"last hold-out." In fact, no software-only manufacturer such as Activision has even been sued or licensed under the Rusch-2 patent.

Finally, it is not clear that the Rusch-2 circuits were ever embodied in a commercially marketed device.

D. Previous Adjudications With Respect To The Rusch-2 Patent Are Entitled To Little Or No Weight, And Are Not Binding On Activision.

Magnavox repeatedly has relied on the fact that two judges in the Northern District of Illinois, a widely acknowledged pro-patent forum, "upheld" the Rusch-2 patent. As we show below, this reliance on previous decisions to which Activision was not a party is profoundly misplaced.

Prior defendants' failure to meet their burden of proving invalidity is of no effect in this lawsuit. To begin with, there can be no suggestion that Activision is collaterally estopped on the issue of patent validity or infringement which Magnavox has litigated against other parties. See Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation, 402 U.S. 313, 329 (1971). The Federal Circuit recently has stressed that a previous adjudication of patent "validity" is only a finding that the patent has not been proved to be invalid on the record before the previous court. See, e.g., Shelcore, Inc. v. Durham Industries, Inc., 745 F.2d 621, 627 (Fed. Cir. 1984). In addition, as discussed supra at Statement of Facts, V, the previous "adjudications" of the Rusch-2 patent's

"validity" turn out on closer examination to be quite a bit less than compelling.

While prior findings of invalidity may be reviewed by subsequent courts, Magnavox cannot suggest that a prior finding of infringement has any effect in any subsequent case involving a different alleged infringer, especially one whose product is different from the accused device in the prior case. Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation, 402 U.S. 313, 329 (1971). Even if the law were otherwise, because validity was not at issue in Magnavox Co. v. Mattel, Inc., even the finding of direct infringement in Mattel would have no relevance here, since where validity is not challenged, "the court is less free to limit the application of the doctrine of equivalents than where invalidity is specifically urged by the alleged infringer." Thomas & Betts Corp. v Litton Systems, Inc., 720 F.2d 1572, 1580 (Fed. Cir. 1983). As discussed in Argument Part IIC, infra, the doctrine of equivalents, under certain proscribed rules, may allow a finding of infringement even where the allegedly infringing device is not literally disclosed in the patent. The "scope of the equivalents" is obviously of critical importance in determining infringement. In this lawsuit the scope of equivalents of Rusch-2 must be extremely limited for purposes of determining whether there was any infringement by Activision. In short, the finding of infringement in Mattel is entitled to no weight whatsoever.

The most important fact indicating the very low level of weight to be accorded the prior litigation is the subsequent

determination by the Primary Patent Examiner that the relevant claims of the Baer-1 "pioneer patent" are invalid on application for reissue. The patent examiner who found the Baer-1 invalid emphasized the existence of relevant prior art which had not been disclosed to the Examiner on the original application--specifically, the Spiegel patent and Space War. Magnavox' efforts to confuse the issue notwithstanding, whether a particular piece of prior art was before the court in these earlier lawsuits is irrelevant; whether they were presented to the Patent Office[25/] at the time of the patent application is what counts.

The Federal Circuit in EWP Corp. v. Reliance Universal, Inc., No. 84-711, slip op. (Fed. Cir. Feb. 21, 1985), emphasized this rule to find the patent there invalid as obvious where, as here, prior art foreign patents were not cited to the patent examiner: "Therefore, in considering obviousness, [if] we have no PTO view before us on obviousness . . . [the alleged infringer's] burden of proof . . . is more easily carried." Id. at 12 (emphasis added). Similarly, the court in American Hoist & Derrick Co. v. Sowa & Sons,

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25/ The Supreme Court in Graham v. John Deere Co., 383 U.S. 1, 18 (1966), noted that by 1965 "the Patent Office [was] confronted with a most difficult task. Almost 100,000 applications for patents are filed each year. Of these, about 50,000 are granted and the backlog now runs well over 200,000." As evidenced by the Commissioner of Patents Annual Report for Fiscal Year 1969, the situation had not changed significantly. The 96,821 applications filed in fiscal year 1969 set a new record for the most filed in a single year and the backlog still numbered 184,660 applications. It is no wonder that examiners faced with widely varying applications have difficulty doing substantial independent research to find prior art not disclosed by the patent applicant.

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4090, 4096 (Jan. 17, 1984) (Court in contributory infringement cases has "always recognized the critical importance of not allowing the patentee to extend his monopoly beyond the limits of his specific grant").

B. Activision's Software Does Not Literally Infringe The Rusch-2 Patent.

The most fundamental misconception in Magnavox' action against Activision is the attempt to equate Activision's microprocessor-based software with the analog circuitry described in the Rusch-2 patent. Magnavox' entire case depends on this Court holding that Activision's software contained in cartridges designed to play on master computer consoles infringes the Rusch-2 technology, either literally or by the doctrine of equivalents. Activision's software clearly does not literally infringe, in that it is far from identical to the Rusch-2 circuits. Magnavox is limited to the circuitry disclosed in the specifications of the Rusch-2 patent because the Rusch-2 patent is claimed as a means plus function patent. Under 35 U.S.C. Section 112:

> "[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

Several courts have squarely held that Section 112's language expressly limits the means plus function combination patent to the

specification and its equivalents. See, e.g., Lockheed Aircraft Corp. v. United States, 553 F.2d 69, 80-81 (Ct. Cl. 1977); Graphicana Corp. v. Baia Corp., 472 F.2d 1202, 1204 (6th Cir. 1973) ("an inventor cannot by the mere use of the word 'means' appropriate any and all kinds of devices which may perform the specified function or any other mechanism or device than that which is described in the patent or which is its mechanical equivalent"); White Consolidated Industries, Inc. v. Vega Servo-Control, Inc., 214 U.S.P.Q. 796, 834 (S.D. Mich. 1982), aff'd, 713 F.2d 788 (1983). Otherwise, a means plus function patent would be tantamount to a monopoly on an idea. See Jones v. Hardy, 727 F.2d 1524, 1528 (Fed. Cir. 1984) (idea not patentable).

HOWARD RICE NEROVSKI CANADY ROBERTSON & FALK

C. Activision's Software Is Not The Equivalent Of The Rusch-2 Technology.

1. Equivalents Defined--Means, Function And Principle.

Accordingly, any contention that Activision contributorily infringed Rusch-2 must be based on the doctrine of equivalents. The doctrine of equivalents allows a finding of infringement even though the allegedly-infringing device is not literally disclosed, but only if the allegedly infringing device accomplishes the same end as the patent by use of a substantially equivalent means, function and principle. See, e.g., Graver Tank & Manufacturing Co. v. Linde Air Products Co., 339 U.S. 605 (1950); American Hospital Supply Corp. v.

Travenol Laboratories, Inc., 745 F.2d 1 (Fed. Cir. 1984); Hughes Aircraft Co. v. United States, 717 F.2d 1351, 1361 (Fed. Cir. 1983). "Substantially equivalent" means has been interpreted as unimportant or slight variations to conceal the infringement of the patent. Thomas & Betts Corp. v. Litton Systems, Inc., 720 F.2d 1572, 1579-80 (Fed. Cir. 1983); Hale Fire Pump Co. v. Tokai, Ltd., 614 F.2d 1278, 1281-83 n.5 (C.C.P.A. 1980) (emphasizing that equivalents in a "means for" claim is limited to equivalents of the specification).

In the classic case where the doctrine of equivalents applies, the alleged infringer obtains a copy of the patent, or the device it purports to cover, absorbs all of its teachings, and sets out to design around the disclosed and claimed invention. See, e.g., Graver Tank Co. v. Linde Air Products Co., supra, 339 U.S. at 608 ("[t]he essence of the doctrine [of equivalents] is that one may not practice a fraud on a patent"); Atlas Powder Co. v. E.I. Du Pont De Nemours & Co., No. 84-504, slip op. (Fed. Cir. Dec. 27, 1984) (using the doctrine of equivalents where infringer had used the gist of the invention to devise a non-literally infringing combination with only one ingredient in explosive mixture changed).

HOWARD RICE NEMEROVSKI CANADY ROBERTSON & FALK

2. Scope Of Equivalents Narrow If Improvement Patent.

The scope of equivalents varies with the nature of the patent. A pioneer patent, one which opens a new technological

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field,[26/] is entitled to a broad range of equivalents. In contrast, a mere improvement patent is entitled to a very narrow range of equivalents, equivalents which are substantially identical to what is taught in the patent. See, e.g., Thomas & Betts Corp. v. Littón Systems, Inc., 720 F.2d 1572, 1579 (Fed. Cir. 1983). The reason for this distinction is that an improvement patent is necessarily narrow in scope to avoid invalidity on account of the pioneer patent and other prior art. This constricted scope at the validity stage accordingly limits the scope from an expansive interpretation of equivalents in the context of an alleged infringement. See, e.g., id. Sanders has argued before the Patent Office that the Baer-1 patent is the pioneer patent, and accordingly, the Rusch-2 patent must be a mere improvement patent. Where the validity of an improvement patent is challenged on the ground of obviousness in light of the prior art, the application of the doctrine of equivalents is particularly limited. See id. (giving an improvement patent "a range of equivalents narrow enough to distinguish over the prior art and, thus, to avoid invalidity. . . . [w]here validity in view of the prior art has not been challenged, the court is less free to limit the application of the doctrine of equivalents than where invalidity is specifically urged by the alleged infringer").

