.A. § 1498](#); [35 U.S.C.A. § 286](#).

[3] United States 393 **108**

393 United States
 393VIII Claims Against United States
 393k108 k. Amount. [Most Cited Cases](#)

Where Government procurement records were not available because they had been routinely destroyed and patent owners who sought compensation for Government's unlicensed use of invention introduced various sales records of Government suppliers and other data as to number of units used by Government, court would accept a "reasonable approximation" of infringing and noninfringing uses and would not hold Government accountable for all its procurement without reduction for noninfringing uses. [28 U.S.C.A. § 1498](#).

[4] Eminent Domain 148 **2.34**

148 Eminent Domain
 148I Nature, Extent, and Delegation of Power
 148k2 What Constitutes a Taking; Police and
 Other Powers Distinguished
 148k2.34 k. Intellectual property; copy-
 rights, trade secrets, patents. [Most Cited Cases](#)
 (Formerly 148k2(1.1), 148k2(1))

Theory underlying patent owner's action for compensation for Government's unlicensed use of

invention is that Government, in using patented device, ipso facto took by eminent domain a compulsory compensable license under patent. 28 U.S.C.A. § 1498; U.S.C.A.Const. Amend. 5.

[5] Eminent Domain 148 ↪318

148 Eminent Domain

148V Title or Rights Acquired

148k318 k. Extent of right to use of property.

Most Cited Cases

Government which took compulsory compensable license under patent had right to repair patented item without making extra payment. 28 U.S.C.A. § 1498.

[6] United States 393 ↪97

393 United States

393VIII Claims Against United States

393k97 k. Use or infringement of patents.

Most Cited Cases

Fact that patent licensees did not collect royalty on sales to Government as required by their contractual obligation to patent owner did not excuse Government from payment of royalty. 28 U.S.C.A. § 1498.

[7] United States 393 ↪113

393 United States

393VIII Claims Against United States

393k113 k. Presentation, allowance, and adjustment. **Most Cited Cases**

Evidence in patent owners' action for compensation for Government's unlicensed use of invention sustained commissioner's determination of number of infringing uses arising out of Government's acquisition of patented item from companies whose records did not show sales of patented items but showed sales of all products to Government or Government contractors.

[8] United States 393 ↪108

393 United States

393VIII Claims Against United States

393k108 k. Amount. **Most Cited Cases**

Where patent owners licensed patent throughout industry at royalty of 0.25 cent for each item used in infringing structure and filed in patent office offering to license patent for royalty of 0.25 cent per packing construction, 0.25 cent per unit was proper basis for determining compensation due patent owners from Government. 28 U.S.C.A. § 1498.

[9] United States 393 ↪108

393 United States

393VIII Claims Against United States

393k108 k. Amount. **Most Cited Cases**

In patent owners' action against Government for compensation for Government's unlicensed use of invention, it was not permissible to add increment to royalty to reflect cost of litigation sought to be due in absence of federal records. 28 U.S.C.A. §§ 1498, 2412.

[10] United States 393 ↪108

393 United States

393VIII Claims Against United States

393k108 k. Amount. **Most Cited Cases**

Where commercial royalty rate charged by patent owner as licensor represented fair market value, just compensation to patent owners did not embrace attorneys' fees and expenses. 28 U.S.C.A. §§ 1346(a) (2), 1491, 1498, 2412.

[11] United States 393 ↪110

393 United States

393VIII Claims Against United States

393k110 k. Interest. **Most Cited Cases**

Where accounting period involved in patent owners' action against Government to recover compensation for patent infringement was April 29, 1952 to November 21, 1956 and few accountable patent items were procured from June 11, 1949 to April 28, 1952, August 15, 1954, midpoint of accounting period, would be used in fixing interest. 28 U.S.C.A. § 1498.

*1387 Albert R. Teare, Atty. of record, Cleveland, Ohio, for plaintiffs.

Vito J. DiPietro, Reston, Va., with whom was Asst. Atty. Gen. L. Patrick Gray, III, for defendant.

Before COWEN, Chief Judge, LARAMORE, Judge, DURFEE, Senior Judge, and DAVIS, COLLINS, SKELTON, and NICHOLS, Judges.

OPINION

DAVIS, Judge.^{FN*}

^{FN*} We are indebted to the opinion of Trial Commissioner James F. Davis, from which we borrow, though we differ from his conclusions in certain respects.

This case, involving the “accounting” phase of patent litigation, follows upon the court’s decision in *Calhoun v. United States*, 339 F.2d 665, 168 Ct.Cl. 663 (1964), that claim 5 of Christensen U. S. Patent 2,180,795 is valid and has been infringed. On the basis of that holding, the plaintiffs seek to recover “reasonable and entire compensation”, pursuant to 28 U.S.C. § 1498.

