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L. F. MUTER

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INSULATING TIE UNIT

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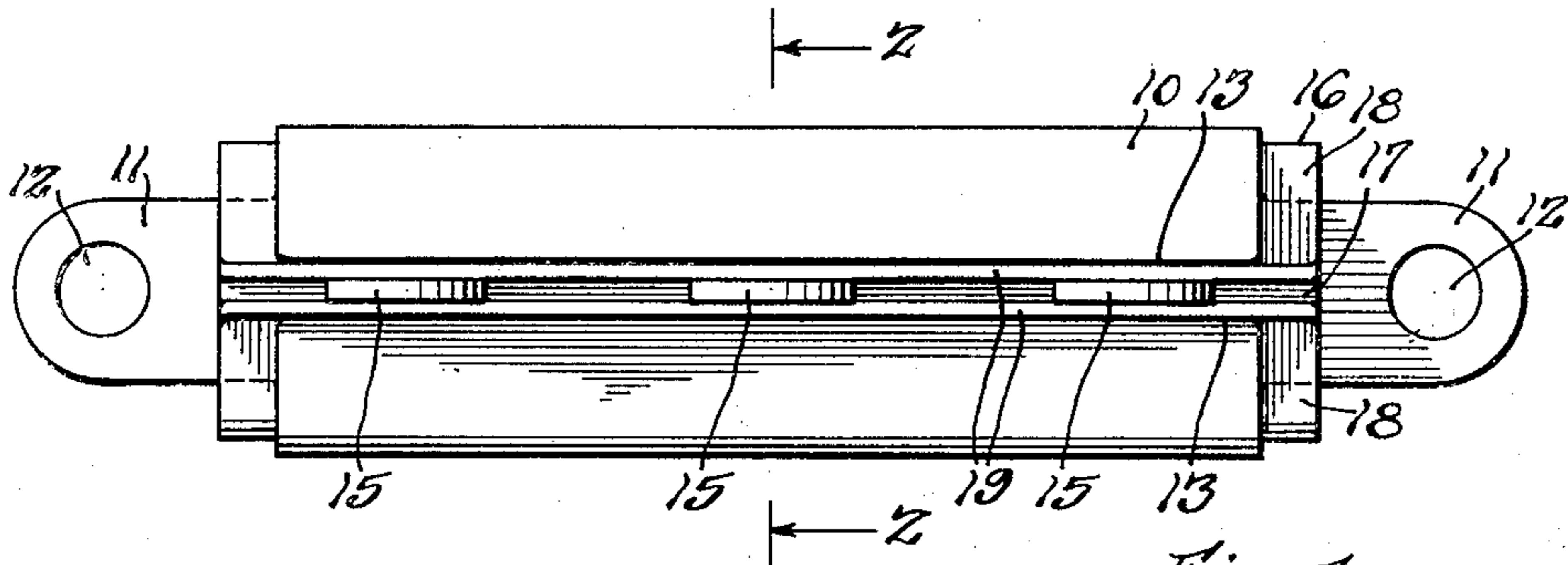


