IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

UNIVERSITY OF ILLINOIS FOUNDATION, Plaintiff and Counterclaim Defendant, -v- BLONDER-TONGUE LABORATORIES, INC., Defendant and Counterclaimant, -v- JFD ELECTRONICS CORPORATION, Counterclaim Defendant.	)	Civil Action No. 66 C 567

REPLY BRIEF OF PLAINTIFF UNIVERSITY OF ILLINOIS FOUNDATION

William A. Marshall,
Basil P. Mann,
30 West Monroe Street
Chicago, Illinois 60603
Area Code 312 - 346-5750
Attorneys for Plaintiff

Of Counsel:

Charles J. Merriam
MERRIAM, MARSHALL, SHAPIRO & KLOSE
30 West Monroe Street
Chicago, Illinois 60603

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INTRODUCTION

While we anticipated most of defendant B-T's arguments in our opening brief, a few points were raised in its answering brief which require comment. B-T's brief contained in addition many minor points with which we do not agree, but which are inconsequential. Accordingly, failure to comment on any particular argument made by B-T should not be construed as agreement by plaintiff to B-T's contentions.

Defendant's Motion to Dismiss

In its argument that the complaint should be dismissed because of a purported failure on the part of plaintiff to present a prima facie case, B-T is confusing a patentee's burden of presenting sufficient evidence to convince the Court that infringement exists, with the extent of the showing which must be made to establish a prima facie case of infringement sufficient to withstand a motion to dismiss.

All of defendant's arguments and its citations from legal precedents are apt only in connection with the ultimate burden of a plaintiff to establish infringement, rather than with the extent of the proof which must be made during a plaintiff's case in chief. It should be particularly noted that none of the cases cited by defendant relates to a situation in which the sufficiency of a patentee's prima facie showing of infringement was questioned. Rather, all the cases relate to the ultimate issue of whether infringement had been proved.

The cited decisions state only that a patentee has the burden of proving infringement, with which we agree, and that this infringement must exist in fact as well as within the language of the claims of the patent

in suit. Further, the decisions recognize that patents by their very nature may at times involve material of such technical complexity that a court does not understand the terms of the claim language. In situations of this type, the plaintiff, who has the ultimate burden of proof of infringement, obviously runs the risk of failure to discharge that burden in the event he does not provide an explanation of the technical aspects of the case so as to educate the court and thereby permit it to decide the issues of infringement.

On the other hand, it is the ultimate responsibility of the court to decide all questions of infringement and no amount of expert testimony or explanation of technical or complicated terms can remove this responsibility from the court. As Judge Learned Hand said in Kohn v. Eimer, 265 Fed. 900, 902 (2nd Cir. 1920):

> "Specifications are written to those skilled in the art among whom judges are not. It therefore becomes necessary, when the terminology of the art is not comprehensible to a lay person, that so much of it as is used in the specifications should be translated into colloquial language; in short, that the judge should understand what the specifications say. This is the only permissible use of expert testimony which we recognize. When the

> judge has understood the specifications, he cannot avoid the responsibility of deciding himself all questions of infringement and anticipation and the testimony of experts upon these issues is inevitably a burdensome impertinence." (Emphasis added).

In this case we provided sufficient background for the Court so that it could understand the meaning of the technical terms and phrases used both in the antenna industry and in the patents in suit. We further presented detailed evidence of the construction and manner of the operation of the accused B-T antennas. In short, all of the facts necessary for a decision by the Court on the issue of infringement were presented during our prima facie case. We did not, however, attempt to apply the claim language specifically to the accused structures during our prima facie case. Once all the necessary facts are presented, any attempt to apply specific claim language to the accused structures is, in reality, only argument, which is better left for the briefs. Admittedly, we could have supplied expert testimony along these lines, but this would have invaded the province of the Court, as Judge Hand noted in the Kohn case above.

In summary, our prima facie case presented all of the facts necessary for a decision by the Court on the issue of infringement. Our brief provided the argument which we believe will be helpful to the court in arriving at the proper conclusion on this issue. It should not be forgotten, however, that the brief is only argument, as would have been the testimony of any expert who purported to testify on the issue of infringement during our prima facie case.

Defendant's motion to dismiss should be denied.

VALIDITY OF THE ISBELL PATENT

1. The Winegard Decision

Our position concerning the finding of obviousness by Judge Stephenson in the Winegard case is set forth in our briefs in the appeal of that case, copies of which were submitted to the Court. It would do no good to repeat here the arguments made in those briefs relative to Judge Stephenson's findings.