26/ A pioneer patent covers a function never before performed, or a function of such novelty and importance as to make a distinct step in the progress of the art. See, e.g., Westinghouse v. Boyden Power Brake Co., 170 U.S. 537, 561-62 (1898); Connell v. Sears, Roebuck & Co., 559 F. Supp. 229 (N.D. Ala.), aff'd in part and modified in part and vacated in part on other grounds, 722 F.2d. 1542 (Fed. Cir. 1983).

3. Activision Cartridges Do Not Use The Rusch-2 Technology.

None of the underlying reasons for the doctrine of equivalents is even arguably present in this case, and it would be contrary to the strong social policy of limiting the extension of patent monopolies in contributory infringement cases to stretch the doctrine of equivalents to cover Activision's radically-different software technology. Activision designers did not use and had no conceivable use for the Rusch-2 patent, as there was no connection between microprocessor-based computer programs and Rusch-2.

4. Comparison Of Rusch-2 Technology And Atari 2600.

The evidence at trial will show that Activision's microprocessor-based software is not technologically equivalent to the primitive analog circuitry disclosed in the Rusch-2 patent. Activision's expert witnesses, Dr. Richard Shoup and Charles Thacker, will testify that the Rusch-2 analog circuitry is dramatically different in principle, means and function from the microprocessor-based digital technology of Activision's software. Cf. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1446 (Fed. Cir.), cert. dismissed sub nom. Hazeltine Corp. v. RCA Corp., -- U.S. --, 53 U.S.L.W. 3160 (Aug. 29, 1984) (finding certain digital circuitry not a "mere substitution" for analog circuitry). Magnavox cannot "have it both ways" with respect to computer technology--to ignore it as prior art while still attempting to encompass Activision's

analog hard-wired circuits. The Atari 2600 calculates positions by use of a microprocessor. The Rusch-2 technology cannot perform any computations. The Atari 2600 utilizes a read only memory (ROM) chip to instruct the microprocessor as to the nature of the game to be played. The Rusch-2 technology has no memory device. The Atari 2600 also uses a random access memory (RAM) contained in the central processing unit (CPU) to store computations and positions. The Rusch-2 technology has no equivalent memory. The Atari 2600 uses a CPU (the microprocessor). The Rusch-2 technology has no CPU or microprocessor. The Atari 2600 utilizes external contacts to receive ROM chips (e.g., Activision cartridges), but the Rusch-2 is self-contained, with no external contacts. The Atari 2600 can display a great variety of videogames on interchangeable ROM chips with complex backgrounds, action and scoring. In contrast, the Rusch-2 circuits cannot be varied to play a substantial variety of games, keep score, or generate backgrounds. All of these differences are fundamental to the very nature of the machines, and demonstrate the lack of substantial equivalence between the two technologies.

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5. Scope Of Equivalents Limited By File Wrapper Estoppel.

Application of the doctrine of equivalents is also limited by the patent law doctrine of "file wrapper estoppel," which precludes a patentee from obtaining a claim construction effectively resurrecting subject matter surrendered during prosecution of the

patent application. See, e.g., Thomas & Betts Corp. v. Litton Systems, Inc., 720 F.2d 1572, 1579 (Fed. Cir. 1983); Hughes Aircraft Co. v. United States, 717 F.2d 1351, 1362 (Fed. Cir. 1983). See generally Graham v. John Deere Co., 383 U.S. 1, 33-34 (1966). Magnavox has urged the exclusion of computer art from consideration as prior art on the issue of obviousness, and argued before the Patent Office in the Baer reissue proceeding and will contend in this case that computer games are non-analogous, inapplicable prior art. However, by seeking to include the computer technology of microprocessors as equivalents of the Rusch-2 technology, Magnavox attempts to "have it both ways" with respect to computer technology (exclusion as prior art but inclusion as equivalents). This attempt to expand the scope of equivalents should be rejected as inconsistent with the doctrine of file wrapper estoppel.

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6. Reverse Equivalents.

The related doctrine of "reverse equivalents" also applies to the present case. This doctrine has been recognized by the United States Supreme Court, and provides that a device which performs the same function or accomplishes the same result by substantially different means, principle, mode of operation or in a substantially different way does not infringe. Thus, where a device is so far changed in principle from a patented article, but nevertheless falls within the literal words of the claim, the doctrine of equivalents can be used to restrict the patent claim and defeat an action for infringement. See Graver Tank & Manufacturing Co. v.

Linde Air Products Co., 339 U.S. 605, 608-09 (1950); Reynolds-Southwestern Corp. v. Dresser Industries, Inc., 372 F.2d 592, 595 (5th Cir. 1967); SRI International v. Matsushita Electric Corp. of America, 591 F. Supp. 464 (N.D. Cal. 1984). See generally Pigott, Equivalents in Reverse, 48 J. Pat. Off. Soc'y 291 (1966). Reverse equivalents clearly defeats any assertion of contributory infringement in this case, where Activision's computer software for digital microprocessor technology is a substantially different means, principle or mode of operation than the analog circuitry of the Rusch-2 patent.

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D. In Order To Prove Contributory Infringement, Magnavox Must Prove That There Is An Underlying Direct Infringement By The Purchaser Of Activision Software.

There is no possibility of direct infringement in the present case because there is no "reconstruction" of the patented device by use of any Activision software, and consumers who purchase Activision software for use on their Atari 2600 master consoles have both implied and express licenses to do so. None of Magnavox' previous litigation has involved the discrete issue of contributory infringement, as the defendants in the other lawsuits were manufacturers of master consoles.

It is established that there can be no contributory infringement or inducement to infringe under 35 U.S.C. Section 271(b) and (c) without an underlying direct infringement. See

Dawson Chemical Co. v. Rohm & Haas Co., 448 U.S. 176, 216 (1980) (no contributory infringement without underlying direct infringement); Stukenbourg v. Teledyne, 441 F.2d 1069, 1072 (9th Cir. 1971) (no inducement to infringe without underlying direct infringement). See generally 4 D. Chisum, Patents ¶17.04 (1984). The sale of a component of a patented combination does not in itself constitute direct infringement, as there is no direct infringement unless all of the elements of a patented combination are used by the direct infringer. See, e.g., id.; Aro Manufacturing Co. v. Convertible Top Replacement Co., 365 U.S. 336, 339-40 (1961) ("Aro I").

Contributory infringement developed first as a common-law concept to avoid the injustice of the strict literal infringement rule of complete identity of means, operation and result, in which the accused device had to contain all of the elements set forth in the patent's claims. See generally Dawson Chemical Co. v. Rohm & Haas Co., 448 U.S. 176 (1980). The statutory embodiment of the contributory infringement doctrine is 35 U.S.C. Section 271(c). Under Section 271(c) and case law interpreting the statute, contributory infringement is established only when (i) an unpatented component of a patented device is a material part of the invention which ~~is~~ essential to the inventive character of the patented combination, (ii) the manufacturer knows that the component is especially made or adapted for use in infringement of the patent, and (iii) the component is not a staple article or commodity of commerce suitable for substantial noninfringing use. 35 U.S.C. §271(c). See generally Dawson Chemical Co. v. Rohm & Haas Co., supra;

Wilbur-Ellis Co. v. Kuther, 377 U.S. 422 (1964).

In a combination means plus function patent like the Rusch-2 which recites a list of elements, the patent is directly infringed only if the accused device contains all of the elements set forth in the patent's claims as described in the specifications, or their equivalents. See, e.g., Sarkisian v. Winn-Proof Corp., 697 F.2d 1313, 1321 (9th Cir.), cert. denied, 460 U.S. 1052 (1983); Nelson v. Batson, 322 F.2d 132, 134 (9th Cir. 1963).

Thus, Magnavox must first demonstrate that the purchasers of Activision's software directly infringe the Rusch-2 patent--either literally or by the substantial equivalents of the Rusch-2 patent technology.

E. Activision's Software Is Not A "Reconstruction" Of The Rusch-2 Patent, And Therefore The Sale Of Activision Software Does Not Constitute Contributory Infringement.

