Maxon Premix Burner Co. v. Eclipse Fuel Engineering Co.

471 F.2d 308 (1972) | Cited 18 times | Seventh Circuit | September 18, 1972

SPRECHER, Circuit Judge.

Eclipse Fuel Engineering Company appeals from a district court decision enjoining Eclipse from infringement of a patent owned by Maxon Premix Burner Company, Inc. Maxon cross-appeals, challenging a finding of non-infringement by a prototype burner developed by Eclipse in 1963.

Maxon and Eclipse are engaged in the business of selling industrial gas burners. For many years the parties to this appeal competed in production and sales of line burners used for heating moving air by direct contact with a gas flame. Operation of these burners revealed that improvement was needed in several respects. The operative range of a single burner was so limited that multiple burners were necessary to increase the maximum firing rate and the "turn-down" ratio of the burner arrangement.[1] The installation of multiple burners required duplicate auxiliary equipment and a complicated control system. The firing ratio in a multiple burner system was not smooth and continuous and heat distribution was not of a uniform pattern.

In 1955, Maxon began a development engineering project which culminated in a line burner which operated without the disadvantages described above. The new burner was patented and immediately enjoyed commercial success. This suit resulted from attempts by Eclipse to copy Maxon's successful innovation.

Maxon's improved burner was patented in 1962 under U.S. Patent No. 3,051,464. In 1964, reissue Patent No. Re 25,626, the subject patent in suit, was granted. The reissue patent included additional claims but the claims held infringed were all included in the original patent. The district court held claims 3, 7, 8 and 10 infringed by Eclipse's AH, RAH, AHO, TAH, TAHR and DAH burner assemblies, AH-D and RAH-D units, and AH-DS and AH-DP systems.

The parties agree that claim 3 is representative of the patent claims held infringed. Claim 3 is for a "high turn-down ratio gas burner for operation in and for heating a low-pressure air stream flowing forward past the burner at a velocity of the order of 1500 to 4000 feet per minute" and comprising in combination:

(1) "a variable low-rate burner for variable low-rate combustion of combustible air-gas mixtures independently of air from the passing air stream and operable over a substantial turn-down range when supplied at various rates with combustible air-gas mixtures;"

(2) a "shielding wall . . . connected to said burner body and extending forward in laterally spaced relation from opposite sides of said variable low-rate burner, said wall means defining in front of said variable low-rate burner a shielded zone in which said variable low-rate combustion can take place independently of and shielded from the passing air stream and in which at higher combustion rates fuel gas can flow forwardly from said gas port means;"

(3) "mixing plates extending obliquely forward and outward from said shielding walls in widely divergent relation and defining at the front there-of a forwardly widening mixing space in open receptive communication with said shielded zone and having an open discharge at its forward end, said mixing plates being arranged for exposure to the air stream and for shielding said mixing space therefrom, . . ."[2]

Eclipse urges several grounds for reversal of the district court judgment. It argues that the court erred in refusing to make a finding on patent validity, in finding infringement of the patent in question, and in refusing to hold that Maxon was estopped from bringing this suit on the basis of long term knowledge of and acquiescence in defendant's actions. We are unable to agree with these contentions.

I.

Eclipse insists that the district court judgment cannot stand because the decision did not include an affirmative finding of patent validity.[3] Maxon argues that Eclipse waived its right to contest validity through a prior consent judgment between the two parties and through its concession during trial that validity was not in issue.

The earlier consent judgment followed suit by Maxon in 1962 charging infringement of the original patent by a prior Eclipse burner. This litigation concluded with a settlement agreement in which Eclipse acknowledged validity of U.S. Patent No. 3,051,464 and agreed not to manufacture or sell any burner covered by the patent claims. Following this agreement, Eclipse discontinued production of the burner involved in that litigation and introduced the burner now held to infringe reissue patent No. Re 25,626. As noted above, the claims held to be infringed by the reissue patent are identical to those in the original patent.

