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Case & Book number of TR # 52
JFD per [unclear] 652

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

THE 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

COUNTERCLAIM DEFENDANT'S TRIAL MEMORANDUM

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counterclaim defendant, JFD Electronics Company Division of Stratford Retreat House (hereinafter referred to as "JFD"), for unfair competition, anti-trust violations, and infringement of B-T's U. S. Patent No. 3,259,904. B-T also asserts additional counterclaims Counts IV and V seeking declarations of non-infringement, invalidity and non-enforceability with respect to each of The Foundation's patents in suit.

STATEMENT OF FACTS

The Foundation is the owner of valuable patent rights (issued patents and pending patent applications) in the field of so-called log periodic antennas based on inventions made in the Antenna Laboratory of The University of Illinois. Such patent rights include the two patents B-T is charged to infringe. In 1962 JFD became the exclusive licensee under these inventions for a period of 3 1/2 years and was required to pay royalties at different rates on devices covered by pending patent applications and issued patents. The initial agreement was replaced by a new agreement which extended the license for the lives of The Foundation's patents coming within the purview of the new agreement.

In the fall of 1962, JFD, operating under the license granted by The Foundation, introduced the first log periodic antennas for home TV reception to the market place. The market impact of the JFD log periodic antennas was such that virtually all other major antenna manufacturers soon introduced versions of log periodic antennas creating a situation where JFD was at a competitive disadvantage in the sale of log periodic antennas since JFD was required to pay royalties to The Foundation for the use of log periodic inventions whereas JFD's competitors were not making royalty payments.

Since the introduction of log periodic antennas by JFD, JFD in its advertising and packaging for such antennas has informed the industry that JFD was the exclusive licensee under patent rights owned by The Foundation in the field of log periodic antennas. In order to protect its patent position, The Foundation commenced suits against infringers of The Foundation's log periodic antenna patents and Actions are pending against most large antenna manufacturers.

Since the nature of log periodic antenna structures and infringement by B-T of The Foundation's patents will undoubtedly be treated in detail in the trial memorandum of The Foundation, this matter will not be discussed hereinafter, JFD being content at this time to rely on The Foundation's presentation concerning these points.

COUNTERCLAIM COUNT I - FOR UNFAIR COMPETITION

In Counterclaim Count I B-T alleges a conspiracy between The Foundation and JFD to improperly exploit log periodic antenna designs and patents. Admittedly, JFD manufactures and sells log periodic antennas under exclusive license granted by The Foundation and as consideration for such license JFD pays The Foundation a royalty based on the sales by JFD of log periodic antennas coming within the scope of The Foundation's patent rights. The Foundation does not control and is not consulted by JFD with respect to selling methods for and the actual construction of log periodic antennas manufactured by JFD. The Foundation, in line with its responsibilities to The University of Illinois, approves advertising created by JFD for licensed antennas

when such advertising refers to The Foundation or The University of Illinois.

The specific acts complained of by B-T are no more than the ordinary and accepted acts of a patent owner seeking to protect exclusive rights granted to the owner under the patent laws of the United States, and the acts of a patent licensee manufacturer-seller of a patented article seeking to protect its position in the market place against those competitors who choose to disregard such rights by infringing patents in question without being licensed thereunder.

Since The Foundation does not manufacture or sell antennas and JFD both manufactures and sells, JFD assumed the responsibility of obtaining and examining competitors' antennas as they appeared in the market place and where JFD believed an antenna to infringe a licensed patent, JFD so advised The Foundation. Suits were commenced only after The Foundation's attorneys were satisfied that infringement existed. Circulation of news releases by The Foundation advising commencement of actions under its log periodic antenna patents is no more than an accepted and lawful method

of advising an industry that a patent owner is enforcing its rights against infringers.

The theme of JFD's advertising in connection with its log periodic antennas is no different than the theme of competitors' advertising in that virtually all such advertising contains laudatory statements concerning the products in question. Many of JFD's advertisements seek to educate potential buyers to the fact that the log periodic antenna inventions in question originated at the Antenna Laboratory of The University of Illinois. These inventions are the basis of JFD log periodic antenna designs, and JFD's log periodic antennas are manufactured under license granted by The Foundation. JFD has not deceived the public as to the extent of the inventions coming within the purview of patent rights owned by The Foundation and the fact of the matter is that JFD has paid royalties to The Foundation for every log periodic antenna sold by JFD.

If the desirable performance attainable by utilizing the log periodic principle developed by The University of Illinois is obtainable by other means at competitive prices, why have virtually all major antenna manufacturers introduced

antennas made in accordance with the log periodic principle developed at the Antenna Laboratory of The University of Illinois. In particular, B-T upon entering the antenna field in 1963 chose to follow in every detail the log periodic principle developed by the Antenna Laboratory of The University of Illinois.

If the acts of JFD and The Foundation complained of by B-T actually created a concern in the trade that B-T would not be able to continue to supply antennas and that purchasers of B-T antennas would subject themselves to the risk of suits for patent infringement, such concern was well founded since there is no reasonable doubt that B-T's antennas infringe patent rights owned by The Foundation and that reselling of B-T antennas is an act of patent infringement. In this connection, it is noted that Allied Radio Corporation was one of the original defendants in the instant Action because Allied infringed The Foundation's Patent No. 3,210,767 by selling antennas manufactured by B-T. If B-T does not believe that this Court has jurisdiction over this matter, B-T should have made a special appearance and moved for dismissal. Since B-T has asserted five counterclaims in

this Action, B-T has accepted the jurisdiction of this Court and should not be permitted to complain that jurisdiction did not lie when this Action was commenced. In any event, if B-T was not amenable to process in this jurisdiction, suit would have been commenced elsewhere to stop B-T from infringing The Foundation's patents.

Paragraph 7f of the Amended Answer implies that "merely" because a B-T antenna was marked "patent pending" such antenna is not an infringement of The Foundation's Patent No. 3,210,767. The pending patent referred to is B-T Patent No. 3,259,904 in suit filed more than three years after the application for The Foundation's Patent No. 3,210,767. Said B-T patent is extremely narrow and is directed to a combination of old mechanical features for an antenna (not necessarily log periodic) while The Foundation's Patent No. 3,210,767 is very broad to a log periodic antenna structure utilizing dipole elements. The law is clear that an earlier broad patent may be infringed by a device covered by a later narrow patent. The patent grant does not permit a patent owner to make devices according to the teachings of his patent if by so doing he will infringe an earlier patent

owned by another. The patent grant merely gives the patent owner the right to exclude others from making, using or selling devices coming within the scope of his patent.

B-T complains that it never received a formal notice of infringement prior to commencement of this Action. The law does not require that an infringer be given "formal notice" of infringement. B-T was aware of The Foundation's Patent No. 3,210,767 since, at a time prior to commencement of this Action, such patent was cited by the Patent Office during prosecution of the B-T patent in suit, and paragraph 7a of the Amended Answer declares that B-T had been threatened with suit by The Foundation even before the issuance of The Foundation's Patent No. 3,210,767.

B-T's charge that many JFD antennas were changed in design to the twin boom design of B-T's antennas is without foundation. Prior to issuance of the B-T patent in suit and prior to B-T's first sale of log periodic antennas, JFD's consultant, Professor Paul Mayes, had constructed and used a so-called twin boom log periodic antenna for the reception of television signals. A photograph of Professor Mayes with the antenna in question appeared in the May 12, 1961 issue of The

Champaign-Urbana Courier on page 4 thereof. In addition, progress reports of the JFD research laboratory show that development of twin boom log periodic antennas by JFD commenced prior to issuance of the B-T patent in suit and prior to initial sales of B-T antennas. Any inventive features common to JFD and B-T antennas did not originate with B-T and any other common features were known to the art.

Contrary to B-T's allegations, JFD manufactures antennas according to the log periodic formula and the wording of notices by JFD containing patent information was never intended to deceive the public. Such notices were to inform the public that JFD was licensed under patents of The Foundation. When the form of JFD's early information notices was questioned, the form of such notices was changed.

Earlier notices by JFD were generally of the form:

"U.S. Patent Nos. 2,958,081 -- 2,958,879 --
3,011,168. Additional patents pending.
Produced exclusively by JFD Electronics under
license to University of Illinois Foundation."

while later notices (and present notices) are of the general

form:

"Licensed under one or more of U.S. Patents 2,958,081; 2,958,879; 3,011,168; 3,108,280 and additional patents pending in U.S.A. and Canada. Produced by JFD Electronics Corporation under exclusive license from The University of Illinois Foundation."