The underlying rationale of the definition of contributory infringement contained in Section 271(c) is to preserve the patentee's monopoly of one complete sale of the patented device or combination without extending the patentee's monopoly to other items of commerce. See Motion Picture Patents Co. v. Universal Film Manufacturing Co., 243 U.S. 502 (1917), discussed in Dawson Chemical Co. v. Rohm & Haas Co., supra, 448 U.S. at 190-91. Once the "one complete sale" of the patented combination has been accomplished,

the patent monopoly expires as to the sold device. See United States v. Univis Lens Co., 316 U.S. 241, 250-52 (1942); United States v. Masonite Corp., 316 U.S. 265, 277-78 (1942). Thus, the contributory infringement doctrine precludes the unlicensed manufacture and sale of components to be used in the original complete combination which deprive the patentee of its monopoly profit on the one complete sale.

The case law on contributory infringement also has recognized that the sale of components used to "reconstruct" the patented device can constitute contributory infringement, as such "reconstruction" deprives the patentee of an additional complete sale of the patented device. This "reconstruction" doctrine of contributory infringement should be carefully distinguished from permissible "repair" or "replacement" of components of a licensed device. See Aro Manufacturing Co. v. Convertible Top Replacement Co., 365 U.S. 336 (1961) ("Aro I"); Aro Manufacturing Co. v. Convertible Top Replacement Co., 377 U.S. 476 (1964) ("Aro II").

In addition, adaptation of or addition to a licensed device by sale of a new component does not constitute reconstruction. See Wilbur-Ellis Co. v. Kuther, 377 U.S. 422 (1964); Beckman Instruments, Inc. v. Technical Development Corp., 730 F.2d 1076, 1085-86 (7th Cir.), cert. denied, -- U.S. --, 53 U.S.L.W. 3239 (Oct. 1, 1984). Thus, there is no contributory infringement of a valid patented combination for sale of a component used in connection with the accused device unless the component constitutes reconstruction of the patented device or the accused device is

the one complete sale ensured by the patent monopoly. The game cartridge sold with the licensed master console is not destroyed or somehow superseded by the Activision cartridge. Indeed, the original game cartridge will be in use at times when the Activision cartridge is not being played. Only at times when the Activision cartridge is being played will the licensed cartridge be temporarily not in use while the interchangeable Activision cartridge "adapts" the functioning of the master console to display a different video game.

The common law of contributory infringement has recognized that the adaptation of a patented device to a related function does not constitute contributory infringement so long as the adaptation does not go to the heart of the invention. In Wilbur-Ellis Co. v. Kuther, 377 U.S. 422 (1964), the United States Supreme Court considered whether a fish canning machine could be adapted to fill cans of different dimensions without constituting contributory infringement. The alleged contributory infringer was the company which manufactured the critical replacement part necessary to perform the adaptation. The Supreme Court found that the adaptation of the fish canning machine did not constitute a reconstruction of the patent device which would run afoul of the one complete sale rule. Thus, adaptation which did not go to the heart of the invention was found to be a permissible replacement within the meaning of the Aro I and Aro II decisions. See also General Electric Co. v. United States, 572 F.2d 745, 785 (Ct. Cl. 1978). See generally Dawson Chemical Co. v. Rohm & Haas Co., 448 U.S. 176 (1980).

Magnavox has invoked the ancient Supreme Court decision in Leeds & Catlin Co. v. Victor Talking Machine Co., 213 U.S. 325, 335-37 (1909), as authority for the proposition that like interchangeable software contained in Activision cartridges, interchangeable phonograph records (cylinders) on the early phonograph machines can constitute impermissible "reconstruction" of patented combinations, and therefore are contributory infringements. Magnavox' invocation of the Leeds & Catlin opinion is inapposite for several reasons. The Supreme Court in Leeds & Catlin strongly emphasized that the phonograph/stylus interaction was the essence of the combination patent held by the Victor Talking Machine Co., and was specifically described in the patent claims. In contrast, Magnavox' combination patent in no way describes (or even anticipates) the cartridge/master console combination, but is rather a combination of an altogether different character. Thus, the Activision software contained in the cartridge does not go to the heart of the patented combination, but is rather a technological development not described in or anticipated by the patent at all.

A second major factor indicating that the Leeds & Catlin decision does not control the present case is the development of the Supreme Court's contributory infringement doctrine since 1909. In Motion Picture Patents Co. v. Universal Film Manufacturing Co., 243 U.S. 502 (1917), the Supreme Court significantly limited the apparent scope of the Leeds & Catlin ruling. The Motion Picture Patents case involved a patented motion picture projector which used unpatented motion picture film. The patentee of the projector sued

distributors of theatrical films, claiming contributory infringement with respect to the patented film/projector combination. The Supreme Court distinguished Leeds & Catlin, and found no contributory infringement. See generally Dawson Chemical Co. v. Rohm & Haas Co., 448 U.S. 176, 191-92 (1980). As the Seventh Circuit recently emphasized in Beckman Instruments, Inc. v. Technical Development Corp., 730 F.2d 1076, 1086 (7th Cir. 1984), cert. denied, -- U.S. --, 53 U.S.L.W. 3239 (Oct. 1, 1984) (incorporating the district court opinion):

> "the days when the purchase of a record for a talking machine was a major event are far removed from a market in which complicated equipment is promoted for multiple uses through interchangeable accessories. . . . [A] purchaser of major equipment, a transaction knowingly authorized . . . without any restrictions, most certainly reasonably expects that he can acquire whatever accessories are necessary for all the uses contemplated and encouraged upon sale . . . ."

The days of the Victor Talking Machine Company's monopoly over all phonograph records by virtue of its phonograph patent are indeed "far removed" from the world of microprocessors and interchangeable software involved in the present case.

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III.

PURCHASERS OF ACTIVISION'S SOFTWARE HAVE A LICENSE TO USE ACTIVISION SOFTWARE ON LICENSED MASTER CONSOLES.

A. Magnavox Already Has Granted An Express License For Use Of Activision Cartridges On Atari Master Consoles.

In settlement of the lawsuits between Magnavox and Atari discussed supra (Statement of Facts V), Atari demanded from Magnavox and Sanders and received sweeping releases and covenants that Magnavox and Sanders would not sue Atari's customers. This open-ended release of Atari customers and covenant not to sue in effect gave Atari customers an express license to purchase Activision video game cartridges for use with their licensed Atari master consoles. The relevant language from the License Agreement provides:

> "4.01 MAGNAVOX covenants not to sue ATARI or its customers for infringement of any patents presently issued or issued on presently pending applications owned or controlled by MAGNAVOX or SANDERS, in the field of video games, during the term of this license [until 1990]." (Emphasis supplied)

The relevant language from the Settlement Agreement provides:

> "V. As to games [entire systems, not limited to game cartridges] made or sold by ATARI, MAGNAVOX and SANDERS hereby release and forever discharge ATARI and its customers and each of them, from any and all claims, demands, actions or causes of action of any nature whatsoever which MAGNAVOX or SANDERS have, shall or may have against ATARI and its customers by reason of any act, cause, matter or thing claimed or alleged in any of the pleadings [includes infringement of Rusch-2], records or other papers on file in the Sears case and in the Atari case, or based upon or connected with claims made or filed in the aforesaid actions or in any way related thereto."

(Emphasis supplied)27/

As is clear from a perusal of the license and settlement documents, Atari desired and achieved complete closure of its dispute with Magnavox. Atari received a fully paid-up license instead of a running royalty arrangement. The agreements covered all relevant patents (foreign and domestic), and fully exempted Atari's past and future customers from both litigation and the threat of future litigation. Thus, every consumer who subsequently bought an Atari master console received the benefit of Magnavox' release and covenant not to sue, and each was thereby completely free (licensed) to use the master consoles to play video games. Nothing in the license or settlement agreements limits either document to situations in which the consumer uses only Atari joysticks and video game cartridges.28/ In fact, to the extent Activision and other software-only manufacturers made attractive games, they enhanced the demand for Atari master consoles.

The Supreme Court has made it clear that if Activision's customers do not infringe, Activision cannot be found a contributory

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27/ The Atari Settlement Agreement and Cross-License Agreement is confidential and subject to Court Order.

28/ It is instructive to note that Magnavox, in its subsequent license agreement with Mattel, entered into and used very different language in releasing customers of Mattel, to wit: " . . . the release extends to customers of MATTEL with respect to apparatus which was sold or transferred to them by MATTEL or its Subsidiaries. Nothing herein shall be construed as a release of any customer of MATTEL or Subsidiary of MATTEL, or any officer, employee, or agent of such customer, for any acts of the customer with respect to any apparatus not made by or for MATTEL or a Subsidiary of MATTEL." (Emphasis supplied)

infringer:

> "'In a word, if there is no infringement of a patent there can be no contributory infringer' [citation omitted] and that if the purchaser and user could not be amerced 29/ as an infringer certainly one who sold to him . . . cannot be amerced for contributing to a non-existent infringement.'" (Aro Manufacturing Co. v. Convertible Top Replacement Co. (Aro I), 365 U.S. 336, 341 (1961))

By virtue of the express license granted to Atari and its customers, Atari's customers are immune from "fine" or other monetary damages. It is therefore clear that by virtue of the express license for Atari's customers, Activision may not be found liable as a contributory infringer with respect to any cartridges manufactured for use with the Atari 2600.