Fig. 1

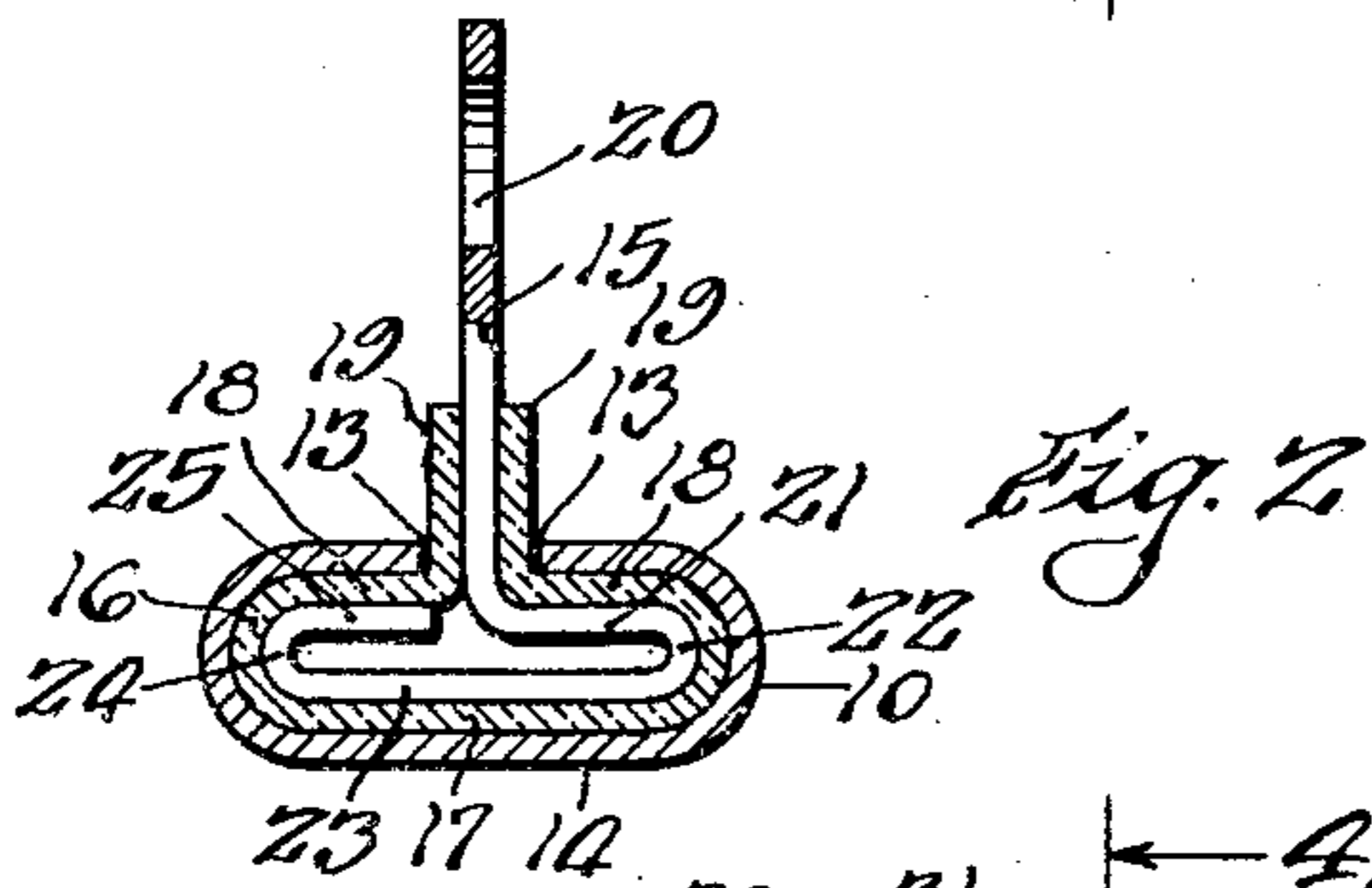


Fig. 2.