B-T does not complain that the later notices are in violation of 35 U.S.C. 292. The similarity of the early and later notices clearly shows that JFD never intended to deceive the public by the wording of the early notices. JFD's lack of intent to deceive is further born out by the fact that JFD has paid royalties to The Foundation because JFD believed that all of its log periodic antennas came within the scope of The Foundation's patent rights.

The employee alleged to have been induced by JFD to leave B-T and enter the employ of JFD is one Jerome Balash. Balash had become dissatisfied with his position at B-T and decided to leave before ever discussing the matter with JFD, and the initial overture was made by Balash to JFD. Fortunately for Balash, when he sought employment at JFD an opening existed since Mort Leslie, subsequently employed by B-T, was about to terminate employment at JFD.

It is also clear that Balash was not the "sole and key executive in B-T's antenna business" since at a time even before Balash contacted JFD looking for a new position, B-T had hired a new man to assume many of Balash's responsibilities in connection with antennas. Harry Gilbert, the general manager of B-T, testified on oral deposition that Balash was not the organizer of B-T's antenna business and that Balash had only nominal responsibilities in connection with antennas in May 1966, a time prior to Balash's decision to leave B-T.

The Foundation and JFD have not conspired as alleged by B-T, but have merely entered into a patent license agreement that is legal in all respects. In carrying out the spirit and letter of the patent license agreement, JFD's motives have been proper and JFD has used only lawful methods to achieve legitimate business purposes.

While fragmentary portions of the allegations made by B-T in its counterclaim Count I are true, it is clear that JFD has not competed unfairly with B-T in the sales of antennas.

COUNTERCLAIM COUNT II - ANTI-TRUST

B-T's Counterclaim Count II is predicated upon the same allegations as counterclaim Count I (for unfair competition) with an added allegation to the effect that JFD is one of the largest manufacturers of antennas in the United States. While the last allegation may be true, JFD has not tried to monopolize and does not even have the ability to monopolize the antenna field. The acts complained of by B-T have not lessened competition and the fact of the matter is that there is fierce competition in this field.

Even where the United States Government has granted to The Foundation exclusive rights embracing a limited area of the antenna field and JFD has acquired exclusive rights under this Government grant, JFD is faced with severe competition, even in this limited area, from many antenna manufacturers, including B-T, who have chosen to infringe these rights under which JFD holds an exclusive license.

Just as JFD has not competed unfairly with B-T, JFD has not violated the anti-trust laws of the United States.

COUNTERCLAIM COUNT III - PATENT INFRINGEMENT

A. B-T's patent in suit

Blonder et al Patent No. 3,259,904 in suit is directed to an antenna for receiving television and radio signals. Figure 1 of this patent illustrates an antenna, mounted to vertically extending mast M, which includes parallel horizontally extending conductors 1, 1' (otherwise known as booms) positioned one above the other. A plurality of dipoles 5-11 and 5'-11' are arranged with an element of each dipole connected to one of the booms and the remaining dipole elements being connected to the other boom and alternate elements on each boom extending in opposite directions. The dipoles gradually increase in length from the front to the back of the booms. Rigid insulators 2 and 4 maintain booms 1, 1' in spaced relationship with insulator 2 also maintaining the looped terminal portions 1'', 1''' at the forward ends of the booms in spaced apart relationship. Looped terminal portions 1'', 1''' are provided for electrical securement of parallel wire transmission line TL (otherwise known as twin lead) to the antenna. Guide por-

tions 2' and 4' formed integrally with the respective insulators 2 and 4 support the transmission line TL in the region between mast M and terminals 1'' and 1'''.

B. B-T Claim 5 is invalid

Plaintiff will probably call the attention of the Court to the presumption of validity arising from the granting of the patent. While there is such a presumption, it is greatly weakened when it can be shown that the prior art contains teachings more pertinent than any references cited against the patent during its prosecution before the Patent Office. As this Court has said,

"This presumption of validity is rebuttable and is weakened where, as here, the Examiner in the United States Patent Office did not have before him the closest prior art." B. & M. Corp. v. Koolvent Aluminum Awning Corp., 156 F. Supp. 691; aff. 257 F. 2d 264 (CA 7 1958).

Also see Hobbs v. Wisconsin Power & Light Co., (CA 7 1957) 250 F2d 100, 105; Kennatrack Corporation v. Stanley Works, (CA 7 1963) 314 F2d 164, 167; Day-Brite Lighting, Inc. v. Sandee Manufacturing Co., (CA 7 1961) 286 F2d 596, 597.

In the instant case, Technical Report 52 and prior art strain relief members were not cited against the Blonder et al application. JFD Chart 1 shows that all but one structural element of B-T Claim 5 is taught by Technical Report 52 and the said one structural element is a conventional strain relief member functioning in its ordinary manner. The Channel Master Line Lok and JFD Zip antenna are cited as examples of prior art strain relief members.

While this memorandum does not make specific reference to additional pertinent prior art which the patent Examiner failed to cite against the Blonder et al application for Patent No. 3,259,904, JFD's notices under 35 U.S.C. 282 contain many citations of such prior art.

B-T asserts only Claim 5 of the Blonder et al Patent No. 3,259,904 against JFD. In pre-trial testimony given by Isaac S. Blonder, one of the co-inventors of Patent No. 3,259,904 and an officer of B-T, the witness admitted that each of the structural elements set forth in Claim 5 was known to the prior art as it existed when the alleged invention of the Blonder et al patent was conceived. Technical

Report 52 prepared at the Antenna Laboratory of The University of Illinois and published in 1961 clearly shows all but one element of Claim 5 arranged in the precise combination specified in Claim 5 (see JFD Chart 1). The only element of Claim 5 possibly not found in Technical Report 52 is a "means for supporting the transmission line near the said one end", said "one end" being the end of the booms to which the transmission line is electrically connected.

Can it reasonably be said that it would not have been obvious to provide the antenna of Technical Report 52 with a means for supporting the transmission line near its point of securement to the booms when B-T's President admits that prior to his alleged invention it was known to secure strain relief members to antenna booms in the region of terminals for connecting a transmission line to the antenna? Certainly not!

Complete anticipation in a single prior art reference is not necessary to invalidate a patent claim. 35 U.S.C. 103 expressly provides,

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."

With respect to Sec. 103, the Supreme Court has stated that it

"was not intended by Congress to change the general level of patentable invention. We conclude that the section was intended merely as a codification of judicial precedents embracing the Hotchkiss condition." Graham v. John Deere Company of Kansas City (1966) 383 US 1, 17.

In line with the statute, this and other courts have repeatedly held that more than mechanical skill is necessary to support validity.

"Since Hotchkiss v. Greenwood, II Howard 248, 267, 13 L.Ed. 683, 691, was decided over a century ago, it has been recognized that, if an improvement is to obtain the privileged position of a patent, more ingenuity must be involved than the work of a mechanic skilled in the art." Noble Co. v. C. S. Johnson Co. 241 F 2d 469, 479; 112 USPQ 350, 357 (CA 7 1957).

Blonder et al did no more in providing the antenna described in Technical Report 52 with a strain relief means than to exercise ordinary mechanical skill and produce a perfectly obvious result. That step involved no more than supporting the transmission line in the region where it connects to the antenna.

Since, with the exception of a conventional strain relief means required by B-T Claim 5, all features recited by Claim 5 are admitted to be old by one of the co-inventors. The following decisions of the Supreme Courts are in point.

"The mere aggregation of a number of old parts or elements which, in the aggregation, perform or produce no new or different function or operation than that theretofore performed or produced by them is not patentable invention." Lincoln Engineering Co. of Illinois v. Stewart Warner Corp., (1938) 303 US 545, 549.

"Courts should scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements. The function of a patent is to add to the sum of useful knowledge. Patents cannot be sustained when, on the contrary, their effect is to subtract from former resources freely available to skilled artisans." A & P Tea Co. v. Supermarket Corp., (1950) 340 US 147, 152.

"He who is merely the first to utilize the existing fund of public knowledge for new and obvious purposes must be satisfied with whatever fame, personal satisfaction or commercial success he may be able to achieve. Patent monopolies, with all their significant economic and social consequences, are not reserved for those who contribute so insubstantially to that fund of public knowledge." Dow Chemical Co. v. Halliburton Oil Well Cementing Co., (1945) 324 US 320, 328.