Eclipse argues that the prior consent judgment does not preclude it from challenging validity in this action under Lear, Inc. v. Adkins, 395 U.S. 653, 89 S. Ct. 1902, 23 L. Ed. 2d 610 (1969) and Business Forms Finishing Service, Inc. v. Carson, 452 F.2d 70 (7th Cir. 1971). Lear held that a licensee was not estopped from challenging the validity of a patent notwithstanding the licensing agreement. Business Forms held that the rationale of Lear required that a party be permitted to challenge validity even though a prior consent decree had held the patent in question valid but not infringed. The consent decree involving the patent claims in this action held the patent valid and infringed. We need not decide whether the distinctions between the two cases can justify a difference in treatment

because we believe Eclipse effectively waived any rights it might otherwise have to challenge the validity of Maxon's patent through its actions during the course of the trial.

The trial court's decision in this case, following a lengthy trial, was entered on July 2, 1971. Lear, Inc. v. Adkins, supra, was decided on June 16, 1969. Yet Eclipse did not raise the issue of patent validity with respect to the claims found to be infringed until August 9, 1971, when it filed a post-trial motion in the district court. Prior to this belated action, counsel for Eclipse had stated, during trial, that they admitted "that the issue of validity so far as the original claim is concerned is not here in issue." Eclipse also conceded in the stipulated facts submitted prior to trial that if any of the claims here in issue were held to be infringed, the patent would be enforceable against the defendant.

A properly issued patent is presumed to be valid and the burden of proving invalidity rests upon the person challenging validity. 35 U.S.C. § 282. In this case, the failure to offer proof on the question of validity, particularly when coupled with statements admitting the validity of the patent claims, precluded Eclipse from belatedly attempting to contest validity after the trial was over.[4] A contrary determination would disregard the statutory requirement, enabling a defendant in an action for infringement to avoid its burden of proving invalidity during the initial trial. The result would be either to force the plaintiff to prove affirmatively the validity of the patent in question or to give the defendant what would amount to a second chance to prove its non-liability to the patentee if the ruling on infringement went against it. Although public policy encourages tests of patent validity, see Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation, 402 U.S. 313, 344-345, 91 S. Ct. 1434, 28 L. Ed. 2d 788 (1971), public policy also favors conservation of judicial time and limitations on expensive litigation. Id. at 334-349, 91 S. Ct. 1434, 28 L. Ed. 2d 788. None of these policies would be served by a ruling which permitted a party to contest validity only when the close of the trial revealed that it had lost on the issue of infringement. We conclude that the district court was correct in ruling that Eclipse waived its right to contest validity regarding the claims held to be infringed by the trial court.

II.

Eclipse contends that Maxon's claim is barred by laches. Eclipse began manufacture of the burners in suit in 1963. Maxon gave Eclipse notice of infringement on October 12, 1967. This suit was filed on January 23, 1968. Eclipse argues that it was entitled to rely on Maxon's "acquiescence" during the intervening period, and that its reliance cost it a quarter of a million dollars in production costs. Acquiescence is predicated on Maxon's knowledge of the Eclipse burners now charged to infringe Maxon's patent.

The district court rejected Eclipse's argument for two reasons. First, it held that Maxon had a policy of one infringement suit at a time and that Maxon was involved in two such suits from 1962 until 1967. Second, it found that Eclipse's own conduct had prevented Maxon from obtaining complete knowledge of the construction of the accused assemblies until the period of February to May, 1966.

In March, 1963, and again on July 20, 1965, counsel for Eclipse sent Maxon's counsel drawings of the purported AH burners. In each case, the drawings were for burners having mixing plates with uniformly sized openings and not the non-uniform apertures present in the actual Eclipse burners and required by the Maxon patent. The district court found that Maxon did not purchase an Eclipse burner until January, 1966, at which time it was of course informed of the non-uniform openings.