The allegation in B-T's brief (footnote, page 5) that Mr. Harris admitted the truth of Judge Stephenson's "generalized statements" is incorrect. Mr. Harris

admitted (Tr. 205) only that a method was known for designing the general class of log-periodic antennas, not that every member or even most members of this class would in fact function as log-periodic antennas. This point was clarified in Mr. Harris's later testimony (Tr. 225-226). Further, the Jasik handbook (PX-55) and the DuHamel and Ore article (DX-6) clearly show that it could not be predicted which of the many structures included within such a general class would function as frequency independent antennas. See our main brief, pp. 12-14.

The failure of many structures satisfying the log-periodic design principle to function as antennas was demonstrated in our exhibits PX-30 to 38 and 51. The fact that these structures did not use simple linear dipoles is not significant, since prior to Isbell's invention no successful log-periodic antenna had ever been made using simple linear dipoles. Regardless of whether their shapes are esoteric, as contended by defendant, all of the structures shown in these exhibits 30-38 and 51, satisfy the log-periodic principle of repeating cell construction, which defendant alleges is a method for designing log-periodic frequency-independent antennas,

yet none of these structures was a satisfactory antenna.

With respect to PX-36, B-T appears to be arguing (brief, p. 6) that a crossed feeder is a necessary part of all log-periodic antennas. This is not true in fact, nor has any support for this argument been given by defendants. A crossed feeder is necessary in Isbell's class of log-periodic dipole arrays; it may or may not be necessary in other types of log-periodic antennas. There is no general requirement that in all log-periodic antennas the feeder must be crossed (Tr. 231). This is another indication of the unpredictability of the design for a successful log-periodic antenna.

In its argument (brief, p. 6) concerning Quarterly Report No. 1 (DX-7), defendant lifts small portions of the report out of context and bases its argument thereon, without showing what the quoted statements refer to specifically. The excerpts from page 2 relate to a class of antennas which are self-complementary (PX-55, p. 18-14) and are made of sheet metal, and these statements are limited to such structures. The fact is that both Isbell's dipole array and most other log-periodic antennas having practical use do not fall into this self-complementary category, and their

operation cannot be predicted, as recognized by the art. Further, B-T's comment concerning Isbell's planned investigation of thin linear elements ignores the fact that there are many varieties of log-periodic structures having thin linear elements, most of which do not work.

It is evident that defendant's attempt to characterize the operation of Isbell's antenna as "predictable" is at variance with the testimony of all the experts who have given an opinion on this subject, not only in this case but in the Winegard case as well. Moreover, the basis for the argument is lifted out of context and does not support the conclusions which B-T would like this Court to believe.

The purported concessions by Dr. Mayes and the Jasik handbook that the Isbell structure could be derived from prior art log-periodic arrays by reducing the angle between the booms to zero (brief, p. 7, footnote) are not concessions at all, but rather only hindsight recognition of the technical basis for the operation of the Isbell antenna. This recognition, however, occurred <u>after</u> Isbell's invention and does not show that the invention was obvious when it was made.

2. Purported Anticipation by DuHamel Patent 3,079,602 (DX-14)

Although the DuHamel patent discloses that the angle between the booms of the antenna may approach 0°, there is no teaching in this patent of the use of spaced dipoles. Each of the triangular elements 51(e), 51(d), 51(c), etc., in this patent is connected directly to its adjacent similar elements. Accordingly, there is no spacing between elements and therefore the arrangement cannot suggest Isbell's construction, in which the spacing between adjacent dipoles varies from one end of the array to the other. Since, in fact, each of the triangular elements is directly connected to each of its neighbors, there is no transmission line as such, corresponding to that used in Isbell, and therefore it cannot be said that the transmission line is transposed in connection between adjacent elements, as in Isbell.

There is, moreover, no disclosure or teaching in the DuHamel patent that his disclosed structures are made up of dipoles, simple or otherwise. Certainly, when the structure is in the preferred form wherein the two booms are angularly widely separated, the elements

of the structures are too far apart to operate as dipoles. In this respect, see also the discussion of DuHamel and Ore's log-periodic structures in Jasik's handbook (PX-55, p. 18-12), where they are described as non-planar, the obviously preferred embodiment.