In the assembly of old elements described by B-T Claim 5, the elements perform no function or operation not performed by them in prior art structures. Such an insubstantial contribution should not be permitted to sustain validity.

Claim 5 of Blonder et al Patent No. 3,259,904 is also invalid by virtue of a form of file wrapper estoppel. More particularly, patent Claim 5 evolved from application Claim 13 which was originally presented as depending from independent application Claim 12. Application Claim 12 was originally limited to a structure in which the mounting means for the antenna comprised rigid conductive extensions of the longitudinal conductors. By preliminary amendment dated May 5, 1965, Claim 12 was amended by deleting the aforesaid de-

tails of the means for mounting the antenna and substituting therefor:

"-- , rigid insulating means securing the said connecting means mechanically in spaced-apart relation and connected with means for supporting the transmission line near the said one end, and means for mounting the antenna at a region of the said conductors remote from the said one end, further rigid insulating means being provided for securing the said longitudinal conductors mechanically in rigid spaced-apart relation near the said region.--"

In the Office Action of 1-28-66, Claim 13 was indicated allowable if rewritten as an independent claim and Claim 12 as amended was rejected--.

"--on Isbell or Greenberg. Under 35 U.S.C. 103, there is no apparent patentable significance in providing various mechanical and clamp limitations -- other than design aspects or obvious mechanical expedients.--"

In the next amendment dated April 1, 1966, Blonder et al acquiesced to the rejection contained in the Office Action of 1-28-66 by cancelling amended Claim 12 and transferring all of the limitations thereof to Claim 13 (application Claim 13 as amended is patent Claim 5). The sole limitation which distinguishes application Claim 13 from cancelled application Claim 12 is:

"--the said vertical distance being less than the distances between the said successive points and less than the wave lengths of the said band.--"

This limitation is clearly taught by Isbell 3,210,767 especially as interpreted by B-T in the reasoning contrived by it in the hope of convincing this Court that B-T's structures do not infringe Isbell Patent 3,210,767. Referring more particularly to Figure 2 of the Isbell patent, it is seen that longitudinal conductors 17, 18 are spaced apart by a distance which is considerably less than the spacing between the closest dipole elements 19, 21. Further, the spacing between longitudinal conductors 17, 18 is considerably less than the combined lengths of the shortest dipole elements 19, 19a, and "--The shortest element should be about 0.38 wave lengths long at the upper limit.--" (Isbell 3,210,767, column 3, line 6 et seq.)

The limitations introduced by original application Claim 13 do no more than impose size limits on mechanical elements specified in cancelled application Claim 12. But we find that every mechanical element restricted by the limitations of original application Claim 13 is a mechanical

element found in Isbell 3,210,767 and the structure disclosed in Isbell 3,210,767 falls directly within the limitations specified in Blonder et al original application Claim 13.

B-T Claim 5 is also invalid in that it fails to accurately and precisely point out the limits of the alleged invention as required by 35 U.S.C. Sec. 112. See Halliburton Oil Well Cementing Co. v. Walker (1946) 329 US 1, 11; General Electric Company v. Wabash Appliance Corp. (1938) 304 US 364, 369.

C. JFD Antennas Do Not Infringe B-T Claim 5

The claims of a patent measure the extent of the grant, and express limitations in a claim cannot be ignored in the determination of infringement. Peters and Russell, Inc. v. Dorfman, (CA7 1951) 188 F2d 711, 714; Hobbs v. Wisconsin Power & Light Co., (CA 7 1957) 250 F2d 100, 109.

A patent lying in a crowded art is to be narrowly construed. Kennatrack Corporation v. The Stanley Works (CA 7 1963) 314 F2d 164, 166; Simmons Company v. A. Brandwein Co. et al (CA 7 1957) 250 F2d 440, 450; Flowers v. Austin-Western Co., (CA 7 1945) 149 F2d 955, 959.

A patent owner may not apply a narrow construction to his claim to avoid the prior art and then apply a broad construction when asserting a claim of infringement. Fife Manufacturing Company v. Stanford Engineering Co., (CA 7 1962) 299 F2d 223, 226.

Even if B-T Claim 5 could be given an interpretation which would bring the accused device within its literal scope, it would not necessarily follow that infringement exists.

"The patentee may bring the defendant within the letter of his claims, but if the latter has so far changed the principle of the device that the claims of the patent, literally construed, have ceased to represent his actual invention, he is as little subject to be adjudged an infringer as one who has violated the letter of a statute has to be convicted, when he has done nothing in conflict with its spirit and intent." Westinghouse v. Boyden Power Brake Co., 170 U. S. 537, 568 (1898)

"...but mere application of claim phraseology or a word by word correspondence is not alone enough to establish infringement (citing cases) nor is similarity of result (citing cases). There must be real identity of means, operation, and result... and if one produces the same results in a different way he does not infringe" Flowers v. Austin-Western Co., 149 F. 2d 955, 958; 65 U.S.P.Q. 545, 549 (CA 7 1945)

"... the mere reading of the claims on the accused structure does not connote infringement unless there is equivalency." Apex Electrical Mfg. Co. v. Maytag Co., 122 F. 2d 182, 187; 50 U.S.P.Q. 90, 95 (CA 7 1941)

B-T asserts that Claim 5 of the Blonder et al patent is infringed by JFD by virtue of its manufacture and sale of six different series of antennas, namely the LPV-UCL series, the LPV-CL series, the current and discontinued series LPV-VU, as well as the current and discontinued series LPV-TV.

Referring to JFD Chart 2A it is seen that antennas of the LPV-UCL series do not infringe B-T Claim 5 in that the antennas of the LPV-UCL series do not contain elements 4A, 6 and 7 of B-T Claim 5 and, with the exception of LPV-UCL 13, the antennas of this series do not contain element 5 of B-T Claim 5. More particularly, the spacing between dipole elements in the UCL series is substantially less than the spacing between the longitudinal conductors or booms so that claim element 7 is not met.

The means for mounting the antennas of the LPV-UCL series includes a rigid insulator and there is no additional

insulator at the mounting region so that claim element 6 is not present.

With the exception of the LPV-UCL 13 the remaining antennas of this series are mounted at a region adjacent to the ends of the booms having the shortest dipole elements so that claim element 5 is not present.

Without conceding the validity of B-T Claim 5, it is submitted that in order for this claim to avoid the precise teachings of the prior art (see JFD Chart 1), the "means for supporting the transmission line near the said one end" (claim element 4A) must be connected directly to the "rigid insulating means securing the said connecting means mechanically in spaced-apart relation---" (claim element 4) to form a unitary structure in accordance with the drawing and description of Blonder et al Patent 3,259,904. In the LPV-UCL series the strain relief element for the transmission line is remote from the insulating member having the terminals for connecting a transmission line to the antenna. This strain relief member is not connected to a rigid insulating means securing the transmission line connecting means mechanically in spaced-apart relation within contemplation of

claim element 4A.

Referring to JFD Charts 2B and 2C it is seen that claim elements 4A, 6 and 7 of B-T Claim 5 are not found in the antennas of the LPV-CL series nor are these elements found in the antennas of the current LPV-VU series. The discussion with respect to the LPV-UCL series concerning claim elements 4A and 6 is applicable to the antennas of the LPV-CL and the current LPV-VU series.

In the LPV-CL series the vertical distance between the longitudinal conductors or booms is greater than the distances between adjacent dipole elements formed of sheet metal while in the current LPV-VU series many of the spacings between adjacent dipole elements are less than the distance between the longitudinal conductors or booms so that claim element 7 is not present.

Referring to JFD Chart 2D it is seen that claim elements 4A and 6 of B-T Claim 5 are not found in the antennas of the current LPV-TV series for the reasons previously noted in the discussion concerning the antennas of the LPV-UCL series.

Referring to JFD Chart 2E it is seen that claim elements 4A and 6 of B-T Claim 5 are not found in the

antennas of the discontinued LPV-VU and discontinued LPV-TV series. The absence of claim element 6 has been discussed in connection with the LPV-UCL series.

With respect to claim element 4A on JFD Chart 2E, one of the Blonder et al co-inventors has taken the position that the parallel wires forming an impedance matching transformer interposed between the antenna booms and the conventional transmission line or twin lead is the parallel wire transmission line recited in claim element 3. Conceding this point for the moment, the insulators supporting these transformer wires are not, within contemplation of B-T Claim 5, connected to a rigid insulating means which maintains in spaced-apart relation the connecting means joining the transformer to the longitudinal conductors.