The invention relates to the use of Orings, the sealing or packing element in a piston-cylinder combination, which prevents leakage of fluid as the parts move relative to one another. The claim involves only those structures in which the O-ring is used as a dynamic seal, *i. e.* where there is relative movement between piston and cylinder. If the Oring is used as a gasket or with stationary parts, then the seal is static and not covered by the patent. O-ring seals, both dynamic and static, are used in many types of equipment, particularly hydraulic components of pumps, control mechanisms and the like. For example, both static and dynamic O-rings are used in the hydraulic systems of military equipment such as aircraft landing gear and fuel systems, ship steering systems, windlasses, and gunfire control systems of tanks, ships, and aircraft. O-rings are also found in nonmilitary equipment, for instance flush valves and other plumbing devices.

[1][2] The patent issued on November 21, 1939 and expired on November 21, 1956. The owner granted the Government a license, for \$75,000, to use the invention “on or in airplanes or aircraft”, on October 20, 1942. The license was to run “for a period of five years * * * or for the remaining period of the present National Emergency * * (whichever be longer) * * *.” Officially, the national emergency ended on April 28, 1952 and, along with it, the license term. However, defendant continued to use the patented invention, both in aircraft and otherwise, although the license was not renewed. On October 24, 1953 the plaintiffs requested administrative payment of compensation for the unlicensed use. Defendant denied the demand on April 1, 1954, and this suit followed on November 19, 1955. Since the Government was licensed to use the invention for aircraft up to April 28, 1952, the accounting period for such use runs only from April 28, 1952 to November 21, 1956, the patent’s expiration date.^{FN1} For nonaircraft infringement, the span is considerably longer. The six-year statute of limitations was tolled during the 5 1/4 months in which the plaintiffs were seeking administrative relief (see 35 U.S.C. § 286), and therefore the accounting period for government use of the O-ring other than in aircraft runs from June 11, 1949 to November 21, 1956.

^{FN1.} In *Calhoun v. United States*, 354 F.2d 337, 173 Ct.Cl. 893 (1965), the court held that the accounting period should extend forward to the date of the patent’s expiration, even though the petition was filed in this court a year prior to that time.

I

Extent of Infringement

The prime difficulty in calculating the extent of infringement is that the Government maintains no records by which one can readily determine how many devices having dynamic O-ring seal assemblies*1388 have been procured and used during the accounting period. Most equipment with O-ring seal assemblies is obtained as component parts of

larger units; and the number of dynamic (as opposed to static) seal assemblies in any piece of equipment varies. Furthermore, most of such records as the Government had of O-ring procurement during 1949-56 have long since been destroyed, apparently in routine fashion. Some figures supplied by the claimants are, however, available, and were used by the trial commissioner as the basis for his award. ^{FN2}

^{FN2}. The Government drew some estimates of infringing use from the incomplete records that it has, but the trial commissioner discounted these figures, for the most part, as unreliable (see findings 5(b) and 8). Defendant does not challenge this conclusion, and we have no reason of our own to reject the commissioner's characterization. No use is therefore made of the Government's estimates in this opinion (except insofar as the commissioner credited them).

A. Plaintiffs introduced at the accounting trial sales records of some O-ring manufacturers. Under a comprehensive licensing program established in the 1940's, these companies became the patentee's agents for the collection of 0.25 cent per O-ring as a royalty for all O-rings sold to commercial buyers to be used in otherwise infringing structures. Among the manufacturer-agents were three companies (Goshen Rubber and Manufacturing Company; Precision Rubber Products Co.; Linear, Inc.) which kept monthly records of commercial sales and remitted the appropriate royalties to the patentee. They also kept records of all O-rings sold to the Government or government contractors, but the trial commissioner found no royalty was charged or collected on such sales. As a result of prior litigation, several major O-ring users were released from liability for infringement. ^{FN3}

^{FN3}. Ford Motor Company, General Motors Corporation, Chrysler Corporation, International Harvester Company, J. I. Case Company, Minnesota Rubber and Gasket

Company, and State Chemical Company.

Monthly royalty reports of Goshen, Precision, and Linear, excluding O-rings bought by the released companies, show that 205,417,969 O-rings were sold to the Government or its contractors from 1949 to 1956. Apportionment was necessary for the first and last years since the accounting period began on June 11, 1949 and ended on November 21, 1956. If it be assumed (as it reasonably can) that the procurement was evenly distributed from month-to-month, the pro-rata sales of O-rings in the pertinent months of 1949 were about 2,420,000 (based on the total figure for 1949, 4,486,714), and for the covered part of 1956 about 22,450,000 (based on the total figure for that year of 25,607,614). Thus, the total number of O-rings sold to unreleased companies for government use by Goshen, Precision, and Linear for the full accounting period, on which no royalty was charged or collected, was about 200,193,600.

The trial commissioner found that this figure needed correction since it included O-rings used (1) in aircraft as well as otherwise; (2) in both dynamic and static seals; and (3) as replacement parts. As we have pointed out, defendant was licensed to use the invention in aircraft between June 11, 1949 and April 28, 1952. Since O-ring sales during that period were about 64,824,000 and 93% of these rings (see finding 8(f)) went into aircraft use (about 60,200,000), there remained a balance of 139,993,600 O-rings sold to the Government, or its contractors for government use, without a license. This number was further reduced to 21,000,000 (15% of 139,993,600) since only 15% of those employed in military equipment were in dynamic seals. With respect to replacement parts, the evidence established that about 15% of the O-rings used in dynamic seals were replacement parts for worn-out rings, and this was deemed by the commissioner to be a permissible repair and noninfringing. The adjusted total of 17,850,000 (85% of 21,000,000) was found to be the number of O-rings procured *1389 from Goshen, Precision, and Linear, by the

Government or its contractors for government use without license.