There is, therefore, no suggestion to one skilled in the art that the triangular elements (not dipoles) having zero spacing between adjacent elements should be replaced by simple dipole elements of a variable spacing, in accordance with the Isbell patent. In making this argument, B-T is obviously using only hindsight, in the light of the teachings of the Isbell patent, rather than what would have been obvious to one skilled in the art at the time.

3. DX-8 (Q.E.R. 2) is Not a Statutory Bar

The reasons why Q.E.R. 2 (DX-8) is not a statutory bar are set out at length on pages 17-19 of our main brief. We need only add that Miss Johnson's testimony quoted on page 10 of B-T's brief indicate equivocation even in her own opinion as to whether Q.E.R. 2 was available to the public on April 30, 1959. There is certainly no proof that this was the case.

With respect to the cases cited by defendant, it should be noted that not one of them is directly applicable to the facts of the present case. Thus, there was no exposure of Q.E.R. 2 to the public for sale or otherwise; there was no deposit of Q.E.R. 2 in a library, nor was it ever put on file; there was no announcement of availability of Q.E.R. 2 to the public. In short, there was no act which indicated publication or any intent to publish Q.E.R. 2. Accordingly, this report cannot be a statutory bar.

4. The Channel Master K.O. Antenna Does Not Anticipate

The reasons why the K.O. antenna does not anticipate the Isbell patent were set forth in our main brief on pages 16 and 17. Defendant argues that the Isbell patent does not exclude the use of folded dipole elements, which defendant admits constitutes a difference between the K.O. antenna and Isbell's simple dipole array. Defendant has given no evidence of what one skilled in the art would understand concerning the obviousness of using folded dipoles in place of the simple dipoles of the Isbell patent. Mr. Harris, however, testified (Tr. 233) that there is no disclosure in the

Isbell patent which would indicate to one skilled in the art that any type of dipole other than the simple linear dipole illustrated therein could be used in the Isbell patent, and his testimony was not controverted.

The fact that the K.O. antenna reference was not listed among the cited prior art in the Isbell patent indicates only that the Patent Office did not consider this reference to be pertinent, rather than that it was overlooked by the Examiner. Artmoore Co. v. Dayless Mfg. Co., 208 F.2d 1, 4 (7th Cir. 1953). As we showed in our main brief (page 14), the Examiner applied the K.O. reference against at least one of the claims during the interference in which the Isbell patent was involved.

INFRINGEMENT OF THE ISBELL PATENT

Although we concede the Isbell invention contemplates "close" spacing between the planes of the dipole elements, nowhere does the patent indicate, as defendant contends, that the dipole elements must be located "as nearly coplanar as possible". In fact, the embodiment of the Isbell antenna depicted in Figure 2 of the patent shows a distinct separation between the

booms 17 and 18. One skilled in the art would understand that the closeness of the spacing refers to separation in terms of percentage of a wavelength (Tr. 196) and not to specific physical dimensions. The actual physical dimension constituting "close spacing" in one case would not necessarily be the same as that in the case of an antenna designed for a different frequency range. The term "substantially coplanar", as used in the claims of the Isbell patent, indicates only that the dipole elements must perform substantially as if they were in the same plane. This is certainly true of the dipole elements in the accused B-T antennas, which operate, as Mr. Harris testified (Tr. 97, 116), in substantially the same way to produce substantially the same results as those of the Isbell patent.

The fact that Blonder-Shenfeld patent 3,259,904 was allowed over the Isbell patent is not significant as indicating that the accused B-T antennas operate in any different manner from those of Isbell. All of the claims of the Blonder-Shenfeld patent have additional distinct limitations not found in the Isbell patent which presumably provide a basis for distinguishing over the Isbell patent. It is elementary, however, that infringement of

a patent is not avoided by adding elements to the patented combination, even though the new combination so formed may itself be patentable. Martson v. J. C. Penney Co., 353 F.2d 976, 985 (4th Cir. 1965). Accordingly, the fact that the Blonder-Tongue antennas are covered by the Blonder-Shenfeld patent is no evidence that they do not infringe the Isbell patent.

The so-called admission by Mr. Harris that the DuHamel structure was not coplanar (B-T brief, p. 16) was specifically limited to the vast majority of structures disclosed by DuHamel which are, in fact, described as not coplanar. It is only in the extreme limiting case (when the angle between the booms is 0°) that the halves of the DuHamel structure can be considered substantially coplanar. Mr. Harris did not, of course, testify as to this condition.