We need not decide whether the evidence adequately supports Maxon's contention that it was prevented from acquiring complete knowledge of the characteristics of the Eclipse burners until 1966. Assuming that Maxon can be charged with knowledge prior to this date,[5] we do not think its delay in filing suit barred injunctive relief against future infringement.[6] This court held in Armstrong v. Motorola, Inc., 374 F.2d 764, 769 (7th Cir.), cert. denied, 389 U.S. 830, 88 S. Ct. 95, 19 L. Ed. 2d 88 (1967), rehearing denied, 389 U.S. 997, 88 S. Ct. 464, 19 L. Ed. 2d 500, that "[a] suit pending to sustain the validity of a patent is notice to all infringers of the insistence of the patentee upon his claimed rights." Here, Eclipse had full notice that Maxon intended to enforce its patent rights by reason of Maxon's earlier infringement action against Eclipse.[7] Maxon was subsequently involved in litigation to enforce its burner patent against Mid-Continent Metal Products Company. This suit was not concluded until September 22, 1967. See Maxon Premix Burner Co. v. Mid-Continent Metal Products Co., 279 F. Supp. 164 (N.D.Ill.1967). Maxon gave Eclipse formal notice of infringement one month later, on October 12, 1967. If Eclipse had any doubts as to Maxon's intentions and the effects of future Maxon actions on its own interests, the proper course of action would have been an action for declaratory judgment against Maxon. Sufficient notice having been given Eclipse, it cannot now complain of the action filed against it.

III.

Eclipse advances various theories under which it believes the trial court's findings on infringement should be reversed. The standard for review is set by Rule 52(a) of the Federal Rules of Civil Procedure, which requires this court to uphold the factual findings of the district court unless they can be said to be "clearly erroneous." This is particularly true when, as here, the trial court's decision is based upon "consideration and weighing of the most credible evidence, both testimonial and documentary, and evaluation of visual courtroom demonstrations and demonstrative physical exhibits. . . ." (Trial court decision, F.F. 8). Wahl v. Carrier Mfg. Co., 358 F.2d 1, 3 (7th Cir.1966).

The district court found that Eclipse's AH burners encompassed all of the elements of Maxon's patent claim 3, including a low-rate burner structure, shielding walls and mixing plates extending obliquely forward and outward in widely divergent relation. The court also found that the operating and performance characteristics of Eclipse's burners were the same as those found in plaintiff's invention. Contrary to Eclipse's assertions these findings were of an essentially factual nature and are well supported by the evidence. We shall, however, discuss each of these contentions.

Eclipse alleges that the accused burners differ from the patent claims in that combustion does not

occur "independently of and shielded from the passing air stream." According to Eclipse's theory, since air from the air chambers supplies combustion air without which combustion could not occur, the Eclipse burners do not come within the claim language. However, as the district court noted, "independently of" is logically construed to mean undisturbed and unharmed by the passing air stream, and "shielded from" implies that the combustion is protected and separated by the shielding walls from the passing air stream. The district court found that the language had been inserted to distinguish the patentees' invention from prior art jet engine combustion. Furthermore, the patented claims themselves contemplate that the burner may take some air from the passing air stream for use in combustion. Both the accused burners and Maxon's claimed invention burn air-gas mixtures in a shielded zone independent of the passing air stream. Defendant's contention is therefore without merit.[8]

Eclipse's next argument relates to the claim language which requires a burner "for operating in and for heating a lowpressure air stream flowing forwardly past the burner at a velocity of the order of 1500-4000 feet per minute." Eclipse insists that its burners do not infringe the claim language in two respects. In the first place, it is argued, the Eclipse burners do not meet the claim language because they use outside air, not air-stream air, in the air chambers. The district court rejected both the factual basis for this claim and its relevance to the claim language. We find no basis for disturbing these findings. Eclipse also insists that its burners have air stream velocities of less than 1500 feet per minute. This factual contention is contradicted both by the stipulated facts and the district court's findings. Although defendant argues that the relevant speed should have been measured at a different location, its argument is unconvincing. Inasmuch as the district court observed the operation of the burner and found to the contrary, we are not prepared to disturb its finding.