During the accounting period, the Government also procured O-rings, either directly or through contractors, from two subsidiary companies of Parker Appliance Company—Synthetic Rubber Company and Berea Rubber Company. Synthetic and Berea made rubber products exclusively, 90% of which were O-rings. No royalty was charged or collected on O-ring sales to the Government. Since no actual records of O-ring sales by these firms during the accounting period are available, plaintiffs produced records of renegotiable sales, *i. e.* all sales of all products to the Government or its contractors by Synthetic and Berea from June 30, 1951 to June 30, 1956. In his computation, the commissioner took the total amount of renegotiable sales during that time and reduced it by 10% to determine the amount representing O-ring sales. He arrived at \$3,011,990, divided it by 5 1/2 ¢ per O-ring (the average selling price), and concluded that the number of O-rings sold was 54,763,500. Because of incomplete records, he relied on sales data from June 30, 1951 to June 30, 1956, which were reasonably comparable to sales from April 28, 1952 to November 21, 1956. This number of 54,763,500 was reduced by the further estimates that 1.7% were sold to released companies; 15% of that balance went to making dynamic seals; and 15% of the O-rings for dynamic seals were replacement parts. The corrected total (6,840,000) constitutes the commissioner's calculation of the number of O-rings procured from Synthetic and Berea and used by or for the Government without license in infringing structures during the accounting period.

Finally, Commissioner Davis considered the extent to which other companies (in addition to Goshen, Precision, Linear, Synthetic and Berea ^{FN4}) supplied rings for government use during the accounting period. He found that these five were the “majority” suppliers, responsible under the testimony for “something more than 50%”, an imprecise term which he understood as about 60%. The

remaining 40% he thought to be the maximum limit possibly supplied by other companies, while 0% would be the minimum; splitting the difference, he used 20% as the measure of the “minority” firms' contribution. This would add 4,938,000 rings, for a grand total of 29,628,000 in infringing uses.

FN4. As already indicated, the total from these five firms was 24,890,000 (according to the commissioner's computation).

[3] B. Both sides dispute the commissioner's method of calculation, which we have just outlined. Plaintiffs' main attack is the more drastic. Urging that the defendant, as the responsible party, should bear the whole burden of its own failure to maintain and preserve proper and accurate records which would separate out infringing from non-infringing uses, the patent-owners say that the Government must be regarded as a trustee for their benefit and held accountable for all the government's procurement (put by plaintiffs at 260,181,469 rings), without reduction for use in static seals, or licensed use in aircraft, or sales through released companies. This treatment, it is said, is mandated by the doctrine of *Westinghouse Electric & Mfg. Co. v. Wagner Electric & Mfg. Co.*, 225 U.S. 604, 32 S.Ct. 691, 56 L.Ed. 1222 (1912). There, in an accounting for profits, the Court placed on the infringer the burden of separating out profits due to other components from those attributable to the infringement since he was “the wrongdoer, who has so confused his own with that of another that neither can be distinguished.” 225 U.S. at 621, 32 S.Ct. at 697. Significantly, that was a “case of confusion”, in which it was “impossible to make a mathematical or approximate apportionment” and in which “from the very necessity of the case one party or the other must secure the entire fund” (*id.* at 620, 32 S.Ct. at 696). The opinion emphasized that the *1390 risk would not be placed on the infringer “until after the plaintiff has proved the existence of profits attributable to his invention, and demonstrated that they are *impossible of accurate or approximate apportionment*. If then the burden of separation is cast on

the defendant, it is one which justly should be borne by him, as he wrought the confusion.” [*id.* at 622, 32 S.Ct. at 697] [emphasis added]. The same stress on the impossibility of accurate or approximate calculation, as a precondition to invoking the all-or-nothing *Westinghouse* rule, is found in *Dowagiac Mfg. Co. v. Minnesota Moline Plow Co.*, 235 U.S. 641, 647, 35 S.Ct. 221, 59 L.Ed. 398 (1915); *Sheldon v. Metro-Goldwyn Corp.*, 309 U.S. 390, 404, 408, 60 S.Ct. 681, 84 L.Ed. 825 (1940); *Marconi Wireless Telegraph Co. v. United States*, 99 Ct.Cl. 1, 60, 320 U.S. 1, 63 S.Ct. 1393, 87 L.Ed. 1731 (1943), vacated and aff'd in part, 53 USPQ 246, 256 (1942); and *Autographic Register Co. v. Sturgis Register Co.*, 110 F.2d 883, 886-887 (C.A.6, 1940). Conversely, as these same decisions show, a “reasonable approximation” is acceptable if one can be made. See, also, *Gotham Silk Hosiery Co. v. Artcraft Silk Hos. Mills*, 147 F.2d 209, 214-215 (C.A.3, 1944).