B. Consumers Who Purchase Licensed Master Consoles Have An Implied License To Use Activision Cartridges On Those Licensed Master Consoles.

All master consoles which can play Activision cartridges are licensed by Magnavox. All of those licensed master consoles are sold with a compatible cartridge manufactured by the same company which manufactured the master console itself. None of the

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29/ The word "amerce" is defined by Webster's New Collegiate Dictionary (2d ed. 1981) as "to punish by a fine whose amount is fixed by the court," and by Black's Law Dictionary (5th ed. 1979) as "[t]o impose an amercement or fine, to punish by a fine or penalty."

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cartridges display any patent markings. See generally 35 U.S.C. §287. The Activision cartridges are sold in retail stores alongside the licensed master consoles and cartridges sold by other companies, and add to the general demand for master consoles. Magnavox never has taken any steps whatsoever to "warn" consumers that the use of Activision cartridges on the master consoles constitutes direct infringement of the '507 patent, and instead silently has reaped the benefits of Activision's participation in the video game market. Under the emerging law of implied licenses, these facts preclude any finding of direct infringement by consumers who purchase Activision cartridges, and thereby preclude any contributory infringement in this case.

In Sony Corp. of America v. Universal City Studios, Inc., -- U.S. --, 52 U.S.L.W. 4090, 4095 n.19 (Jan. 17, 1984), the United States Supreme Court noted the similarity of copyright and patent law, and held that the use of a video cassette recorder to copy television programs covered by copyright was a "fair use." The Supreme Court emphasized the video cassette recorder owner's reasonable expectations with respect to the use of the VCR to record television programs.

In Beckman Instruments, Inc. v. Technical Development Corp., 730 F.2d 1076, 1085-86 (7th Cir.), cert. denied, -- U.S. --, 53 U.S.L.W. 3239 (Oct. 1, 1984), the Seventh Circuit explicitly applied this concept of implied license in a patent context. Relying on Aro Manufacturing Co. v. Convertible Top Replacement Co., 377 U.S. 476, 484 (1964) (Aro II), the Beckman Instruments court invoked

the "axiom that the 'sale of a patented article by the patentee or under his authority carries with it an "implied license to use."'" 730 F.2d at 1085. The Beckman Instruments court then proceeded to distinguish Leeds & Catlin v. Victor Talking Machine Co., 213 U.S. 325 (1909) (discussed supra), emphasizing the anachronistic character of that decision. As support for its holding, the Seventh Circuit placed substantial weight on the reasonable expectations of the purchaser: "[u]nless he is told otherwise at the time of sale, the purchaser quite reasonably expects that he can acquire those accessories necessary for full use of the equipment without running afoul of the patent laws. . . . An implied license, ultimately . . . must rest upon reasonable expectations induced by the patentee." Id. at 1086.

Thus, the Beckman Instruments' articulation of the implied license doctrine is a compelling precedent for the present case, and is indistinguishable in all material respects. Like the computer purchaser in Beckman Instruments who purchased all-purpose computer equipment adaptable to many applications when used with appropriate input couplers, the consumer who buys an Atari master console certainly has the reasonable expectation of using Activision and other cartridges on his master console, and there is no warning against such use. These reasonable expectations, knowingly acquiesced in by

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Magnavox,[30] preclude a finding of direct infringement, and accordingly require a judgment in favor of Activision on the issue off contributory infringement.

IV.

THERE IS NO "BOUNCE" FEATURE IN NINE OF THE THIRTEEN ACCUSED ACTIVISION SOFTWARE.

Baer and Rusch have stated that what Rusch-2 is all about is "ball and paddle" games. In nine of the thirteen allegedly infringing Activision games, none of which has a ball and paddle, the "hitting symbol" does not "impart a distinct motion to the hit symbol upon coincidence" as that term was defined by Sanders during the prosecution of the Baer-2 patent. These nine games are Dolphin, Keystone Kapers, Fishing Derby, Decathlon, Sky Jinks, Barnstorming, Grand Prix, Enduro, and Stampede.

The phrase "imparting a distinct motion" can refer only to two types of motion. Magnavox is strictly limited to the two types of motion because the Patent Office required clarification of the

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30/ Magnavox' knowing acquiescence in the consumers' reasonable expectations with regard to the use of Activision and other unlicensed cartridges on the licensed master consoles was economically motivated. Since Atari, the main manufacturer of both master consoles and cartridges, had a paid-up license from Magnavox, any increase in Atari's sales could not profit Magnavox. However, Magnavox had every reason to allow unlicensed cartridge manufacturers to prosper, in the hopes that Magnavox could later obtain a share of the manufacturers' revenues either by the coercive effect of Magnavox' patent infringement suits, or by judgment.

//

Further, the motion of the sulking squid after it is caught by the Dolphin is merely an isolated fun feature of the game which has nothing to do with the real action of the game.

2. Keystone Kapers

In Keystone Kapers Officer Kelly runs as fast as he can to catch a thief who throws obstacles at him. In the game, the motion of a beach ball, after hitting Officer Kelly, is alleged to infringe the Rusch-2 patent. The beach ball moves either left to right or right to left, bouncing slowly as it goes. When the ball hits Kelly, its horizontal motion stops and its vertical motion continues unchanged. The beach ball does not bounce backwards off Kelly, nor does it acquire a velocity proportional to Kelly's. The goal is to avoid touching or hitting the ball altogether.

3. Fishing Derby

In Fishing Derby the player lowers his line into a group of fish which are swimming left to right and right to left in an attempt to catch a fish and avoid a shark. The motion of the fish after it is caught is alleged to infringe the Rusch-2 patent. When the player's line touches the nose of a fish, the fish continues to move back and forth, exactly as before. The only change is that the distance the fish swims is now limited to the slack in the fishing line. As the fish moves toward the surface, the fishing line becomes shorter and the fish swims a shorter distance. The fish does not bounce off the fishing line; the fish does not acquire a velocity proportional to that of the fishing line at the time of contact nor does it reverse the direction in which it was swimming.

B. Pumping Game

1. The Activision Decathlon

In The Activision Decathlon the player "competes" in the ten events which make up the track and field decathlon event. Magnavox concedes that there is no imparting of distinct motion in 9 of the events but asserts that in the 100 meter hurdles event, the motion of the hurdle after being hit by the runner is alleged to infringe the Rusch-2 patent. The player pumps the joy stick back and forth as fast as possible, left to right, to make the hurdler run. The hurdler jumps when the joystick button is pressed. If the hurdler does not jump on time, in one frame the hurdle is vertical, and in the next frame, one sixtieth of a second later, the hurdle is horizontal. The hurdle does not bounce off the hurdler; the hurdle does not move with a velocity proportional to that of the hurdler. The hurdle simply changes position from vertical to horizontal, without an intervening "motion" or even appearance of motion.

C. Scrolling Games[32/]

1. Sky Jinks

In Sky Jinks the object is to avoid trees, pylons and

32/ The remaining five games (Sky Jinks, Enduro, Grand Prix, Barnstorming, and Stampede) are scrolling games; the background either moves left to right (or vice versa) or up to down with respect to a player controlled symbol. Ralph Baer conceived of this sort of video game before Rusch started working on the circuits claimed in his patent. Thus, these scrolling games cannot be included in any valid Rusch patent. See 35 U.S.C. §102(f).

//

balloons randomly placed in the terrain which the player appears to fly over as the background rolls down toward the bottom of the TV screen. The motion of pylons, trees and balloons after being hit by the player-controlled airplane is alleged to infringe the Rusch-2 patent. If the player hits any of the objects the scrolling speed is slowed, i.e., the apparent motion of the player's plane is slowed. The motion of the individual objects on the scroll is never changed. There is no bounce, no velocity exchange and no infringement.

2. Enduro

In Enduro the player seeks to pass randomly placed cars on the road. The motion of the computer controlled cars after hitting the player controlled car is alleged to infringe the Rusch-2 patent. When the player's car hits one of the other cars, the speed of the player's car is reduced and all of the other cars therefore seem to pull away from him. The roadway also appears to slow down. The speed of the player's car at the point of impact bears no relationship to the movement of the scroll after impact.

3. Grand Prix

Grand Prix is an obstacle avoidance game scrolling from right to left giving the player the appearance of steering a car past other cars and through bridges as fast as possible. Again it is alleged that the motion of the other cars and bridge after a crash infringes Rusch-2. When the car hits the bridge embankment or another car, the bridge, roadside flowers, fences, other cars and other scenery untouched by the player's car (i.e., the entire

background) all slow down without changing their respective positions on the scroll, and then resume scrolling from right to left. Accordingly, there is no distinct motion imparted to any of the possible hit symbols.