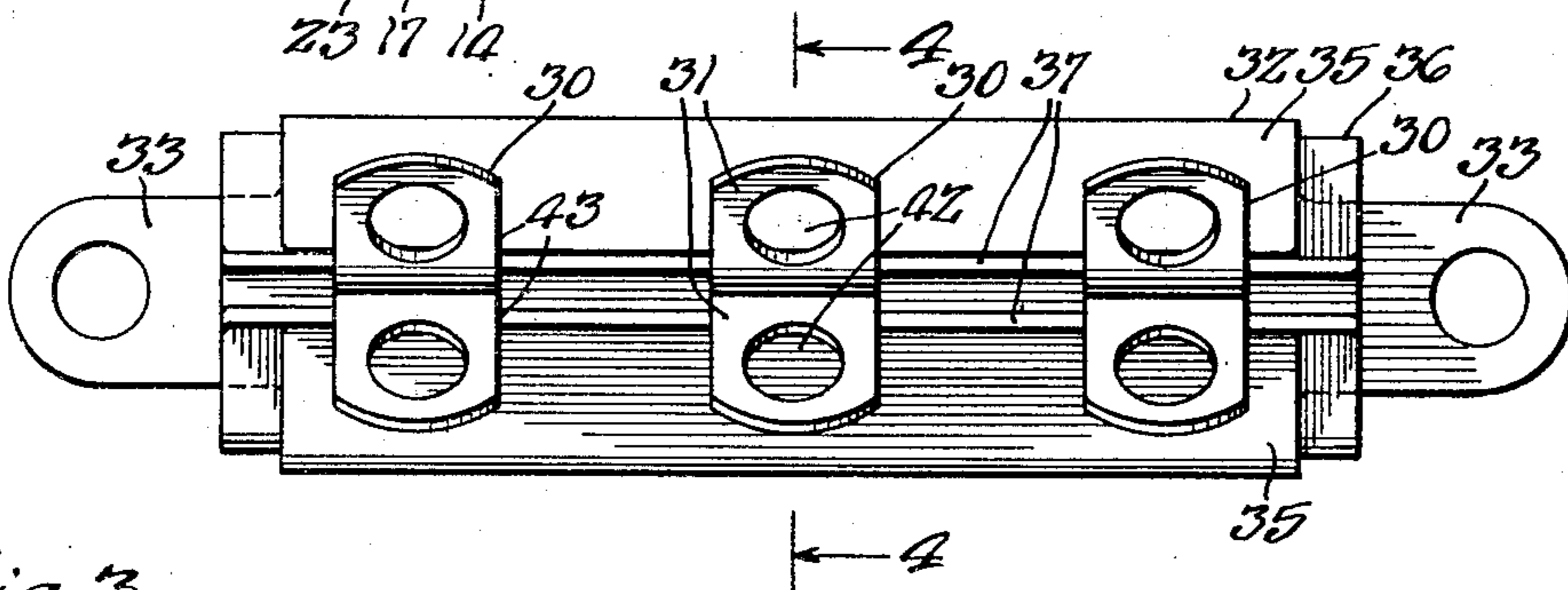


Fig. 3

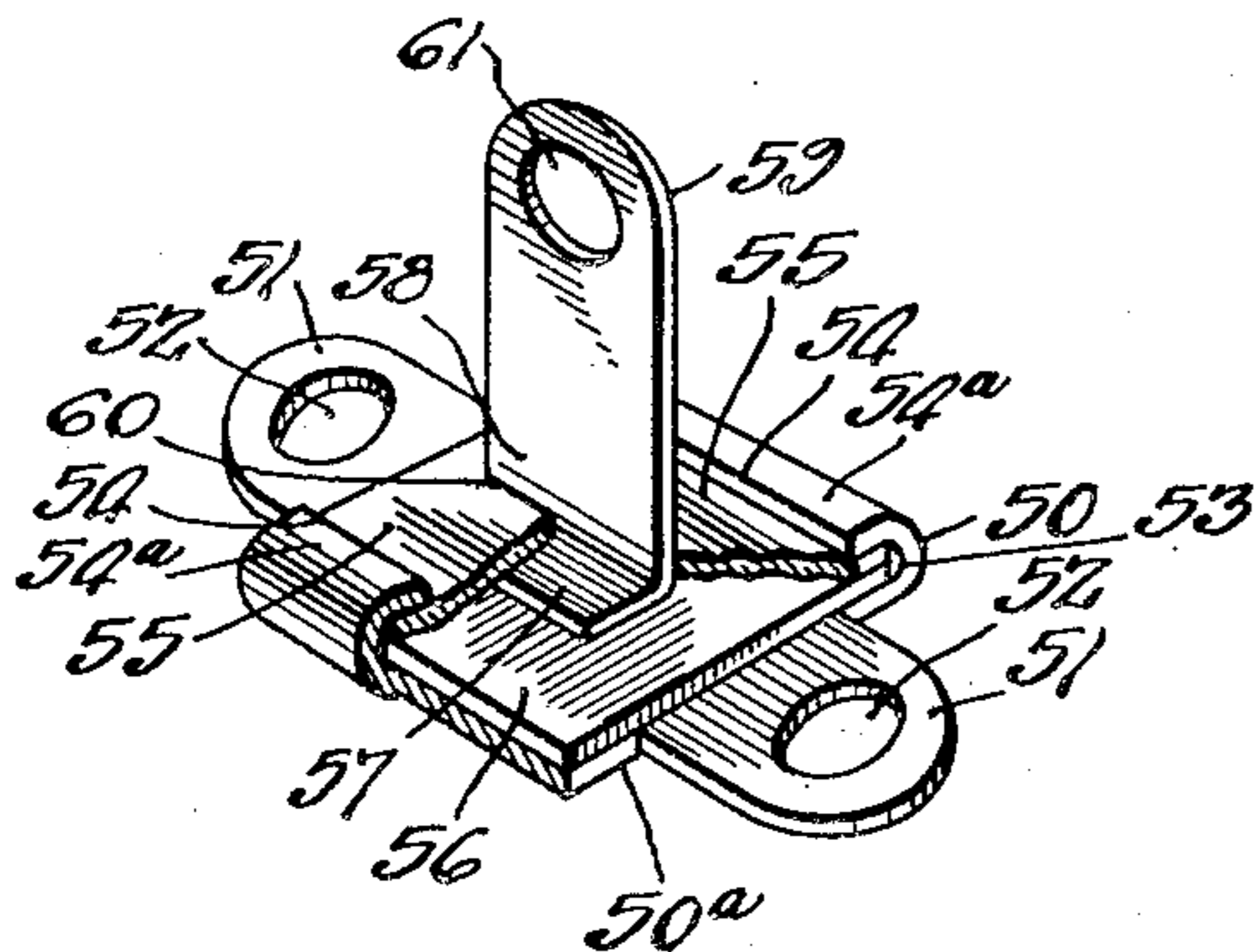


Fig. 5

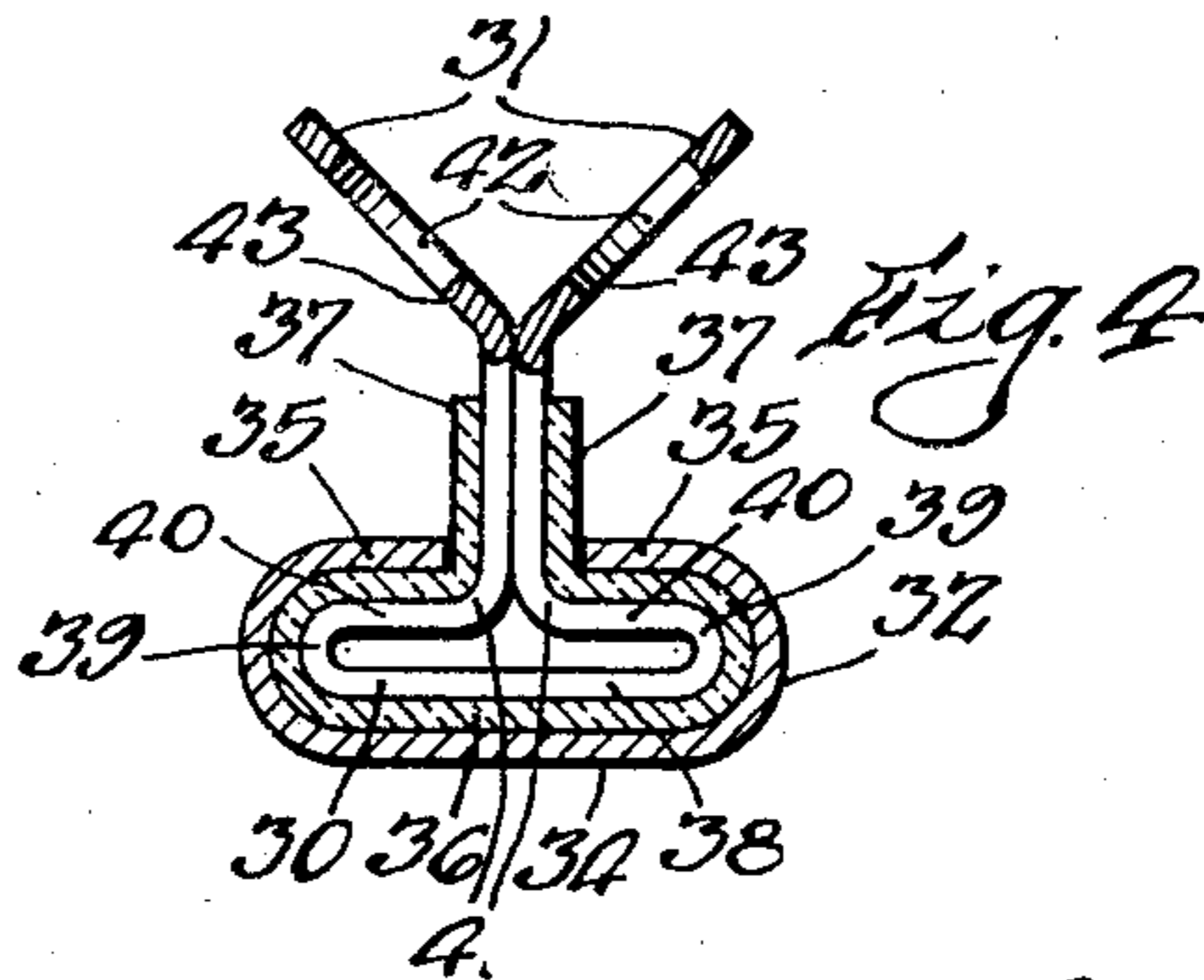


Fig. 4

Inventor:
Leslie F. Muter

By Lloyd Wood
Ctting.

UNITED STATES PATENT OFFICE

LESLIE F. MUTER, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MUTER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

INSULATING TIE UNIT

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The present invention has to do with an electrically insulated unit for joining circuits in a radio set and particularly to the construction thereof.

5 As the manufacture of radio sets has developed to the stage of mass production with a conventional assembly line, forms of units adapted to this type of assembly are sought.

10 It is not always possible or practical to carry the whole of a radio chassis along a single assembly line and place additional parts thereon at succeeding stations. On the contrary, parts of the electrical hook-up are better assembled along branch lines to be later incorporated into the chassis at a junction of these branch lines with the main assembly line. Therefore, practice has proven production is materially increased by forming certain separate assemblages compactly, and with the terminals thereof in a definite, standard and accessible position. To obtain the condition of having the terminals definitely affixed upon a given unit, 15 a scheme has been adopted to carry the ends of all leads, eventually to be joined to other units, to a terminal block upon the body of the unit. The terminal block forming the subject of this invention provides a plurality of electrically isolated terminals suitable for the engagement of leads.

It is an object of the present invention to provide an insulated tie unit comprising an effective but simple construction, and requiring a minimum of operations for its formation.

Another object of the present invention is to provide a unit with electrically insulated terminals having a unique structural design whereby the quantity of insulating material is decreased.

Still another object of the present invention is to provide an insulating tie composed only of rugged materials and of an improved form lending to rapidity of congregation.