In this instance, it is now plain that “reasonable approximation” is available. The trial commissioner's general method of distinguishing infringing from noninfringing use is quite reasonable, is based (on the whole) on solid premises, and is far from a mere guess or baseless estimate. There is no ground, as there was in *Westinghouse*, for saying that it is impossible to make any reasonable apportionment and therefore that either plaintiff or defendant must take all the tricks. An acceptable separation has in fact been made. Besides, the record does not suggest that the Government wilfully destroyed such records as it had in order to avoid liability here; on the contrary, they appear to have been disposed of in ordinary course under the normal records-disposal program. Also, the O-ring is the type of minor, fungible item, most often a part of a more complex structure, for which the Government cannot be expected to keep and preserve as detailed records as for larger or more unique equipment. Cf. *Coakwell v. United States*, 372 F.2d 508, 512, 178 Ct.Cl. 654, 660 (1967). In these circumstances—the decisions tend to suggest—the infringing defendant is not as disfavored as where he deliberately throws

out helpful records or negligently loses them. Cf. *Gotham Silk Hosiery Co. v. Artcraft Silk Hos. Mills*, *supra*.

Another of plaintiff's challenges to the trial commissioner's determination of the number of infringing uses is that he grossly underestimated the amount of infringing non-military use. We think, however, that he properly found (see finding 10) that the evidence did not establish how much non-military equipment with infringing O-rings was used by the Government and that a grant of additional compensation for such use would either be cumulative or unduly speculative. Much of the Government's non-military procurement included plumbing fixtures, and other off-the-shelf items, obtained from suppliers who had purchased O-rings from licensed sources which would already have paid a royalty. Moreover, the Government's contracts with Goshen, Precision, Linear, Synthetic, and Berea—all taken into full account in the trial commissioner's formula, see *supra*—were not limited, so far as the record shows, to military procurement and may very well have included contracts for non-military applications.

The last of the plaintiffs' attacks on the commissioner's computation is that he excluded replacement of worn-out rings as permissible repair, even though use of a ring for the first time would infringe. In litigation between private persons, the Supreme Court has held that it is not direct or contributory infringement to replace an unpatented component of a potential combination where the original manufacture and sale of the combination has been licensed by the patentee. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 81 S.Ct. 599, 5 L.Ed.2d 592 (1961); *1391 *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 479-480, 84 S.Ct. 1526, 12 L.Ed.2d 457 (1964); *Wilbur-Ellis Co. v. Kuther*, 377 U.S. 422, 424, 84 S.Ct. 1561, 12 L.Ed.2d 419 (1964). But the Court has also ruled that contributory infringement can occur if the original manufacture and sale of the combination was unlicensed and therefore in-

fringing. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, *supra*, 377 U.S. 476, 84 S.Ct. 1526, 12 L.Ed.2d 457 (1964). Plaintiffs here rely on *Aro II* and the defendant on *Aro I*.^{FN5}

FN5. Claim 5, in suit, is for a combination, see finding 3, *infra*, and 339 F.2d at 665, 168 Ct.Cl. at 673, 677, 689, and the O-ring itself is unpatented. See 339 F.2d at 671-672, 168 Ct.Cl. at 669-670.

[4][5] The latter's argument invokes the special nature of the remedy under 28 U.S.C. § 1498. The theory underlying a patent suit in this court pursuant to that section is that the Government, when a patented device or invention is made or used by or for the United States, *ipso facto* takes by eminent domain a compulsory compensable license in the patent; the patentee obtains his Fifth Amendment just compensation for that taking through his action here under § 1498. See *Crozier v. Fried Krupp Aktiengesellschaft*, 224 U.S. 290, 305, 307, 308, 32 S.Ct. 488, 56 L.Ed. 771 (1912); *Waite v. United States*, 282 U.S. 508, 51 S.Ct. 227, 75 L.Ed. 494 (1931); *Irving Air Chute Co. v. United States*, 93 F.Supp. 633, 117 Ct.Cl. 799, 802-803 (1950). It follows, according to the defendant, that, once the eminent domain license to use the patent is effected, any replacement of worn-out rings is permissible repair under *Aro I*. Plaintiffs, on the other hand, claim that the United States must be treated as an unlicensed private infringer—they say, in effect, that 28 U.S.C. § 1498 is simply a substitute for the statutory provisions in Title 35 establishing the rules and remedies for infringement by others than the United States—and therefore that *Aro II* must govern.