It is also submitted that "--parallel wire transmission line--" in claim element 3 is limited to the means which connects the antenna to a receiver or transmitter, as the case may be. The parallel wire transmission line is designated TL in both embodiments of the Blonder et al patent. An impedance matching device, interposed between the conventional parallel wire transmission line TL and the longitudinal conductors to which the dipole elements are

mounted, is not a "transmission line" in contemplation of B-T Claim 5 even though such impedance matching device may be formed of parallel wires.

The parallel wire impedance matching transformer found in the JFD discontinued LPV-VU and LPV-TV series of antennas is in some respects analogous to the conductors 20, 20' in Figure 2 of Blonder et al '904. Blonder et al elements 20, 20' are described as being impedance matching extensions of the longitudinal conductors and are otherwise designated as "transmission-line feed members 20, 20'" which connect conductors 1 and 1' to the transmission line TL. In the Blonder et al '904 embodiment of Figure 2 the parallel wire transmission line TL is connected to the antenna at a point remote from the ends of longitudinal conductors 1, 1' having the shortest dipole elements, just as in the JFD discontinued versions of the LPV-VU and LPV-TV antenna series wherein the conventional transmission line is connected to the antenna at a point remote from the ends of the booms having the shortest dipole elements. This being the case, claim element 4A is not met on the additional ground that there is no strain relief means near the ends of the booms having the shortest dipole elements.

CONCLUSIONS

JFD has not competed unfairly with B-T and has not violated the anti-trust laws of the United States.

Claim 5 of B-T U. S. Patent No. 3,259,904 is invalid and has not been infringed by JFD.

Dated: New York, N. Y.
April 21, 1967

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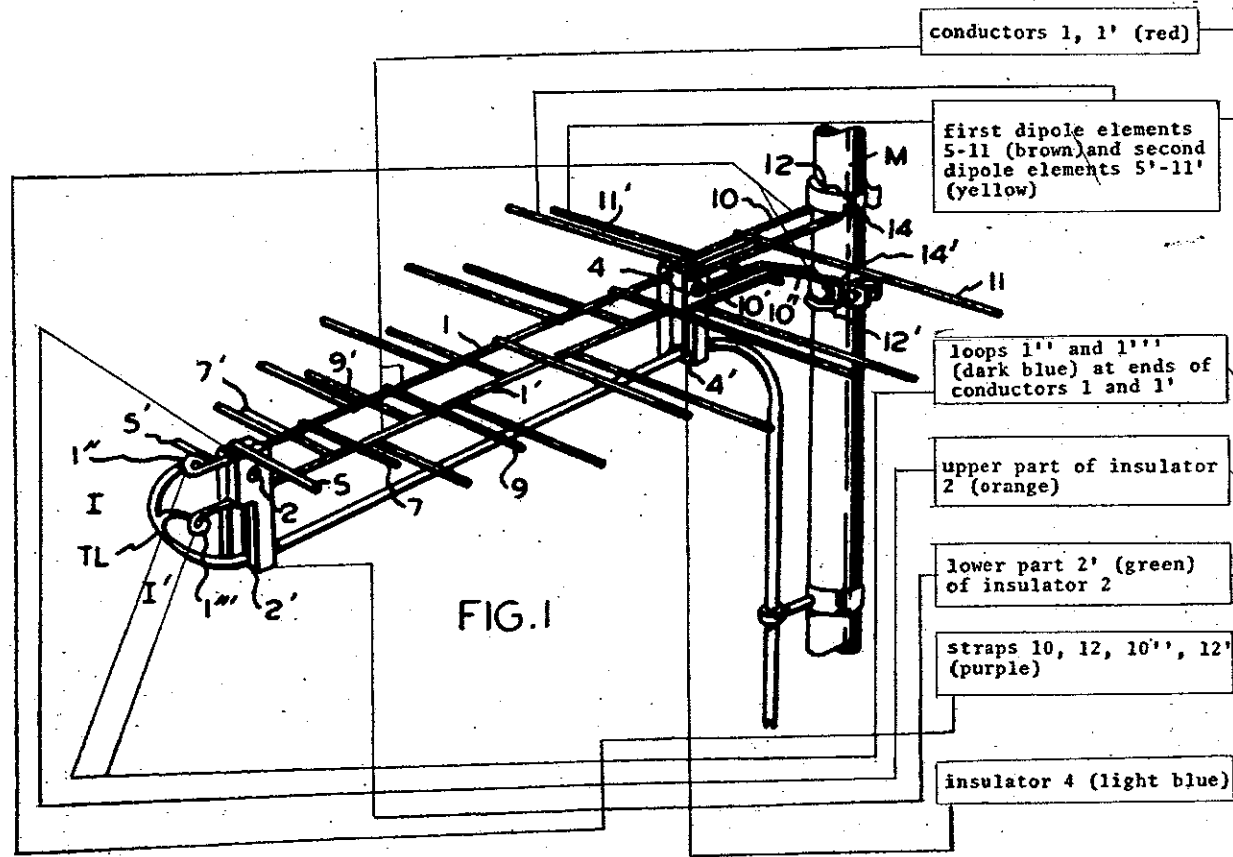
I. S. BLONDER ETAL
ANTENNA HAVING COMBINED SUPPORT AND LEAD-IN
Filed Nov. 21, 1963

3,259,904

July 5, 1966

I. S. BLONDER ETAL
ANTENNA HAVING COMBINED SUPPORT AND LEAD-IN
Filed Nov. 21, 1963

3,259,904



conductors 1, 1' (red)

first dipole elements 5-11 (brown) and second dipole elements 5'-11' (yellow)

loops 1'' and 1''' (dark blue) at ends of conductors 1 and 1'

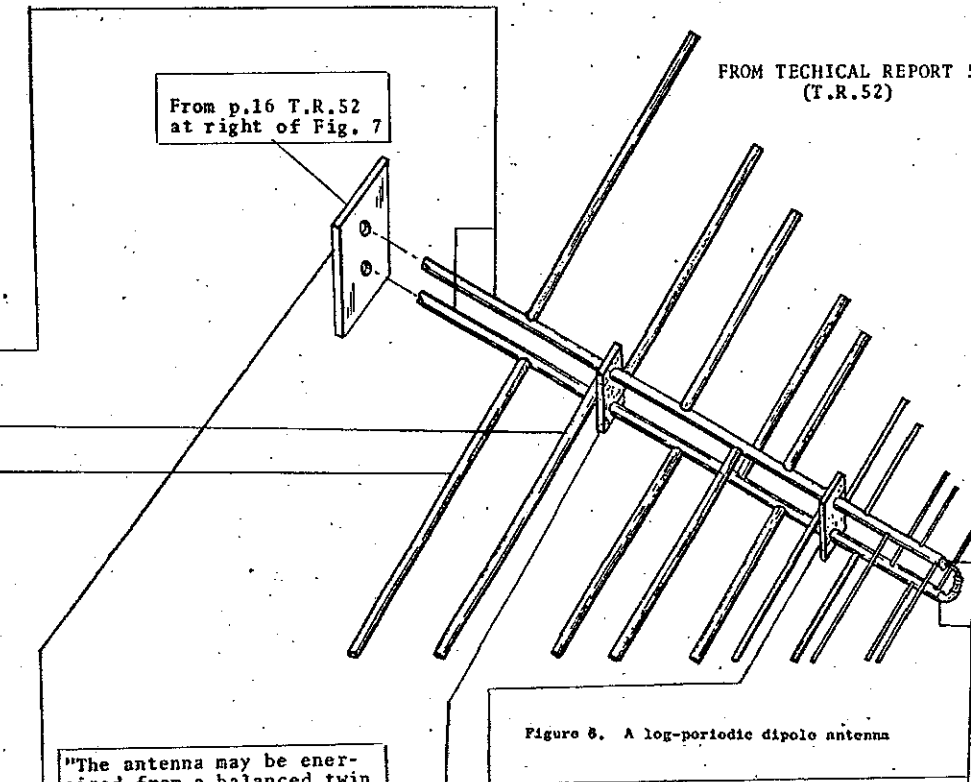
upper part of insulator 2 (orange)

lower part 2' (green) of insulator 2

straps 10, 12, 10', 12' (purple)