4. Barnstorming

In Barnstorming the player appears to fly a biplane through an obstacle course, the objective being to fly through as many barns as possible in minimum time. The "movement" of the barn, power pole and geese when hit by the plane are alleged to infringe the Rusch-2 patent. When the barn or power pole is hit by the plane, everything in the scroll, the clouds, the ground and the pole or barn move from left to right. The visual effect is that of the plane bouncing off the pole or barn. When the plane hits the geese, they slow down with respect to the background scroll. All of the geese in a horizontal line, whether or not actually touched by the plane, slow down. This slowing down is not a reversal or a velocity transfer.

5. Stampede

The player of Stampede controls the position of a horse and uses a lasso to capture cattle. Cattle are bumped along in front of a cowboy's horse so that the player can later lasso them. This bumping is alleged to infringe the Rusch-2 patent. When the player hits a single cow in a group, the entire group appears to speed up. The speed and direction of the horse is not transferred to the cattle and the direction in which the cattle are moving is never changed.

APPENDIX A

The U.S. Patent and Trademark Office assigns every patent application a number and then assigns another number in the event the patent is issued. Should a reissue application be filed subsequently, and granted, the Patent Office gives the patent yet another new number, with the prefix "Re." to indicate the patent has been reissued. For the convenience of the Court, we set forth below the chronology of the relevant Sanders Associates patents in this lawsuit, which are referred to throughout the brief as the '480 or Baer-1 patent, the '507 or Rusch-2 patent, and the '598 patent or BRH-3 patent.

January 15, 1968.	Baer applies for patent. ("Baer-1") Serial No. 697,798.
May 27, 1969.	Rusch applies for patent. ("Rusch-2") Serial No. 828,154.
August 21, 1969.	Baer-Rusch-Harrison apply for patent ("BRH-3"). Serial No. 851,865.
April 25, 1972.	Rusch-2 patent issued as U.S. Patent No. 3,659,284.
April 25, 1972.	BRH-3 patent issued as U.S. Patent No. 3,659,285.
April 17, 1973.	Baer-1 patent issued as U.S. Patent No. 3,728,480.
April 25, 1974.	Rusch files application for reissue of the Rusch-2 patent.
April 25, 1974.	Baer-Rusch-Harrison file application for reissue of BRH-3 patent.
August 5, 1975.	Patent Office reissues Rusch-2 patent as U.S. Patent Re. 28,507 ("the '507 patent").
October 28, 1975.	Patent Office reissues BRH-3 patent as U.S. Patent Re. 28,598 ("the '598 patent").

June 27, 1977.	Baer files application for reissue of Baer-1 patent.
January 10, 1977.	Claims of the BRH-3 patent alleged to be infringed in Magnavox v. Chicago Dynamics Industries, 201 U.S.P.Q. 25 (N.D. Ill. 1977) found invalid and obvious in light of Rusch-2 patent.
April 23, 1982.	Patent Office Primary Examiner finally rejects 78 of the 96 claims of the Baer-1 patent. Matter pending before Board of Patent Appeals.

APPENDIX B

Set forth on the following page is the text of the allegedly infringed claims of Rusch-2. The elements of these claims and the relationship of the claims to each other can be described briefly: Claims 25, 51 and 60 are each independent claims and each purports to recite the same three elements: means for generating two symbols, means for detecting coincidence between the symbols, and means for imparting a distinct motion. (Claims 25 and 51 are identical except that Claim 25 begins with the clause "In combination with a standard television receiver.") Claim 60 attempts to cover these same three elements on a television monitor. Claims 26, 52, 61 and 62 are "dependent" claims to Claims 25, 51, 60 and 61, respectively and thus rise or fall depending upon whether the claims on which they depend are found to be infringed.

25. In combination with a standard television receiver, apparatus for generating symbols upon the screen of the receiver to be manipulated by at least one participant, comprising:

means for generating a hitting symbol, and

means for generating a hit symbol including means for ascertaining coincidence between said hitting symbol and said hit symbol and means for imparting a distinct motion to said hit symbol upon coincidence.

26. The combination of claim 25 wherein said means for generating a hitting symbol includes means for providing horizontal and vertical control signals for varying the horizontal and vertical positions of said hitting symbol.

51. Apparatus for generating symbols upon the screen of a television receiver to be manipulated by at least one participant, comprising:

means for generating a hitting symbol; and

means for generating a hit symbol including means for ascertaining coincidence between said hitting symbol and said hit symbol and means for imparting a distinct motion to said hit symbol upon coincidence.

52. The combination of claim 51 wherein said means for generating a hitting symbol includes means for providing horizontal and vertical control signals for varying the horizontal and vertical positions of said hitting symbol.

60. Apparatus for playing games by displaying and manipulating symbols on the screen of a cathode ray tube comprising:

means for generating vertical and horizontal synchronization signals;

means responsive to said synchronization signals for deflecting the beam of said cathode ray tube to generate a raster on said screen;

means coupled to said synchronization signal generating means and said cathode ray tube for generating a first symbol on said screen at a position which is directly controlled by a player;

means coupled to said synchronization signal generating means and said cathode ray tube for generating a second symbol on said screen which is movable;

means coupled to said first symbol generating means and said second symbol generating means for determining a first coincidence between said first symbol and said second symbol; and

means coupled to said coincidence determining means and said second symbol generating means for imparting a distinct motion to said second symbol in response to said coincidence.

61. The apparatus of claim 60, further including:

means coupled to said synchronization signal generating means and said cathode ray tube for generating a third symbol on said screen at a position which is controlled by a player;

means coupled to said third symbol generating means and said second symbol generatin means for determing a second coincidence between said third symbol and said second symbol; and

means coupled to said second and third symbol coincidence determining means and said second symbol generating means for imparting a distinct motion to said second symbol in response to said second coincidence.

62. The apparatus of claim 61 further including means for causing said second symbol to travel across said screen from one side of said raster to another side of said raster in the absence of an occurrence of coincidence between said second symbol and said first or third symbol after coincidence of said second symbol with said third or first symbol.

APPENDIX B

Allegedly Infringed Claims
of Rusch - 2 Patent

United States Court of Appeals for the Federal Circuit

EWP CORPORATION, and LA SOCIETE TREFILUNION, Plaintiffs-Appellees,	)	
v.	)	Appeal No. 84-711.
RELIANCE UNIVERSAL INC., and EXPOSAIC INDUSTRIES, INC., Defendants-Appellants.	)	

DECIDED: February 21, 1985

Before RICH, DAVIS, and BALDWIN, Circuit Judges.

RICH, Circuit Judge.

This appeal is from the judgment of the United States District Court for the Southern District of Ohio entered after a bench trial, holding the single method claim of U.S. Patent No. 3,578,036 (Francois or '036 patent) valid and Exposaic Industries, Inc. (Exposaic), liable for both contributory infringement and inducement to infringe under 35 USC 271(c) and (b), respectively. 221 USPQ 542. Direct infringement by Reliance Universal Inc. (Reliance) under §271(a) was admitted. We reverse.

Background

EWP Corporation is an Ohio corporation and a wholly-owned subsidiary of Price Brothers Company, a major manufacturer of reinforced concrete pipe, machinery for making pipe, and wire

mesh used as reinforcing material in concrete pipe. La Societe Trefilunion, assignee of the Francois patent in suit, is a French corporation, operating in France, and is also a manufacturer of wire reinforcing mesh.

Appellant Exposaic is a North Carolina corporation that manufactures welded wire mesh intended for use as reinforcing material for concrete products, including concrete pipe, but it does not itself manufacture concrete pipe. Appellant Reliance is an Ohio corporation that manufactures concrete pipe and purchases wire mesh reinforcing material from Exposaic.

EWP is the exclusive licensee of Trefilunion with the right to grant sublicenses and to bring suit in its own name against any infringer of the '036 patent, which is entitled "Lattice for the Reinforcement of Tubular Concrete Elements Having a Socket[,] Method for Producing Said Lattice and the Products Obtained." It discloses a method for producing wire mesh reinforced concrete pipes having a socket or bell that forms a flared end suitable for mating with the straight end of an adjacent pipe and the product produced thereby but claims only the method of producing the wire reinforcement.