This is not an easy problem, but we think the defendant has the better case. Although § 1498 resembles, in several ways,^{FN6} the statutory scheme dealing with the private infringer, it is not wholly on all fours with that other pattern,^{FN7} and we should not disregard the different theoretical basis for the patentee's suit against the Government where that difference impinges on the particular is-

sue. To us, the eminent domain foundation of plaintiffs' action is directly relevant to the distinction made by the Supreme Court between *Aro I* and *Aro II*, *i. e.* that the licensee of a patented combination (involving, as here, an unpatented element) has a privilege to preserve the combination for use until the whole combination itself is defunct, and thus can repair (but not reconstruct) it, while the unlicensed infringer, having no such right, is liable for repair as well as reconstruction. See 377 U.S. at 483-485, 497-499, 84 S.Ct. 1526. In the case of the United States, the congressionally-ordered eminent domain taking of a compulsory license gives the Government the same privilege to use the combination as a voluntary licensee would have; and since the United States must pay (under § 1498) for this license for use of the combination, it also receives the concomitant right to repair, just as if the owner had chosen to give it a license at the royalty rate set by the court's judgment. See *Stukenborg v. United States*, 372 F.2d 498, 503-504, 178 Ct.Cl. 738, 747 (1967), and Part II of the prevailing opinion in *Aro II*, 377 U.S. at 493-500, 84 S.Ct. 1526. This conclusion is buttressed, we think, by the extensive discussion in Mr. Justice Brennan's *Aro II*, opinion of the principles controlling *1392 the damages recoverable even from a wholly unlicensed contributory infringer. 377 U.S. at 502-513, 84 S.Ct. 1526 and also 499, 84 S.Ct. 1526. The strong emphasis there is on preventing duplicate recovery of damages for the "repair", if the patentee has obtained full compensation for the use of the combination itself. Here, our judgment will give plaintiffs full recovery for all unlicensed use of the invention, and justice does not demand that they receive, in addition, an extra payment for mere repair, through replacement of worn-out rings. In satisfying the judgment, the Government will pay fully for its right to "use of the whole" of the combination, including "replacement of a spent, unpatented element." See 365 U.S. at 342-343, 346, 81 S.Ct. at 604; 377 U.S. at 510, 512-513, 84 S.Ct. 1526.^{FN8}

FN6. See, *e. g.*, *Irving Air Chute Co. v. United States*, *supra*, 93 F.Supp. at

636-637, 117 Ct.Cl. at 805-806 (1950).

FN7. For instance, 35 U.S.C. § 284 allows an increase of damages up to three times the amount found or assessed; there is no counterpart under 28 U.S.C. § 1498.

FN8. In any event, under *Aro I* the defendant would undoubtedly be free of liability for replacement of rings used for aircraft during the license period (October 20, 1942-April 28, 1952).

[6] C. The Government accepts the commissioner's general method of determining the number of infringing uses (see note 2, *supra*) but criticizes some specific aspects of his calculations. One complaint is that all sales by Goshen, Precision, and Linear should have been excluded since these companies were required by their license agreements to collect royalties on all infringing assemblies (not used in aircraft), and accordingly it must be assumed that such royalties were in fact collected and paid over to the patent-owner. Of course, if this were so plaintiffs would not be entitled to recover royalties on the same uses for the second time. But the trial commissioner expressly found, with adequate support, that no royalty was actually charged or collected on rings sold to the Government or government contractors for use in making equipment for the United States. It is not enough to invalidate this finding that the three manufacturing firms were under a contractual obligation to collect the royalty; their failure to abide by their agreement is certainly not the equivalent of actual collection or of actual payment to the licensor, and the Government should not profit from the third-party companies' breach of their undertaking to the patent-owner.^{FN9} There is equally little merit to the defendant's Baron Parke-ish point that the plaintiffs have not proved actual delivery of the rings to the Government. The records on which the commissioner grounded his computation were sufficient underpinning for the reasonable conclusion that the United States received and used the items.

FN9. The same comment applies to defendant's similar contention with respect to nonaircraft sales by Parker's subsidiaries, Synthetic and Berea.

[7] Defendant also makes a detailed and frontal attack on the commissioner's determination of the number of infringing uses attributable to sales by Synthetic and Berea (see finding 7). In greatest part we reject these objections which erroneously assume, as an unstated postulate, that a wronged patentowner must prove his damage by the most meticulous and precise proof. Just as we have disagreed with the plaintiffs' contention that, because the Government failed to maintain exact records, the claimants are entitled to full recovery undiminished by any recognition of noninfringing uses, so we disavow defendant's countervailing proposition that it can go scot-free unless the plaintiffs prove the amount of their damages by the clearest of evidence—evidence which they, of course, are hard put to present in the absence of adequate government records. The defendant cannot gain unfairly from the absence of its own records, even though that omission was not wilful or negligent. The touchstones for the computation of recovery in this kind of case are “reasonable” and “approximate”. Under these standards, the commissioner's estimates are wholly acceptable. Sustaining them are blocs of evidence*1393 which are neither too speculative nor too infirm in the situation here.^{FN10}

FN10. We mention specifically one of defendant's charges in this connection—that the commissioner erred in his use of a sales price of five or six cents (in calculating the number of government sales by Synthetic and Berea). The contention is that rings made in accord with stricter Army-Navy specifications had a sales price of ten to eleven cents. Although the evidence is not wholly one way, we cannot say that the commissioner was wrong to credit the testimony of witness Reinhardt, who explained that the average sales price

was computed sometime in 1956-7. At that time, a study was made "from a production standpoint, so we knew how many O-rings were in process and what our value of them was at sales price, and at that time, we came up with an average selling price of some-where between five and six cents each" (R. 69). The five to six cent price was, it appears, an average figure.