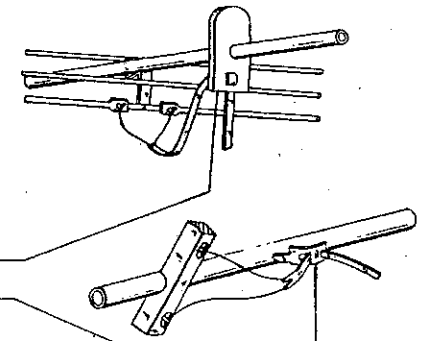
insulator 4 (light blue)

ELEMENT NO.	ANTICIPATION OF CLAIM 5 BY PRIOR ART (PARTICULARLY TECHNICAL REPORT 52)	IS ELEMENT FOUND IN T.R. 52?
INTRO	An antenna for operation over a predetermined frequency band, having, in combination,	YES
1	a pair or rigid longitudinal conductors held spaced a predetermined vertical distance apart in a vertical plane,	YES
2	first and second pluralities of dipole elements lying in corresponding first and second vertically spaced horizontal planes containing the respective conductors,	YES
2A	the dipole elements extending from opposite sides of and transversely at an angle to each conductor at successive points therealong with dipole elements connected to one conductor extending in opposite direction to the corresponding dipole elements of the other conductor,	YES
2B	the length of the dipole elements successively increasing from one end of the conductors towards the other end thereof,	YES
3	means for connecting a parallel-wire transmission line to the said one end of the conductors,	YES
4	rigid insulating means securing the said connecting means mechanically in spaced-apart relation	YES
4A	and connected with means for supporting the transmission line near the said one end,	NO, BUT
5	and means for mounting the antenna at a region of the said conductors remote from the said one end,	YES
6	further rigid insulating means being provided for securing the said longitudinal conductors mechanically in rigid spaced-apart relation near the said region,	YES
7	the said vertical distance being less than the distance between the said successive points and less than the wavelengths of the said band.	YES



"The antenna may be energized from a balanced twin wire connected at the junction of the feeder and smallest element. Alternatively, a coaxial line-- as shown in Figure 6 may be used.-- P. 18 T.R. 52.

it is obvious to provide an antenna with a strain relief member at any convenient location to support a transmission line where the latter electrically connects to an antenna as taught by the prior art as exemplified by:
-- Line Lok
-- Strain Relief on Zip Antenna



JFD CHART 1

IS ELEMENT
FOUND IN OLD
LPV-VU &
LPV-TV?

YES

YES

YES

YES

YES

YES

YES

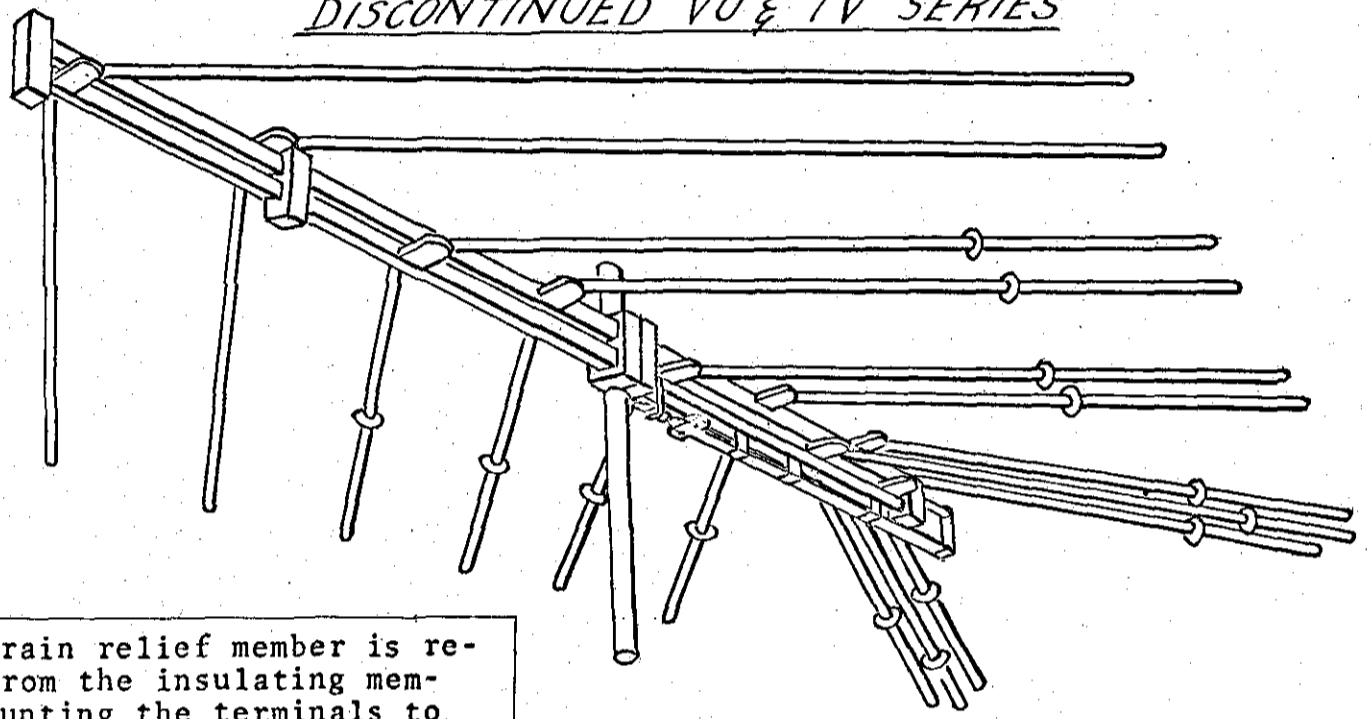
NO

YES

NO

YES

DISCONTINUED VU & TV SERIES

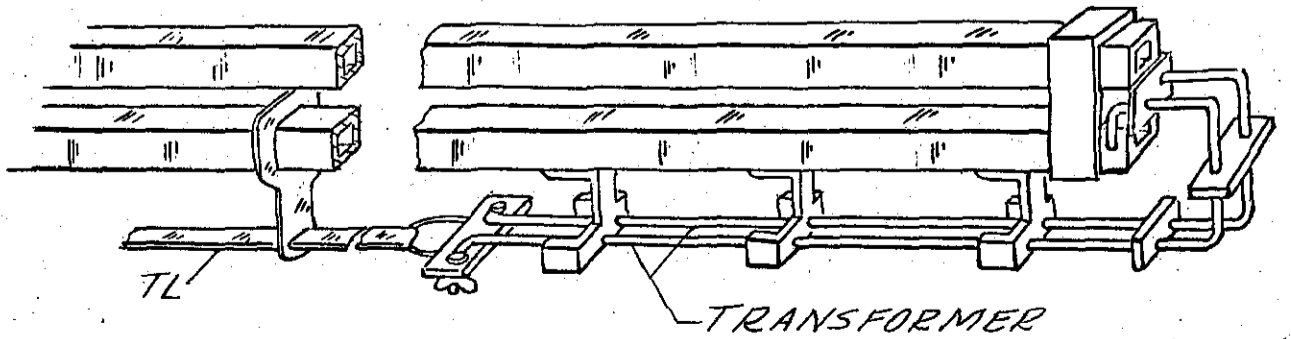


LPV-VU9

The strain relief member is remote from the insulating member mounting the terminals to which the transmission line connects. Hence, the strain relief and insulating members are no more connected together than each member of the antenna is "connected" to every other member by virtue of the fact that the antenna is a mechanical assembly of parts. Note that the Blonder et al strain relief 2' is integral with insulator 2 while in the JFD antenna the strain relief member is spaced from the member mounting the transmission line connecting terminals.

Further, the conductors forming an impedance matching transformer bring the transmission line connecting terminals to a point remote from "said one end of the conductors" and the strain relief for the transmission line connected to these terminals is even more remote from "said one end" than are these terminals.

There is no rigid insulating means other than claim element 5 in the region where the antenna mounts to the mast.



IS ELEMENT
FOUND IN
NEW LPV-TV?