Eclipse proffers a further theory of non-infringement based on the claim language which refers to "mixing plates extending obliquely forward and outwardly from said shielding walls in widely divergent relation." Eclipse's mixing plates are located at a 26 degree angle. Eclipse focuses on the word "widely" and would have us find that the 26 degree angle is not sufficiently divergent to come within this definition. In conjunction with this argument, Eclipse notes that the 26 degree angle is closer to that of the prior art (13-20 degree), which Maxon distinguished in its arguments before the patent office, than to the 50 degree angle shown in the specific Maxon burner exhibited in the patent. However, Maxon never alleged that a 50 degree angle was critical and tests indicated that Eclipse's burners would not perform adequately when an angle approaching that of the prior art was used in place of its 26 degree angle. Eclipse's contention that Maxon argued before the Patent Office that a 50 degree angle was critical was found by the district court to ignore the fact that the Patent Office allowed the asserted claims without the supposedly critical 50 degree angle, although such an angle is recited in some of the non-asserted claims. Eclipse's theory is thus once again dependent upon a factual finding by the district court. On the basis of the record before us, we cannot accept the thesis that this finding was clearly erroneous.

Eclipse also alleges that its burners are within the scope of the prior art and that Maxon's invention

was completely obvious. In support of this position, Eclipse relies on prior art jet engine patents and an unpatented heater developed by Western Products.[9] The district judge heard testimony and witnessed demonstrations of this prior art and concluded that "the prior art relied upon by Eclipse does not teach the accused burner assemblies, and does not restrict the asserted claims of the patent in suit from covering the accused assemblies." (F.F. 129) We agree.

The first of the patents relied upon by Eclipse was Way et al Patent No. 2,595,999. The Way patent covers a jet engine combustion device utilizing liquid fuel, a turn-down ratio of 10-1, and extremely high air velocity. The district court noted numerous differences between the jet engine patents and the burners in suit, a few of which are mentioned here. In contrast to the high turn-down ratio described in the Maxon patent and present in the Eclipse burners, the Way patent contemplates a relatively low turn-down ratio. In the accused assemblies and in the Maxon invention, the air stream flows forwardly past the burner, while in the jet engine the air stream flows through the flame baskets. Combustion in the burners in issue here takes place "independently of air from the passing air stream" whereas in the jet engine combustion takes place within the air stream itself. The Way jet engine has no mixing plates and no shielding walls. We are satisfied on the basis of this evidence that the district court was correct in concluding that the Way patent could not teach the Maxon patent in question nor provide a basis for a charge of infringement. It follows that Eclipse cannot assert the prior art jet engine patents as a defense to a suit for infringement.

Eclipse also relied on an unpatented heater developed by Western Products as prior art which "stands between" the Maxon patent and Eclipse burners. The Western Products heater was developed in 1957, after the Maxon burner had been completed but before Maxon filed its original patent application. Western's heater was found by the district court to be significantly different from the Maxon and Eclipse burners. The Western Products heater was found not to embody a line burner, an elongated burner body, a low-fire burner structure, shielding wall means or mixing plates. Neither did the Western Products burner have a high turn-down ratio, the nested blue flame common in the Maxon and Eclipse burners, nor did it operate in an air stream velocity similar to that associated with the burners involved in this suit. Eclipse does not directly attack these findings but insists that because the Western Products heater has diverging perforated plates and somehow "taught" the high turn-down feature of the burners in suit, it is prior art which prevents a finding of infringement here. Eclipse fails to explain in what manner the Western Products burner teaches the turn-down ratio in the Maxon patent and Eclipse burners, but the district court findings indicate that Eclipse contends this is unimportant to the Maxon patent. However, as the district court noted, the capability of the Maxon and Eclipse burners to achieve a high turn-down ratio is indeed an important characteristic of the Maxon patent. In any event, our own study of the record fails to indicate that the Eclipse high turn-down ratio could have been taught by the original Western Products burner.[10] Eclipse's argument regarding diverging perforated plates in the Western Products burner is equally without merit. The district court found that the original Western Products heater did not have mixing plates that operated in a manner similar to the mixing plates found in the Maxon and Eclipse burner. Furthermore, the conical structure, which Eclipse contends is equivalent to mixing plates, had

uniformly sized openings whereas the patented burners and the Eclipse burners all have non-uniform openings.