Two of defendant's minor exceptions do call for some modification of the commissioner's numerical determinations, so as to reduce the total number of infringing uses. The first is that his computation erroneously included O-rings sold from July 1, 1951 to April 28, 1952 which were used under license in aircraft prior to the beginning of the accounting period for aircraft. The Government would have us deduct \$466,860, representing these ten months of sales for aircraft use under license. But, by the same token, there should be added rings sold in the five-month period between June 30, 1956 and November 21, 1956; the accounting span extends to the latter date but the period used in the records underlying the commissioner's calculation terminates on June 30, 1956. The latter figure (representing five-months of procurement) must be offset against the former (representing ten-months of procurement) and the residue subtracted from the sales of Synthetic and Berea. We have made the correction in our findings.

The other correction stems from the commissioner's finding of infringing sales attributable to vendors other than Goshen, Precision, Linear, Synthetic and Berea. As indicated above, he held that these five were "majority" suppliers, responsible for some 60% of the sales to the Government. The record proves that Synthetic and Berea should not have been included in this class. Defendant is right that the testimony on which the commissioner relied shows on its face that only Goshen, Precision and Linear constituted the category of "majority" suppliers. Synthetic and Berea should be placed in the "minority" group, and when that is done it ap-

pears that, in all probability, no other company made any significant contribution. This change is also reflected in our findings.

With the two corrections we make, the total number of infringing uses is 24,221,745, rather than 29,628,000 (the trial commissioner's final figure).

II

Reasonable Royalty and Just Compensation

[8] As with the formula for determining the number of infringing uses, each side disputes the commissioner's measure of just compensation. We reject plaintiffs' challenge but find merit in the Government's.

A. Claimants prefer to have compensation fixed by the Government's cost savings attributable to the invention; this has been found to be about \$0.73 for each use. We agree, however, with the commissioner that while this court has, at times, looked to cost savings in determining compensation (*Shearer v. United States*, 101 Ct.Cl. 196, cert. denied, 323 U.S. 676, 65 S.Ct. 187, 89 L.Ed. 549 (1944); *Olsson v. United States*, 25 F.Supp. 495, 87 Ct.Cl. 642 (1938), cert. denied, 307 U.S. 621, 59 S.Ct. 792, 83 L.Ed. 1500 (1939)), it has used a reasonable royalty as the basis in all cases where the evidence established a royalty rate used by the patentee in commercial licensing. *Carley Life Float Co. v. United States*, 74 Ct.Cl. 682 (1932); *Saulnier v. United States*, 314 F.2d 950, 161 Ct.Cl. 223 (1963); ***1394***Badowski v. United States*, 278 F.2d 934, 150 Ct.Cl. 482 (1960). Here, the evidence shows that, starting in the 1940's Christensen licensed the patent throughout the industry at a royalty of 0.25 cent for each O-ring used in an infringing structure. Furthermore, Christensen filed in the U. S. Patent Office in 1947, for announcement to the public, a form of license by which he offered to license the patent to anyone at a royalty of 0.25 cent per "packing construction." Many licenses were so granted; and between 1946 and 1956, Christensen and his successors were paid royalties by commercial users at the rate of 0.25 cent per O-ring for 261,938,168 infringing structures. See Cal-

[houn v. State Chem. Mfg. Co.](#), 153 F.Supp. 293 (N.D. Ohio 1957). Thus, the patentee established a royalty which he deemed to be appropriate for use of the invention; and that royalty should form the basis for determining the compensation due plaintiffs.

B. Commissioner Davis increased this 0.25 cent commercial royalty by onethird on the grounds that (a) the commercial rate was set by the patentee and offered to the trade with a view to avoiding litigation, and (b) defendant's failure to keep records, even in the face of litigation, has put plaintiffs to unduly expensive proofs during the accounting, so that the rate should be increased commensurate with, and giving due regard to, the expense of litigation. The defendant objects vigorously to this addition to the 0.25 cent commercial rate.

Under the prevailing law and the record before us, we are constrained to agree with the Government. There is nothing in the evidence to show, or to suggest, that the 0.25 cent rate was set beneath fair market value with a view to avoiding litigation. This license rate was used widely and offered freely to everyone; there were many "takers" at that price. See finding 11, *infra*, and 339 F.2d at 665, 168 Ct.Cl. at 669-672, 690-692. We must assume, in the absence of contrary evidence, that it represented full and fair market value, *i. e.* the going price. FN11

FN11. There is no showing in this record that the sum paid by the Government for its license for aircraft use for 1942-1952 (\$75,000 for five years from 1942, or for the remaining period of the then national emergency, if longer) represented fair market value at any time. When the license period began in 1942, World War II was on; when it ended in April 1952, the Korean episode was coming to its close. We are not informed whether the license was not renewed because the Government considered the price too high after April 1952 for the uses then contemplated, or be-

cause the patent owner thought it too low. Nor are we informed as to the true relationship between the license payments and the commercial rate charged by the owner, especially since the license span was for such an indefinite period. The license payments are therefore not very useful in calculating damages.