YES

YES

YES

YES

YES

YES

YES

NO

YES

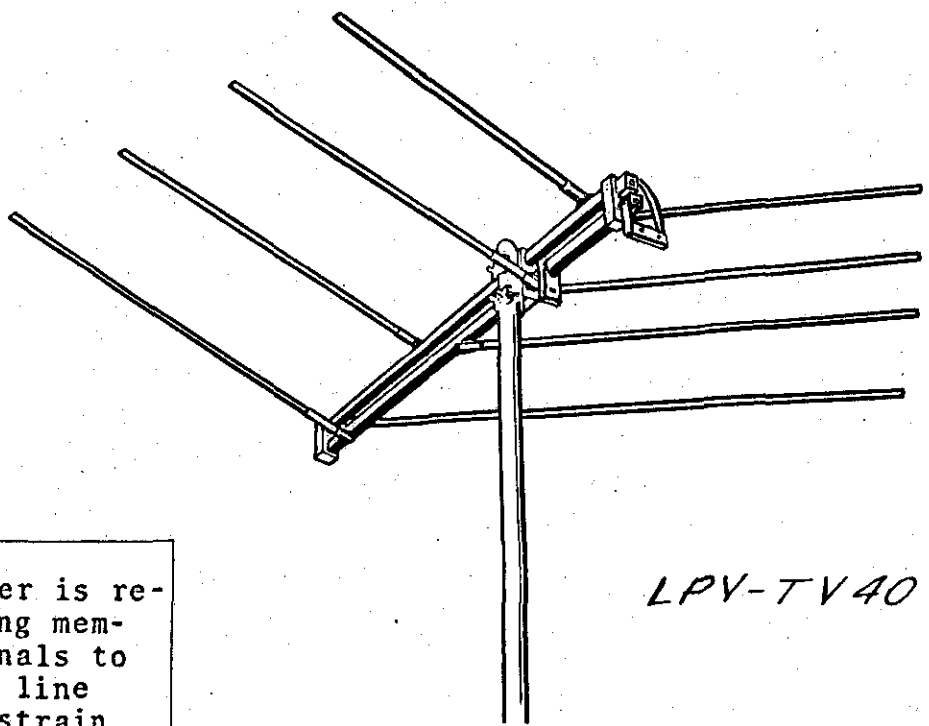
NO

YES

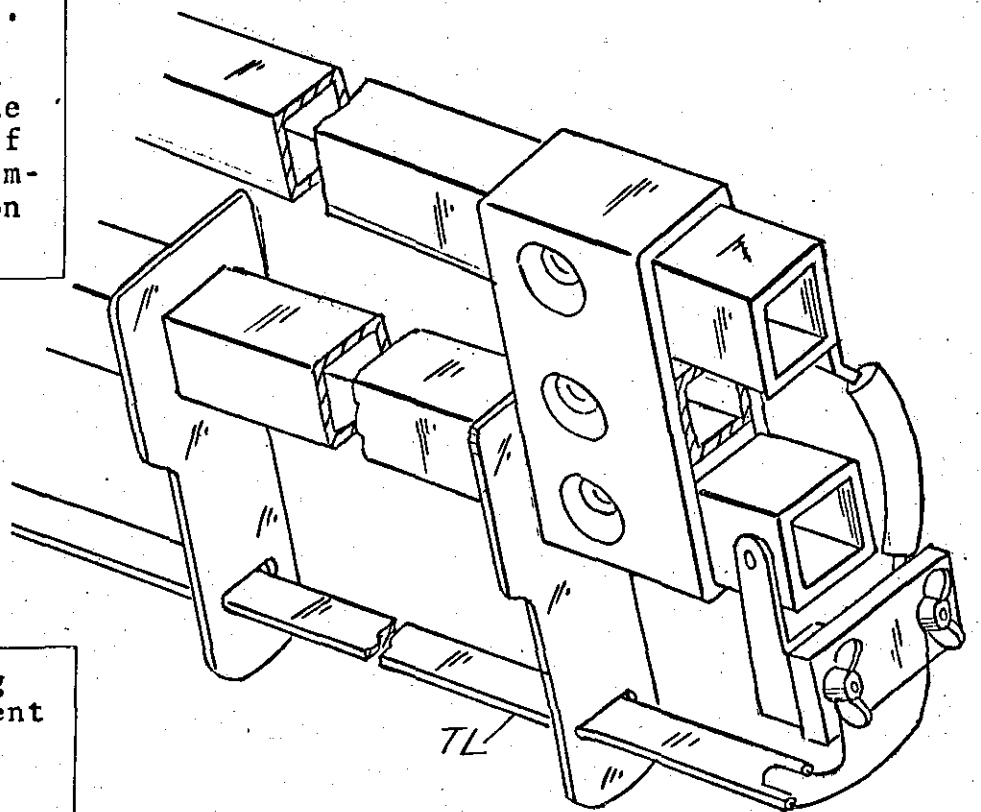
The strain relief member is remote from the insulating member mounting the terminals to which the transmission line connects. Hence, the strain relief and insulating members are no more connected together than each member of the antenna is "connected" to every other member by virtue of the fact that the antenna is a mechanical assembly of parts. Note that the Blonder et al strain relief 2' is integral with insulator 2 while in the JFD antenna the strain relief member is spaced from the member mounting the transmission line connecting terminals.

There is no rigid insulating means other than claim element 5 in the region where the antenna mounts to the mast.

CURRENT TV SERIES



LPV-TV40



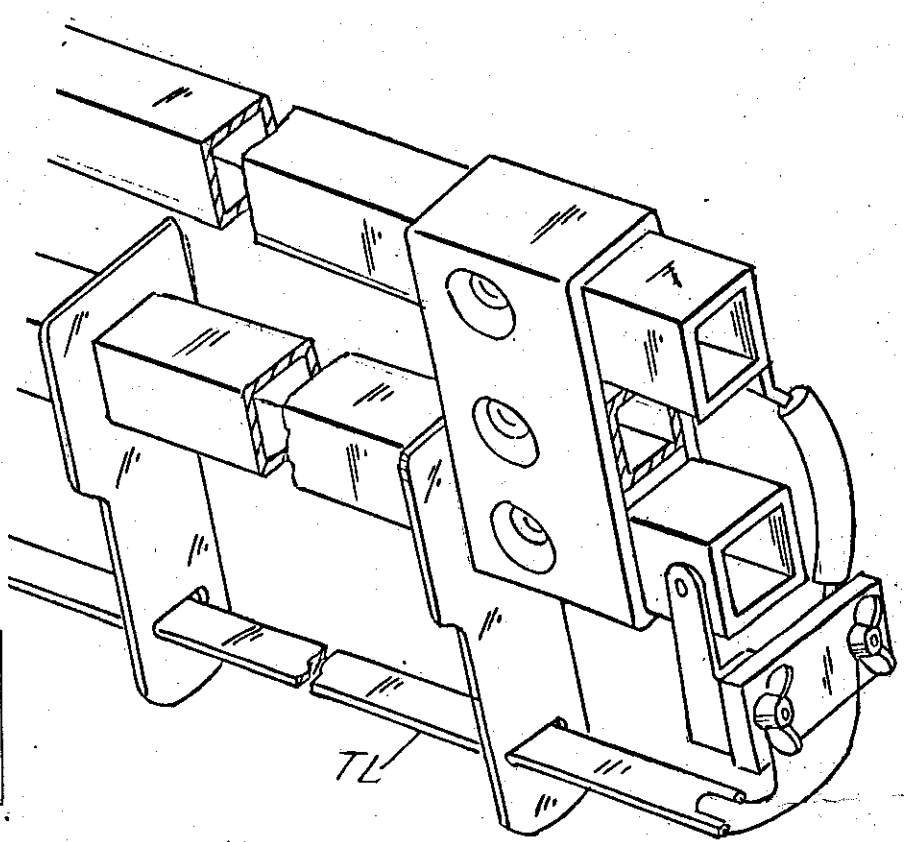
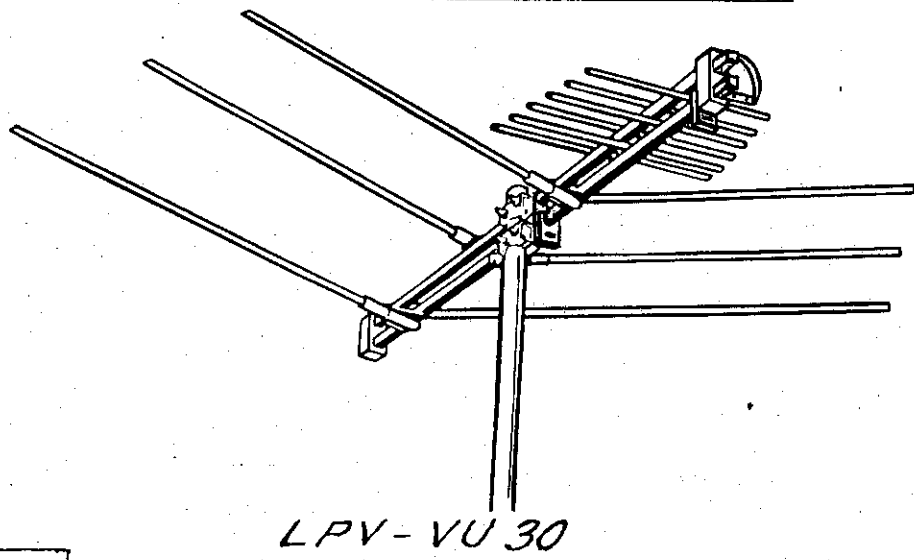
IS ELEMENT FOUND IN NEW LPV-VU?
YES
YES
YES
YES
YES
YES
YES
YES
NO
YES
NO
NO