In conclusion, we can find no basis for overturning the district court's holding of infringement.[11] The factual findings are well supported by the record and neither Eclipse's theories of estoppel nor the asserted prior art create a defense to Maxon's right to an injunction against further infringement of the Maxon patent.

IV.

Maxon cross-appeals from the decision of the district court which held that a prototype burner assembly manufactured and sold in 1963, having mixing plates with uniformly-sized apertures, did not infringe the Maxon patent claims. Maxon insists that this prototype was not an issue in the case and that no evidence was introduced by either side which would show what the prototype looked like, how it operated or whether it infringed the Maxon patent. We agree.

The district court held that the 1963 prototype was in issue by virtue of Maxon's complaint in this action. Paragraph 8 of the complaint reads as follows:

"8. Since August 28, 1962, [the date on which the Maxon patent issued] and prior to the filing of this complaint, defendant Eclipse Fuel Engineering Company has been and still is infringing plaintiff's rights as secured to it by said reissue Letters Patent No. Re 25,626 by manufacturing, using, selling, and actively inducing others to use and sell apparatus embodying the invention defined by its claims, for example, its Series AH and RAH burners, without the consent of the plaintiff . . . ."

The complaint is, therefore, broad enough to cover the 1963 prototype burner.

Our belief that Maxon is not simply backtracking on an original assertion of infringement in the face of a district court holding which makes a positive finding of non-infringement is based on several factors. Maxon carried the burden of proving infringement by the Eclipse burner. Yet Maxon produced no evidence relating to infringement by the 1963 prototype although such proof would have been manifestly necessary in view of the seeming impossibility of reconciling the 1963 burner, with its uniform apertures, with the claim language which called for non-uniform openings.[12] Most probably, evidence would have been called for which would have brought the 1963 burner within the doctrine of equivalents. Although Maxon should not be excused for failing to produce such proof if the burner was really in issue, its failure to do so in this case is some evidence that it did not intend to allege infringement.

An additional indication that the 1963 burner was not intended to be charged with infringement is provided by Maxon's argument relating to laches. One of Maxon's principal arguments for not bringing suit at an earlier date was that it believed the only burners being produced by Eclipse had

uniform apertures which presumably would not infringe the Maxon patent. As the district court noted, if this argument could excuse Maxon for not bringing an earlier action, it might also provide a bar to an action for infringement by this burner now.

Consideration of an opposite holding on infringement by the district court provides a more persuasive argument for a determination that there should be no finding on infringement by the 1963 prototype at this point. If the district court had held that the 1963 burner did infringe the Maxon patent, Eclipse might well have argued on appeal that the holding was merely an advisory opinion. Eclipse made the 1963 prototype only experimentally and sold, if there was in fact a sale, only one such burner. 35 U.S.C. § 271(a) provides that "whoever without authority makes, uses or sells any patented invention . . . . infringes the patent." This circuit has held that a threatened use, under appropriate circumstances, is sufficient to uphold a claim for infringement. Fehr v. Activated Sludge, 84 F.2d 948, 951 (7th Cir.1936). However, in this case, no models with uniform holes have been produced since 1963. Defendant has not at this time even threatened to recommence production of these burners. Assuming, therefore, that Maxon would not be barred by laches from bringing an action for infringement by the 1963 burner, the doctrine of de minimus non curat lex would apply.

Finally, our holding is compelled by defendant's own actions. In response to Maxon's interrogatories seeking information regarding the 1963 burner, Eclipse replied that if such a burner was now in existence, its location was unknown. Maxon should not be prevented from ever attempting to show that a burner like the 1963 prototype would infringe its patent when it has never been given a realistic opportunity to prove infringement.