The single claim of the patent reads:

> A method for producing a reinforcement having a socket for a reinforced concrete tubular element having a socket, from a lattice having warp wires and weft wires and wherein a number of the warp wires have successive deformed non-rectilinear portions, the deformations of said portions being permanent and such that, upon exertion of tensile stress thereon, said portions can be at least partially straightened, whereas the other warp wires and all the weft wires are rectilinear, said method comprising, in a first stage, forming a prereinforcement by bending and closing onto themselves, in

the form of welded rings, the transverse wires of a section of said lattice, said section being such that the transverse wires corresponding to the socket, and only these wires, have a succession of permanently deformed nonrectilinear portions so that they have an apparent perimeter equal to the perimeter of the nondeformed transverse wires of the rest of the prereinforcement but a real length substantially greater than said perimeter, then, in a second stage, radially expanding the prereinforcement so as to elongate at least partially said nonrectilinear portions of the transverse wires of its socket and impart thereto an apparent perimeter which is substantially greater than that of the rest of the prereinforcement and corresponds to that of the desired socket of the reinforcement.

Figures 1, 2, and 3 of the '036 patent are reproduced below:

FIG.1

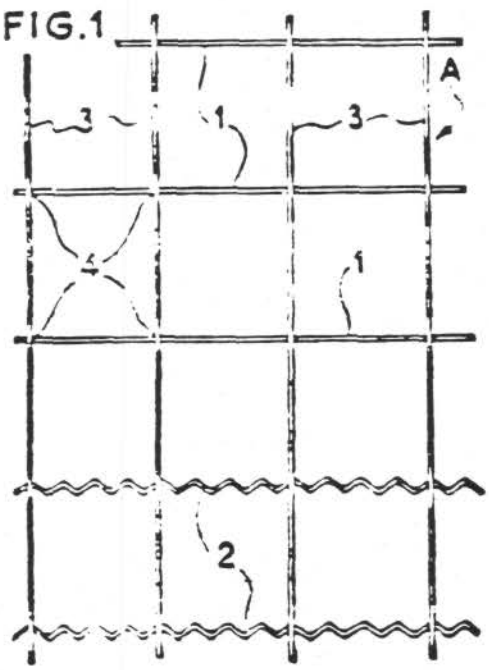


FIG.2

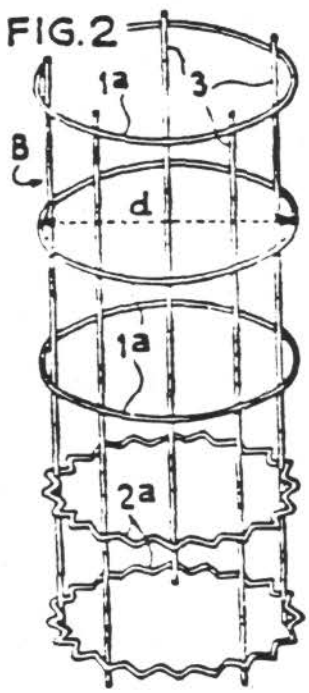
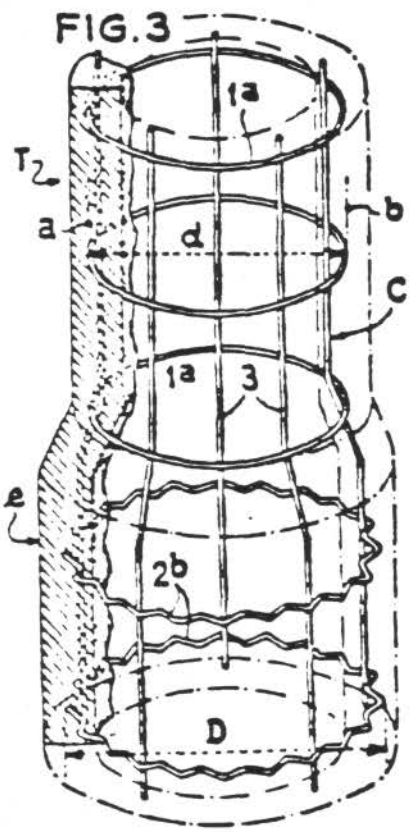


FIG.3



As shown, the flat lattice or mesh A of Fig. 1 has warp wires 1 and 2 and weft wires 3 intersecting at right angles and being welded together at their intersections. This lattice is bent and welded into a cylindrical form, or prereinforcement, shown as B in Fig. 2. Transverse circular rings 1a and 2a are formed from the warp wires 1 and 2 of the mesh. Warp wires 2a have convolutions, corrugations, or other nonrectilinear portions such that these rings can be expanded in diameter, by use of appropriate apparatus, and undergo an increase in circumference as shown in Fig. 3. The claimed method is thus a procedure for producing such a reinforcement cage. Fig. 3 also shows in section a portion of concrete pipe T poured and molded around the cage, thereby forming a pipe with a tubular body having a mean diameter d, extending from a to b, and a socket portion e.

The preamble section of the patent specification states that reinforcing concrete pipe with welded wire lattices was known but that, with respect to reinforcing the socket portion, since the "best steels do not have sufficient elongation characteristics to permit a large expansion without fracture," two situations existed. First, reinforcement of the socket portion had been avoided or, second, reinforcements had been made in two parts, one for the pipe body and a wider part for the socket, the two parts being connected by wires. The patentee's invention is then described, in summary fashion, by the following language which closely resembles that of the claim:

> The object of the present invention is to overcome these drawbacks.

> The invention provides a lattice of welded metal wires wherein a number of the warp wires have successive deformed nonrectilinear portions, the deformations of said portions being permanent and such that, upon exertion of tensile stress thereon, said portions can be at least partially straightened whereas the other warp wires and all the weft wires are rectilinear.
>
> Owing to their deformed portions, which may form folds, waves, fractions of a coil or any other sinuosities or convolutions, it is possible to elongate the corresponding warp wires and the lattice can undergo, in the portion pertaining to these wires, an expansion in the direction in which the warp wires extend.

After expanding extensively on this broad statement of the invention, the specification then explains the conversion of the lattice into the finished reinforcement for a section of concrete pipe as follows:

> Now, let is [sic] be assumed that it is required to construct a reinforcement for a concrete tubular element T having a socket e (Fig. 3). There is cut from the lattice according to the invention a section A (Fig. 1) whose dimensions correspond to the [sic] those of the reinforcement to be embodied in this pipe or tubular element T. This section can be cut at the site of construction of the pipes from a roll of lattice or in a factory and delivered to the site in the flat condition.
>
> * * * *
>
> The section A of lattice is bent and welded in the form of cylindrical blank or prereinforcement (B) (Fig. 2). * * *
>
> * * * *
>
> In order to change from the cylindrical prereinforcement B shown in Fig 2 to the final reinforcement C shown in Fig. 3, the prereinforcement B is mounted on a [sic] expanding machine for expanding the rings 2^a. This expansion is achieved by means of a known apparatus, such as an expansible mandrel controlled by hydraulic pneumatic or mechanical means and inserted in the rings 2^a.

> By means of it is [sic] apparatus, only the corrugated rings 2[a] are expanded and undergo both a mechanical circumferential elongation owing to the straightening of the corrugations or other deformations and an intrinsec [sic] elongation, that is an elongation in the fibers of the metal. [Emphasis ours.]

After this expansion step (the "second stage" of the method claim), the convoluted wire rings 2a of Fig. 2 become the similar but somewhat less convoluted wire rings 2b of Fig. 3 of enlarged diameter.

In the prosecution of the application for the patent in suit in the Patent and Trademark Office (PTO), the examiner cited only two prior art references, a Laswell patent and a Whitacre et al. patent, neither of which is relied on in this suit with respect to the validity of the claim in suit. The latter patent is on a machine for making welded, helical wire, pipe or post reinforcement cages capable of making cages of varying diameter. Laswell is even farther afield, being a wire structure used as spacer in composite, metal, vehicle floor panels not made of concrete. The patent does clearly disclose, however, the technique of first crimping a wire reinforcement and thereafter lengthening the wire by putting the crimped wire under tension to remove the crimp.

Having considered the careful review of the prior art by the district court and the briefs in this court, we set forth below what appears to us to be the prior art most relevant to the method claimed in the patent in suit.