Further, Dr. Mayes did not testify, as B-T alleges (brief, pp. 16-17) that if the B-T antennas were modified to make them coplanar, "they would no longer operate properly". He testified only that the performance would deteriorate. This deterioration, however, would not prevent practical use of these antennas.

VALIDITY OF THE MAYES AND CARRELL PATENT

1. The Argument That The Invention Was Made by Another

Defendant's argument that the Mayes and Carrell invention was actually made by Mr. Turner is treated on pages 19-21 of our main brief. As we indicated there, the Mayes and Carrell invention included two concepts, namely, the use of V-dipoles and the operation at higher order frequencies. Although Mr. Turner may conceivably have suggested the use of V-dipoles, he made no contribution to the second concept of the invention, without which there is no benefit in the use of V-dipoles. Moreover, there is no support for B-T's contention (brief, p. 17) that "higher order frequency operation automatically results" from the use of V-dipoles. As shown in DX-10, following Turner's suggestion, V-dipoles in a log-periodic array "were tried with no significant change in performance."

The Carter patent 1,974,387 (DX-15) referred to by defendant shows the angle which a single V-dipole antenna should have in order to improve its directivity, as Dr. Mayes testified (Tr. 643). There is no teaching either in this patent or in any other prior art that

V-dipole elements could be combined in a log-periodic array to produce a structure having improved broad band capabilities, as covered in the Mayes and Carrell patent.

2. Purported Fraud in the Procurement of the Mayes and Carrell Patent

Defendant's contention that Mayes and Carrell perpetrated a fraud in the Patent Office in the procurement of their patent has been treated at length in our brief answering defendant's opening brief. Summarizing our argument there, there is no obligation on the part of any inventor to cite references to the Patent Office which do not anticipate his invention. Further, there is no evidence to show that Mayes and Carrell knew that the University reports were legal publications at the time their affidavit was made. Thus, there is no showing that Mayes and Carrell acted with fraudulent intent or reckless disregard of the facts, so that the fraud alleged by defendant has not been substantiated.

3. Alleged Improper Reissue of the Mayes and Carrell Patent

Although defendant states that the law concerning the proper grounds for obtaining a reissue patent is

very clear, it offers no decisions to support its argument that the reissue of the Mayes and Carrell patent was invalid. In fact, the law quoted by B-T itself states that a patent may be deemed inoperative "...by reason of the patentee claiming more or less than he had a right to claim in the patent", and that a reissue patent may be granted under such circumstances. The Patent Office itself is the best judge of whether the provisions relating to the reissue of a patent have been met by an applicant. England v. Deere & Co., 284 F.2d 460 (7th Cir. 1960). The fact that the reissue patent was granted in this case is weighty evidence of its propriety, which has not been overcome by defendant's argument.

INFRINGEMENT OF THE MAYES AND CARRELL PATENT

Defendant relies on the same argument made in connection with the Isbell patent to support its contention that its products do not infringe the Mayes and Carrell patent. As we have shown, however, defendant's accused antennas use the same combination of elements and operate in substantially the same way to produce the same result as the invention covered by the Mayes

and Carrell patent (Tr. 112, 116). The argument that the dipole elements in the accused B-T antennas are not "substantially coplanar" cannot be supported. Infringement of the Mayes and Carrell patent is clear.

CONCLUSION

None of the defenses raised by defendant has any merit. Both of the patents in suit should be found valid and infringed by defendant's accused antenna structures.

Respectfully submitted,

30 West Monroe Street
Chicago, Illinois 60603
Area Code 312 - 346-5750

Attorneys for Plaintiff

Of Counsel:

Charles J. Merriam
MERRIAM, MARSHALL, SHAPIRO & KLOSE
30 West Monroe Street
Chicago, Illinois 60603

CERTIFICATE OF SERVICE

I hereby certify that a copy of the above and foregoing REPLY BRIEF OF PLAINTIFF UNIVERSITY OF ILLINOIS FOUNDATION was mailed to the following by first-class mail, postage prepaid, this 17th day of April, 1968.

Silverman & Cass
105 West Adams Street
Chicago, Illinois 60603

Hofgren, Wegner, Allen, Stellman & McCord
20 N. Wacker Drive
Chicago, Illinois 60606

Ostrolenk, Faber, Gerb & Soffen
Ten East Fortieth Street
New York, New York 10016

and

Rines and Rines
No. Ten Post Office Square
Boston, Massachusetts 02109

Basil P. Mann