The strain relief member is remote from the insulating member mounting the terminals to which the transmission line connects. Hence, the strain relief and insulating members are no more connected together than each member of the antenna is "connected" to every other member by virtue of the fact that the antenna is a mechanical assembly of parts. Note that the Blonder et al strain relief 2' is integral with insulator 2 while in the JFD antenna the strain relief member is spaced from the member mounting the transmission line connecting terminals.

There is no rigid insulating means other than claim element 5 in the region where the antenna mounts to the mast.

The spacing (center-to-center) between many of the successive points in the region of the teeth perpendicular to the longitudinal conductors is less than the spacing (center-to-center) between the longitudinal conductors.

CURRENT VU SERIES



IS ELEMENT
FOUND IN
LPV-CL?

YES

YES

YES

YES

YES

YES

YES

NO

YES

NO

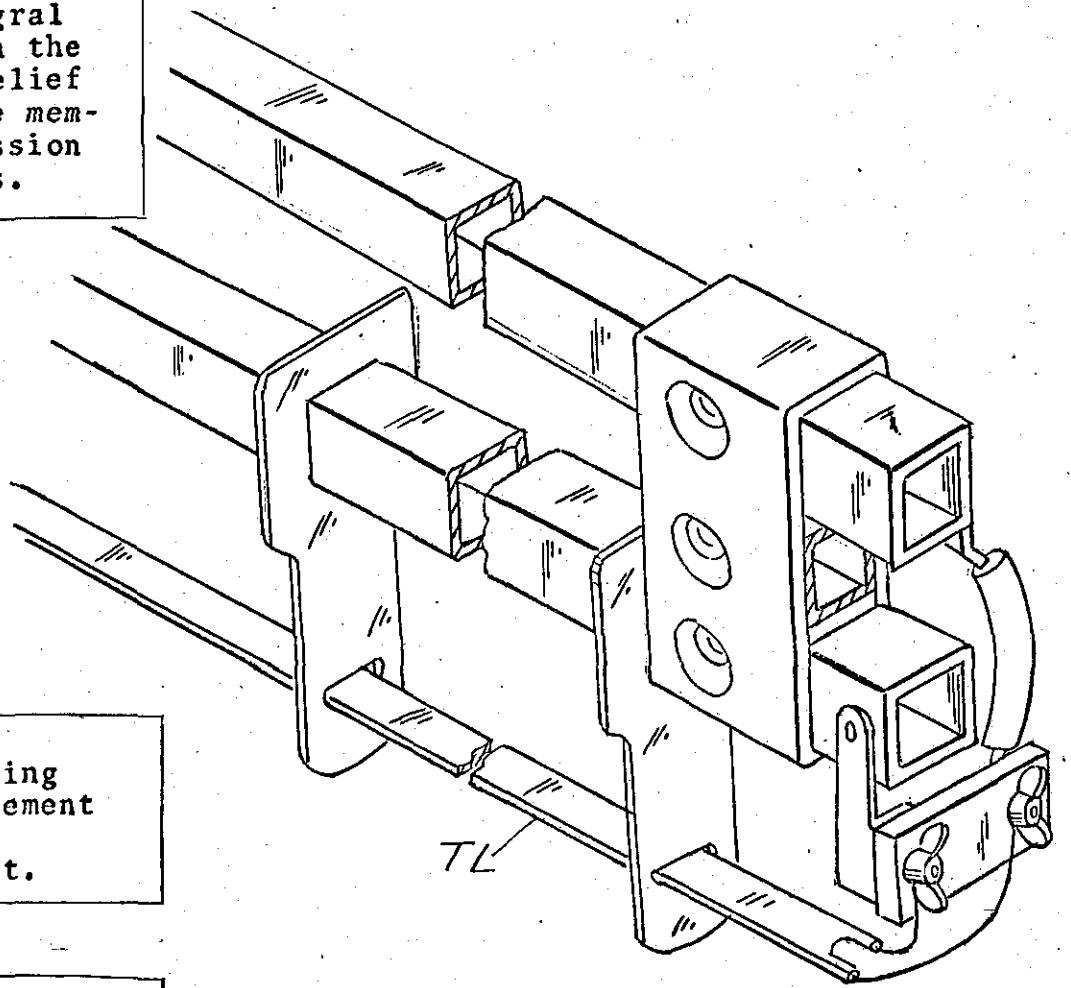
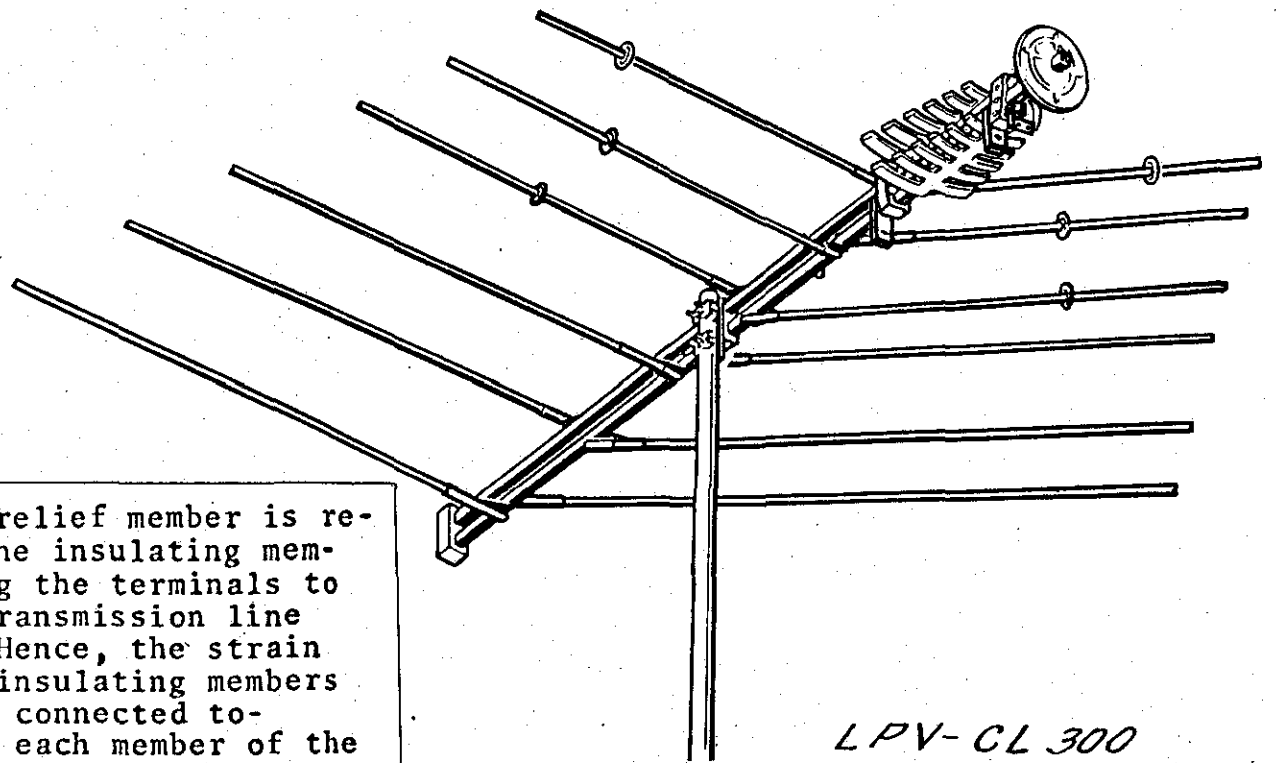
NO

The strain relief member is remote from the insulating member mounting the terminals to which the transmission line connects. Hence, the strain relief and insulating members are no more connected together than each member of the antenna is "connected" to every other member by virtue of the fact that the antenna is a mechanical assembly of parts. Note that the Blonder et al strain relief 2' is integral with insulator 2 while in the JFD antenna the strain relief member is spaced from the member mounting the transmission line connecting terminals.