German patent 694086 was issued (ausgegeben) 25 July 1940 and received in the U.S. PTO November 12, 1940. It relates to the making of hollow reinforced concrete bodies such as pipes, among other things, containing longitudinal iron reinforcing rods which are connected together by "transverse reinforcements." Figs. 1 and 2 of the patent are reproduced:

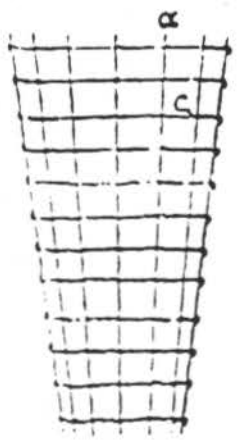


Abb. 1

Abb. 2

Fig. (Abb.) 1 shows reinforcing "cage wires," to use appellees' term, a being the longitudinal wires and c the "transverse reinforcement, consisting of corrugated spiral wire." In other words, the transverse member c is a "corrugated wire" wrapped spirally around the long wires a. In the process described in this patent, a hollow member such as a pipe is made of two layers in a mold. First, an outer layer is formed and the cage is placed inside it and then pressed outwardly -- expanded -- by a mandrel or "press core" into the first layer of wet concrete. The process is shown in Figs. 5 and 7, redrawings of which we take from appellees' brief:

FIG-5

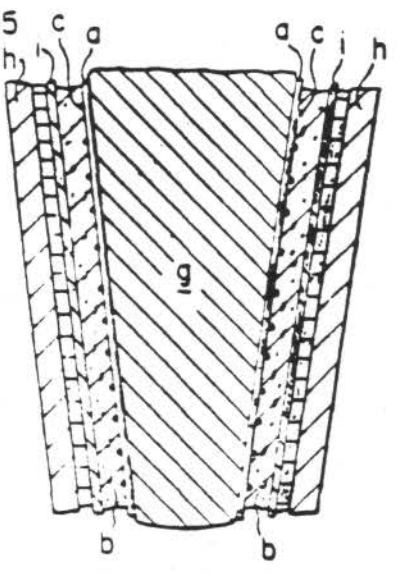


FIG-7

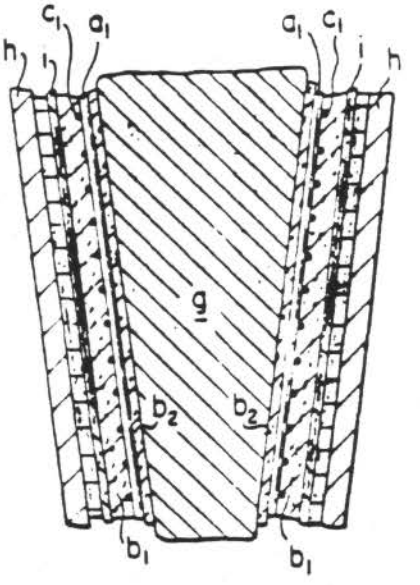


Fig. 5 shows a lined mold h - i, a first layer of concrete b and the cage elements a, c. The cage is being pressed outwardly into the concrete b by a tapered mandrel g. Fig. 7 shows the same after cage a, c has been expanded and a second layer of concrete b_2 laid over and pressed into it by the mandrel. The patent says g is a "press core which is conically or cylindrically extensible." It also states, significantly for this case, "It is essential for the new invention to use extensible transverse reinforcements [c] which connect the long iron inserts [a]." (Our emphasis.) And again, "The process consists in that after formation of the outer concrete wall, the reinforcing rings * * * corrugated overall are expanded by internal pressure without springing back, upon which the internal concrete wall is formed."

The other most relevent prior art, in our view, is French patent 1,474,698 issued to the German firm, Sudwestahl G.m.b.H., entitled "Lattice Reinforcement for Reinforced

Concrete Construction" and disclosing a wide variety of reinforcing elements or structures which may be prefabricated and "permitting modification of the distance between reinforcing bars within determined limits." Below are some of the more pertinent illustrations followed by related statements from the specification:

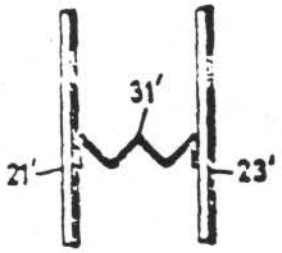


FIG.10

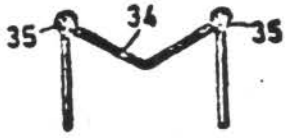


FIG.11

FIG.17

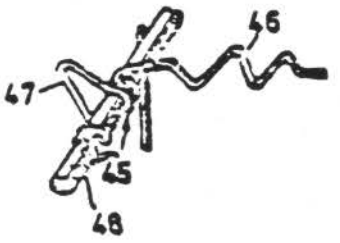


FIG.14

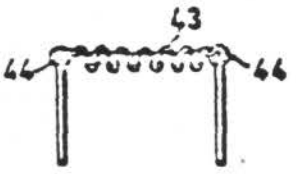


FIG.15

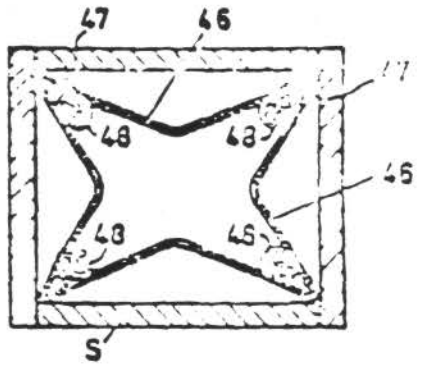


FIG. 16

In the above figures, longitudinal reinforcing members are shown at 21', 23', 35, 44, 48, and transverse or linking wires having a variety of bends, undulations, or zigzags to permit extension at 31', 34, 42, 43, and 46. The following general statements are from the specification:

According to the invention, two or more reinforcing elements, such as mutually parallel bars, are interconnected such that a lateral displacement of these bars with respect to each other is possible to match the reinforcing element to the desired dimensions; for transportation requirements, the individual elements can be compressed such that the bars touch each other.

The linking elements are flexible but nevertheless rigid enough. They are composed of wires or strips which can be welded to the reinforcement bars, crimped, tied, or fixed in some other appropriate manner, for example by means of a movable sleeve or by another like piece.

The linking elements, in the form of wire or of flat strips, maintain the bars at a controllable and determined mutual spacing, and can likewise have one or more folds, i.e., can be folded in a zigzag form so as to be more or less stretched according to the desired distance between the reinforcing bars to be connected together.

* * * *

In place of zigzag linking elements provided with folds, it is possible to utilize spiral linking elements which, in their length, can be extended or compressed to a greater or lesser extent in order to keep the reinforcing bars at the predetermined desired distance. [Emphasis ours.]

Although diametrical expansion of reinforcement rings is not expressly disclosed, the use of the reinforcements for pipe was not remote from the thinking of this patentee. The following appears:

To reinforce pipes, a reinforcing element according to the invention can likewise be used. In such an element, the closed rings, mutually parallel and embodied as reinforcing bars, are kept together by the linking elements such that the distance between the rings can be regulated to a determined value, preferably by twisting them. [Emphasis ours.]

Fig. 19, below, is a reinforcing element for pipes as described in the preceding paragraph. Having no crimped wires, it is not particularly relevant here, but is included for completeness.

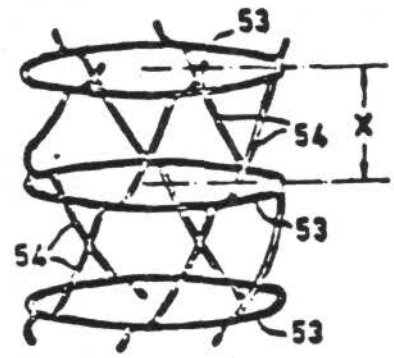


FIG. 19

In discussing this reference, the trial judge, closely tracking the testimony of appellees' professorial patent expert witness, Dr. Starkey, instead of applying the more relevant teachings of this patent to the issue of obviousness, concentrated on Fig. 19 because it related to pipe. He then found "significant differences" between the Francois invention and the invention of French '698 saying the latter has "flexible 'linking elements'," whereas Francois has "no linking elements as such," although the crimped wires of Francois shown as 2, 2a, and 2b, supra, link the longitudinal, initially parallel wires 3 which, in the words of French '698, "can be . . . more or less stretched according to the desired distance between the reinforcing bars." Compare Figs. 2 and 3 of the patent in suit, supra, where the lower ends of the bars 3 have been moved farther apart by stretching the crimped wires from the 2a to the 2b size. It is not Fig. 19 that is significant in this case, but the other clear teachings

of the reference. The "expert" testimony misdirected the court's thinking.

OPINION

The Obviousness Question

Whether the single claim of the Francois patent in suit is valid under 35 USC 103 is a question of law and that question is freely reviewable by this court. Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966); Gardner v. TEC Systems, Inc., 725 F.2d 1338, 1344, 220 USPQ 777, 782 (Fed. Cir. 1984). The PTO examiner did not cite the German or French '698 patents against the '036 patent application. Therefore, in considering obviousness, we have no PTO view before us on obviousness in view of those references and appellants' burden of proof under 35 USC 282 is more easily carried. American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1359, 220 USPQ 763, 770 (Fed. Cir. 1984). It is our view that the claim is invalid because its subject matter would have been obvious to a person having ordinary skill in the wire reinforcement art at the time the invention was made.

The district judge made what appears to be a detailed and careful analysis of the prior art and, indeed, we agree with much of it, including his discarding of several prior art references on various grounds as lacking pertinence. The bases of our disagreement are few but fundamental and fairly simple. In explaining them we shall discuss only the most relevant prior art references and the teachings of the Francois patent itself. Speaking generally, the district court's opinion, in its

discussion under the heading "II. Nonobviousness," takes what we deem to be an erroneous approach to the issue in comparing the Francois invention with the prior art. In the first place, the approach seems to regard the invention as tied to the making of concrete bell and spigot pipe and to appraise the pertinence of each reference individually on that basis. As we view the method of the single claim in suit, however, it is not a method of making concrete pipe, of bell and spigot type or otherwise, notwithstanding the reference in the claim to "reinforced concrete." The method pertains only to making a wire reinforcement of tubular or cylindrical form, an end portion of which can be enlarged in diameter, if desired, by stretching.