Nevertheless, the trial commissioner, as the dissent points out, sought to test his award against the amount the United States would have paid if it had renewed the license from 1952 onward, and had expanded it to include non-aircraft uses. We do not consider the test he made a reliable one even if we disregard the foregoing considerations. The assumption was that the renewed license would have been at the rate of \$15,000 per year (one-fifth of \$75,000), even though the \$75,000 agreed to in 1942 was not simply for five years but for the entire duration of the emergency existing in 1942 (which turned out to be ten years long). The test then calculated that a rate of \$15,000 per year would have brought plaintiff \$72,225 (for the period from April 28, 1952 to November 21, 1956), as against \$74,070, representing royalties based on the commercial rate of \$.25. The commissioner did not use, in his test, the increased rate recommended by him, which would have resulted in a higher award of \$98,513. Also, the amount of \$74,070 is based on infringing uses numbering 29,628,000—a figure which we have reduced to 24,221,745. At that reduced number (which we have found to be the correct one) the amount is \$60,554.36. That works out to some \$13,456 a year for the 4 1/2 year period—about what would have been paid annually for the license if it had lasted only five-and-a-half or five-and-two-thirds years, instead of ten.

[9] Nor do we think it permissible to add an increment (to the fair market *1395 value) reflecting that part of the cost of the litigation thought to be due to the absence of federal records. There is, first of all, a clearly supported finding of lack of evidence “to establish plaintiffs’ litigation expenses (costs or attorneys’ fees)” (finding 14.)^{FN12} Even if there were such proof, this court “is not authorized to award specific damages and/or attorney fees as such” in patent cases under 28 U.S.C. § 1498. *Regent Jack Mfg. Co. v. United States*, 292 F.2d 868, 870, 155 Ct.Cl. 222, 225 (1961). This rule accords with general law which forbids the granting of the fees and expenses of attorneys in suits against the United States, unless specifically authorized by statute. See 28 U.S.C. § 2412; *Piggly Wiggly Corp. v. United States*, 81 F.Supp. 819, 829, 112 Ct.Cl. 391, 432 (1949); *J. E. Robertson Co. v. United States*, 437 F.2d 1360, 1364, 194 Ct.Cl. 289, 296-297 (1971).

FN12. We also noted, *supra*, that the destruction of such federal records as once existed was not done to avoid liability to plaintiffs.

The trial commissioner felt that, although attorneys’ fees and other litigation expenses were not to be awarded “as such”, they could be considered in determining the “reasonable and entire compensation” directed by § 1498. He relied upon *Meurer Steel Barrel Co. v. United States*, 85 Ct.Cl. 554, 562, cert. denied, 302 U.S. 754, 58 S.Ct. 280, 82 L.Ed. 583 (1937)—which increased a royalty one-third over the commercial rate—but in that case the court thought that the “lesser royalty fixed by plaintiff was so fixed to avoid the expense of litigation and other factors involved in the same.” In the present case, as we have said, there is no support in the evidence for any comparable finding that the general royalty was depressed below fair market value.

[10] Where, as here, the commercial rate does represent fair market value, the eminent domain principle infused into § 1498, together with the nor-

mal pattern followed in federal eminent domain, seem to us to preclude any addition to that value for litigation difficulties. We have already recalled (Part I, *supra*) that the section under which plaintiffs sue is a congressional exercise of the federal eminent domain power (see *Irving Air Chute Co. v. United States*, 93 F.Supp. 633, 117 Ct.Cl. 799, 802-803 (1950)); the statutory grant of “reasonable and entire compensation” has been taken as the equivalent of the Fifth Amendment’s “just compensation.” See, e. g., *Waite v. United States*, 282 U.S. 508, 509, 51 S.Ct. 227, 75 L.Ed. 494 (1931), citing non-patent eminent domain cases to warrant the award of interest under § 1498.^{FN13} “Just compensation”, in the eminent domain sense, has been said by the Supreme Court not to embrace attorneys’ fees and expenses. *Dohany v. Rogers*, 281 U.S. 362, 368, 50 S.Ct. 299, 74 L.Ed. 904 (1930). And fair market value, when it exists, is normally the maximum that must be awarded. *United States v. Commodities Trading Corp.*, 339 U.S. 121, 123, 70 S.Ct. 547, 94 L.Ed. 707 (1950); *United States v. Virginia Electric & Power Co.*, 365 U.S. 624, 633, 81 S.Ct. 784, 5 L.Ed.2d 838 (1961).

FN13. *Waite* does not, in our view, suggest that the word “entire” warrants something more than the constitutional measure of “just compensation”. On the contrary, the brief opinion of Mr. Justice Holmes, especially in its revealing citations, seems both to equate the two and to characterize both standards as accomplishing “complete justice” between claimant and sovereign.