The district court judgment holding that the Eclipse family of burners infringes the Maxon patent will be affirmed. The judgment finding non-infringement by the 1963 prototype will be reversed.

Affirmed in part, reversed in part.

Disposition

Affirmed in part, Reversed in part.

* Senior Judge James R. Durfee of the Court of Claims is sitting by designation.

** District Judge Jesse E. Eschbach of the Northern District of Indiana is sitting by designation.

1. Turn-down ratio refers to the ratio of maximum heat input to minimum heat input available from the burner system. In one area in which the type of burners involved in this suit are used, that of "make-up air heating," where air exhausted from a room or compartment is replaced by outside air, it is desirable to maintain the temperature of the compartment air at a certain level at all times. A high turn-down ratio is required to accommodate a closely controlled inside air temperature to the variable outside air temperature conditions.

2. Claim 7 differs from claim 3 in requiring the presence of "flame retention means" in the low-rate burner. Claims 8 and 10 are dependent on claim 7, claim 8 adding supply means to supply controlled amounts and proportions of air and fuel gas to the burner, and claim 10 adding duct means to form a low-pressure air steam passage about the burner and airpropelling means to induce low pressure air to flow forwardly in the passage.

3. The relevant district court finding reads as follows: "Only the infringement of claims 3, 7, 8 and 10 of the reissue patent are in issue, Eclipse having admitted the original patent 3,051,464 is valid, and therefore the claims in issue here are valid by virtue of the fact that they are identical to the same claims in the original patent."

4. In contrast to the present case, defendants in Business Forms Finishing Service, Inc. v. Carson, supra, attempted repeatedly to attack validity. 452 F.2d at 73 n.9.

5. The district court findings indicate that Maxon had access to Eclipse's burners in the hands of Maxon's customers and had in its possession Eclipse's advertisements showing non-uniform holes prior to the 1966 "discovery."

6. Although Maxon originally sought treble damages, the district court denied treble damages but awarded injunctive relief and an accounting of actual damages. The denial of treble damages was not appealed.

7. Eclipse was given additional notice in January, 1966, when counsel for Maxon wrote Eclipse, stating that its silence regarding an earlier letter from Eclipse "should not be construed as any acquiescence or concurrence in the opinions expressed in [that] letter," and that in counsel's opinion, Eclipse was infringing Maxon's patent claims.

8. Defendant also relies on file wrapper estoppel as a ground for reversal of the findings relating to this claim. The district judge adequately disposed of this contention and we will not extend this opinion through a lengthy analysis of an essentially frivolous claim. See F.F. 109-110; Paper Converting Machine Co. v. F M C Corporation, 409 F.2d 344, 354 (7th Cir.), cert. denied, 396 U.S. 877, 90 S. Ct. 154, 24 L. Ed. 2d 136 (1969).

9. In the district court Eclipse also relied on certain prior art burner patents. Eclipse does not specifically attack the district court's findings on this point and, in the absence of more direct references, we may assume that the relevance of these patents to the issues here is no longer a subject of dispute.

10. The Western Products heater fabricated by the defendant for use at trial was found, indeed admitted, to be unlike the original Western Products burner in significant respects. Only the original Western burner was relevant, however, as prior art. Furthermore, Western Products itself entered into a consent judgment with Maxon and did not raise its own heater as evidence of invalidity. This may be some evidence that Western Products did not think the special features of the Maxon invention, and thus Ecipse's burners, could have been taught by its prototype burner.

11. We have considered additional arguments raised by Eclipse and have found them to be without merit.

12. Claim 3 of the patent describes the non-uniform apertures as follows: "apertures at the inner portion of the mixing space, adjacent said shielded zone, being relatively small and being proportioned to cooperate with said variable low-rate

burner to provide air for progressively increased combustion, . . . the apertures at outer portions of said mixing space being larger and being proportioned to supply additional air for progressively higher rate combustion . . . whereby said burner may be adjusted in operation from a high rate involving combustion at substantially all said air jets, through substantially continuous variation, down to a low rate of combustion at said low-rate burner inwardly of said air jets."