There is no rigid insulating means other than claim element 5 in the region where the antenna mounts to the mast.

The vertical distance (center-to-center) between the longitudinal conductors is $2 \frac{3}{4}$ inches while the spacing (center-to-center) between the successive points in the region of the sheet metal teeth is less than $1 \frac{3}{4}$ inches.

CL SERIES



JFD CHART 2B

July 5, 1966

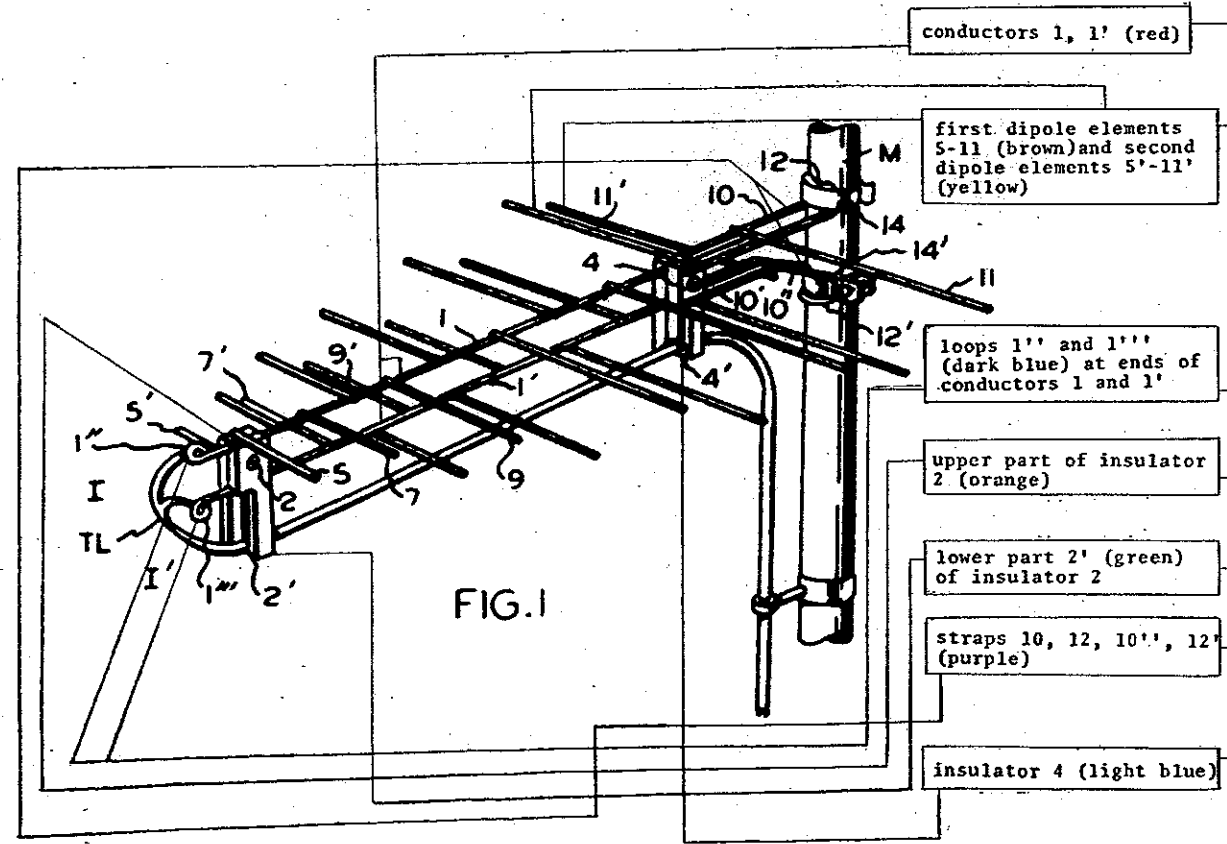
I. S. BLONDER ET AL

3,259,904

ANTENNA HAVING COMBINED SUPPORT AND LEAD-IN

Filed Nov. 21, 1963

CHART SHOWING WHEREIN ELEMENTS OF CLAIM 5 OF BLONDER ET AL PATENT 3,259,904 ARE NOT FOUND IN JFD STRUCTURES



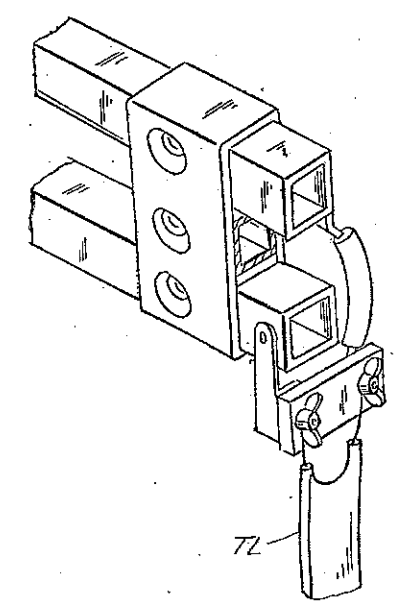
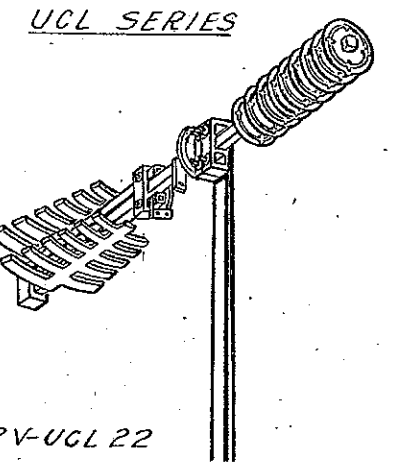
ELEMENT NO.	ELEMENTS OF CLAIM 5 BLONDER ET AL PATENT 3,259,904	IS ELEMENT FOUND IN LPV-UCL?
INTRO	An antenna for operation over a predetermined frequency band, having, in combination,	YES
1	a pair or rigid longitudinal conductors held spaced a predetermined vertical distance apart in a vertical plane,	YES
2	first and second pluralities of dipole elements lying in corresponding first and second vertically spaced horizontal planes containing the respective conductors,	YES
2A	the dipole elements extending from opposite sides of and transversely at an angle to each conductor at successive points therealong with dipole elements connected to one conductor extending in opposite direction to the corresponding dipole elements of the other conductor,	YES
2B	the length of the dipole elements successively increasing from one end of the conductors towards the other end thereof,	YES
3	means for connecting a parallel-wire transmission line to the said one end of the conductors,	YES
4	rigid insulating means securing the said connecting means mechanically in spaced-apart relation	YES
4A	and connected with means for supporting the transmission line near the said one end,	NO
5	and means for mounting the antenna at a region of the said conductors remote from the said one end,	NO
6	further rigid insulating means being provided for securing the said longitudinal conductors mechanically in rigid spaced-apart relation near the said region,	NO
7	the said vertical distance being less than the distance between the said successive points and less than the wavelengths of the said band,	NO

The strain relief member is remote from the insulating member mounting the terminals to which the transmission line connects. Hence, the strain relief and insulating members are no more connected together than each member of the antenna is "connected" to every other member by virtue of the fact that the antenna is a mechanical assembly of parts. Note that the Blonder et al strain relief 2' is integral with insulator 2 while in the JFD antenna the strain relief member is spaced from the member mounting the transmission line connecting terminals.

No, for Models LPV-UCL 18, 22, 26 since each is mounted adjacent to the transmission line connecting points.

Detailed explanation depends upon the interpretation given by B-T.

The vertical distance (center-to-center) between the longitudinal conductors is 2 3/4 inches while in each instance the spacing (center-to-center) between successive points is less than 1 3/4 inches.



JFD CHARTS 2A-2E

JFD CHART 2A