Until very recently, Congress (which can, of course, give more than constitutional “just compensation”) did not contemplate or provide for litigation expenses as part of eminent domain awards. Pub.L. No. 91-646, 84 Stat. 1894, § 304, enacted January 2, 1971, authorizes the reimbursement of “reasonable costs, disbursements, and expenses, including reasonable attorney, appraisal and engineering*1396 fees, actually incurred” in proceedings under 28 U.S.C. §§ 1346(a) (2) and 1491

(non-patent eminent domain suits by claimants).

FN14 But the statute was not extended to patent suits under § 1498, and it contains a subsection which seems to negate any purpose to alter or increase the accepted content of “just compensation.”

FN15 Moreover, since 28 U.S.C. § 2412, forbidding an award of “fees and expenses of attorneys” “except as otherwise *specifically* provided by statute” (emphasis added) is still on the books, we cannot properly use new Pub.L. No. 91-646 as an analogy guide, or spur. If Congress desires to provide the same treatment for § 1498 as under the non-patent eminent domain sections, it will so enact. Until it does, we should follow the established rules for eminent domain compensation. Cf. *Fleischmann Distilling Corp. v. Maier Brewing Co.*, 386 U.S. 714, 717-718, 719-721, 87 S.Ct. 1404, 18 L.Ed.2d 475 (1967).

FN14. The new Act limits this type of award, if a condemnation action is brought by the Government, to those instances in which the court refuses condemnation or the United States abandons the proceedings.

FN15. Section 102(b): “Nothing in this Act shall be construed as creating in any condemnation proceedings brought under the power of eminent domain, any element of value or of damage not in existence immediately prior to the date of enactment of this Act.”

[11] C. The commissioner fixed January 1, 1953 as the midpoint of the accounting period, from which simple interest (as part of just compensation) is to accrue. Defendant accepts the use of a midpoint but insists that the proper date is August 15, 1954. We agree. There were few accountable O-rings procured from June 11, 1949 to April 28, 1952, since 93% were used in licensed aircraft assemblies. After deductions for static seals and replacement parts, only about 589,000 infringing O-rings were used prior to April 28, 1952, compared with about 25,000,000 over the entire period. For

this reason, the preferred date to begin interest is August 15, 1954, the midpoint of the period from April 29, 1952 to November 21, 1956. Plaintiffs are entitled to interest at 4% per annum from that date to the date of payment. They do not ask for more than 4% and there is no evidence before us on which to base an increased rate. See *Confederated Salish and Kootenai Tribes v. United States*, 437 F.2d 458, 460, 193 Ct.Cl. 801, 805-806 (1971).

The result, on the whole case, is that plaintiffs are entitled to recover, as reasonable and entire compensation, a sum determined by multiplying the number of infringing cases (which we compute to be 24,221,745) by the royalty rate of 0.25 cents (a total of \$60,554.36), plus interest as part of just compensation measured at 4% per annum from August 15, 1954 to date of payment. Judgment is entered to that effect. The exact amount of recovery will be determined under Rule 131(c).

NICHOLS, Judge (concurring in part, dissenting in part):

Except in one particular that follows I have no challenge to offer to the able jobs Commissioner Davis and Judge Davis have done with this complex case. Having determined the number of infringing units sold, the commissioner noted that plaintiff had licensed production to anyone who would pay at 0.25 cents per O-ring. He said, however, that “The commercial rate was set by patentee and offered to the trade with a view to avoiding litigation.” The idea seems to be that considering the cost and duration of patent litigation, and the mortality of issued patents in the Federal courts, anyone who pays for a license, prior to any litigation had, is in effect compromising a law suit. Of course, the compromise of disputed claims does not constitute the kind of arm's-length buying*1397 and selling that will afford a measure of just compensation in eminent domain. Our trier of fact, with his expertise in the patent field, does not think that one who has dragged the patentee through the courts is similarly situated with one who, prior to any court decision, has paid such a royalty. The

findings do not tell us whether those who paid the 0.25 cent figure had any doubt that the patent was valid, but they do show there was a realized cost saving of \$0.73 per structure over prior art, and there is no explanation why the patentee was able to pocket so small a share of the benefits inuring from the invention, except the one that seems obvious to the commissioner. The court views the upward adjustment he made in the 0.25 cent unit figure as a back door attempt, contrary to precedent, to award plaintiffs their litigation expenses, but this depends on which end of the telescope you apply to your eye.

Furthermore, the commissioner tested his award against the amount the defendant would have paid if it had simply renewed its existing license up through 1956, and made it applicable to non-aircraft uses. It appears to me that it is a proper way of determining just compensation in eminent domain, to compute an award one way and test it against figures computed other ways. *Cf.*, [United States v. Northern Paiute Nation](#), 393 F.2d 786, 183 Ct.Cl. 321 (1968). Thus, if the trier of fact was in error in adjusting the 0.25 cent figure upward by onethird, it does not necessarily follow that the way to correct the error is to adjust it down by that one-third again. This ignores the effect of other factors that signalled to the commissioner that his upward adjustment was a proper one.

In view of the foregoing discussion and in light of our Rule 147(b), I consider the award, as modified by the court, inadequate to constitute reasonable and entire compensation by the amount of the eliminated one-third upward adjustment, and the calculated interest thereon.

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