A major portion of the "prior art," under §103 is actually recited in the Francois patent.*/ It is there explained that "It is already known to employ a lattice for reinforcing concrete tubular elements . . . ." For what is meant by the term "lattice," see Fig. 1, supra. It is next stated that "the best steels do not have sufficient elongation characteristics to permit a large expansion without fracture." That is to say, the lattice, made into tubular form and welded, cannot be stretched enough to fit bell and spigot pipe without breaking some circular wires. That was the problem faced by Francois. His

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*/ Appellee's brief makes the same point in arguing that the best prior art was therefore before the PTO. But it must be considered, under §103, in conjunction with art that was not before the PTO in deciding whether the claimed invention would or would not have been obvious -- a legal conclusion which is not based on the operation of Francois' brain but is the court's appraisal of what would have been obvious to one of ordinary skill in the art aware of the disclosures of all of the prior art.

solution was to include in the part of the lattice he wished to enlarge "a number of warp wires [which] have successive deformed nonrectilinear portions." With them, the patent states, "it is possible to elongate the . . . warp wires and the lattice can undergo, in the portion pertaining to these wires, an expansion in the direction in which the warp wires extend." To produce the desired expansion, the cylindrical cage (Fig. 2) is "mounted on a [sic] expanding machine .... This expansion is achieved by means of a known apparatus such as an expansible mandrel . . . ."

It would be going too far, as a matter of patent law, to agree with appellants' brief that the "solution to the problem of wire breakage would seem to be dictated by the most elementary common sense." But we can say the solution would have been obvious to the hypothetical person of ordinary skill postulated by 35 USC 103 if we find evidence of prior art which shows he would have been presumed to know that the way to make a reinforcing wire expansible is to corrugate or crimp it. See Kimberly-Clark Corp. v. Johnson & Johnson, 745 F.2d 1437, 1449, 223 USPQ 603, 614 (Fed. Cir. 1984). German patent 604,086 is such evidence and further evidence is provided in French patent '698. We can express full agreement with the following statement in the trial court's opinion:

> It cannot be denied that the Francois invention is strikingly simple. Yet, simple and obvious are not synonymous terms. It is perceived that the invention depends for its successful operation upon two simple principles: a steel wire of a given length can be deformed or bent into a smaller apparent length, and then later be stretched back closer to its original length; and further, if the deformed wire is bent into a circle before it is stretched, the stretching

> will result in a circle with a larger diameter. Of all the prior art references relied on by defendants, the German '086 patent clearly exhibits the greatest similarity to the Francois invention. As noted, the German patent discloses a wire lattice reinforcement for concrete whose circumferential wires are corrugated, and thus "extensible." The German patent, like the Francois patent, then discloses the use of a mandrel to exert radial force upon these circumferential wires for the purpose of stretching them and expanding their circumference. These aspects of the German patent and the Francois patent are thus, in principle, the same.

What the law requires us to disagree with is the trial court's disregard of the clear teaching of the German patent to corrugate or crimp wires which one wishes to expand or stretch because of "significant differences" it found "between the German invention and the Francois invention." (Our emphasis.) That was the erroneous approach of appellees' expert witness. The court said, "Unlike the Francois patent, the German patent discloses nothing with respect to the formation of a socket or bell. All of the circumferential wires are corrugated . . . to the same extent." And so on. Such differences are irrelevant. A reference must be considered for everything it teaches by way of technology and is not limited to the particular invention it is describing and attempting to protect. On the issue of obviousness, the combined teachings of the prior art as a whole must be considered.

We cannot escape the conclusion that Francois did no more than apply the presumed knowledge of the art to provide an obvious solution to a simple problem: use crimped wire where there is a need in a subsequent forming step to expand or stretch it. That presumed knowledge was, of course, available

suit, provided with "successive deformed non-rectilinear portions," which means the same thing.

In reaching our conclusion that the invention claimed would have been obvious, we have considered the evidence and arguments pertaining to the so-called "secondary considerations" such as commercial success, licensing, adoption by the industry, etc. Upon full consideration of all the evidence, we remain convinced that it presents a clear and very strong case of obviousness based on admissions and the teachings of the new references above considered.

When, as happened here, the PTO issues a patent because the examiner did not consider prior art teaching the very technique essential to the claimed invention -- crimping of wire which is to be stretched later -- it is not unusual to see astute businessmen capitalize on it by erecting a temporarily successful licensing program thereon. Such programs are not infallible guides to patentability. They sometimes succeed because they are mutually beneficial to the licensed group or because of business judgments that it is cheaper to take licenses than to defend infringement suits, or for other reasons unrelated to the unobviousness of the licensed subject matter. Such a "secondary consideration" must be carefully appraised as to its evidentiary value and we have tried to do that here.

Concluding that the patent is invalid under §103, we deem it unnecessary to reach the other issues of infringement, inducing infringement, contributory infringement, damages, etc.

For the foregoing reasons, the decision below is reversed.

REVERSED

EWP CORPORATION, and LA SOCIETE TREFILUNION, Plaintiffs-Appellees, v. RELIANCE UNIVERSAL INC., and EXPOSAIC INDUSTRIES, INC., Defendants-Appellants.	)	Appeal No. 84-711

DAVIS, Circuit Judge, concurring:

I join Judge Rich's opinion but write separately because of the need to explain more in detail why, to my mind, the "secondary considerations" do not in this case outbalance the "clear and very strong case of obviousness based on admissions and the teachings of the new references" (as the majority opinion properly puts it). The District Court found (a) "convincing evidence" that the invention involved here "filled a long felt and serious need in the reinforced concrete pipe industry"; (b) this invention had a strong impact on that industry (in this country) in that "virtually every manufacturer of wire mesh" for this kind of pipe not only sought and obtained a license but also abandoned prior art methods of bending and welding bells in reinforcement cages; and (c) there was sufficient motivation and effort toward discovering a new method but this was not accomplished for a considerable period of time.

Appellants correctly point out that these findings (particularly those as to the supplanting of prior methods) are overstated, but there can be no doubt that the invention of the '036

patent became very successful and has been much used. Nevertheless, I agree that this ample fulfillment of need does not prevail to show non-obviousness. First, as Judge Rich's opinion shows, the invention was very, very clearly foreshadowed by the pertinent teachings of the German and French patents. Second, it seems to me not significant (though the trial court thought it very important) that the invention "wasn't developed sooner." The simple fact probably is that those teachings of the German and French patents were actually not well-known even in the pertinent art, but under the settled rule of § 103 that fact is irrelevant -- they were still part-and-parcel of the prior art even if they were not in fact well-known in the United States; they are an integral part of the "presumed" knowledge. To me, this lag between "actual knowledge" and "presumed knowledge," not legal non-obviousness -- together with the consideration mentioned by Judge Rich near the end of his opinion -- adequately explains the delay in the utilization of the invention. Third, the quick acceptance of the invention, once it was disclosed in this country, should be explained on the same basis. If the pertinent teachings of the German and French patents had been widely circulated to the wire reinforcement art in this country immediately after those patents issued abroad, I judge that the invention at issue would have been made very much earlier and would have attained like success. These are the reasons, in my view, why the "secondary considerations" fail to overcome the very strong case of obviousness from the admissions and the teachings of the references considered in the prevailing opinion.

PROOF OF SERVICE

I, Judy Scott, declare as follows:

1. I am a resident of the City and County of San Francisco, over the age of eighteen years and not a party to the within action. My business address is Three Embarcadero Center, Suite 700, San Francisco, California.

2. On April 17, 1985 I served the following documents:

Trial Brief of Activision, Inc.
Activision, Inc.'s Proposed Findings of Fact
Activision, Inc.'s Proposed Conclusions of Law
Activision, Inc.'s Designation of Deposition Excerpts
Activision, Inc.'s Designation of Plaintiffs' Responses to Interrogatories

by placing a true copy thereof enclosed in a sealed envelope with postage thereon fully prepaid, in the United States mail, addressed as follows:

Robert L. Ebe, Esq.
McCutchen, Doyle, Brown & Enersen
Three Embarcadero Center, 28th Floor
San Francisco, CA 94111

James T. Williams, Esq.
Neuman, Williams, Anderson & Olson
77 W. Washington Street
Chicago, IL 60602

I declare under penalty of perjury that the foregoing is true and correct and that this declaration was executed on April 17, 1985 at San Francisco, California.

Judy Scott

Judy Scott