50 These, and such other objects as may hereinafter appear, reside in the novel arrangement, construction, and combination of the constituent parts of this invention fully set

forth in the following description and illustrated in the accompanying drawing hereby made a part of this specification and in which like reference characters refer to similar parts, and in which

Figure 1 is an orthographic projection of one form of the invention as viewed from above;

Figure 2 is a cross sectional view of the invention corollary to Figure 1, and taken along the line 2—2 of Figure 1;

Figure 3 is a plan view of a different form of the invention;

Figure 4 is an elevated cross section of the device shown in Figure 3, and as indicated by the line 4—4 thereon; and

Figure 5 is a fractional view of a still different form of the invention taken in perspective.

In Figures 1 and 2, a sheet metal shell 10 is shown. The shell 10 has at either end ear-like members 11 which contain apertures 12 as a means for inserting holders for the unit. The term "unit" hereafter will include the assemblage of the invention as a whole.

In addition to the projections 11, the shell 10 presents longitudinal and parallel edges 13 which are symmetrically articulated one hundred eighty degrees with reference to a back section 14 to assume an inwardly directed and oppositely disposed position.

Incident to the foregoing bending operation, a series of metal terminal posts 15 and a strip of insulating material 16 intermediate said tabs and the shell 10, are similarly deformed to lie contiguous to the inner wall of said casing. The material 16 is articulated from either end of a back section 17, one hundred eighty degrees to extend as sides 18 parallel to said back member, until a normal turn is taken to effect bosses 19.

From the upper and outer end of post 15 containing an aperture 20, the lug extends downward between flanges 19 to sharply depart ninety degrees from the established orientation and present a side 21 in juxtaposition to side 18. A further extension of the post 15 after a reverse bend therein at 22 terminating side 21 forms a back 23. A second one hundred eighty degree contour-

tion 24 terminates in an extension 25 opposite to the section designated by the numeral 21.

Notation is made at this point that the units heretofore made contain between the sides 21 and 25, and the back 23, an auxiliary strip of dielectric material. The presence of this costly member is of no utility. It is present because of custom only. The insulated terminal units as first used were articulated in a similar manner about a flat strip having a section thereof wound with resistance wire, and with other like appearing lugs making contact with said wire.

It is readily conceivable that in such an arrangement where part of the posts necessarily had a material within their clasp, the same bulk would be obligatory in respect to all of the posts in order that uniform compression of the edges 13 would effectively engage all of said lugs for retention. Since the dead lugs had always enclosed a bakelite strip within the fold of the base, this practice has been unnecessarily carried over into terminal units comprising only insulated lugs.

The presence of an inner and supernumerary insulating strip increases the cost of the unit by a considerable percentage, besides contributing materially to the number of dexterous operations required to form the unit. Even when extreme care is taken, this strip which the present invention omits is often askewed from place incident to the enfolding process with the result that it is mutilated. Such an imperfect element of course makes necessary the discarding of the entire unit.

Figures 3 and 4 disclose a unit quite similar to that above described but having a different form of lug 30 providing two tongues 31. A metal shell 32 having ears 33 at either end and integral with the back 34 is deformed longitudinally to comprise opposed and complementary flanges 35. Clamped snugly within the casing 32 to lie contiguous to and coextensive with the inner surface thereof is a sheet of insulating paper 36 the outer edges 37 of which are intermediate the extraneous clamping members 35.

Firmly clasped within the fold of the insulating paper or sleeve 36 are the lugs 30 with a section forming a base 38 and having a reverse bend 39 at either end of said base section to form sides 40. A ninety degree turn in said lugs at 41 from its sides 40 carries the wings 31 providing apertures 42 above the paper edges 37. The opposed attaching members 31 by effecting therein the angles 43, may be spread as an aid to independent connection of an electric lead to each.

The provision of a double point of connection to a single lug is especially advantageous for the reason that a second subse-

quent soldered connection can be made to the lug without "melting down" the first connection.

The perspective view of a third form of the invention as shown in Figure 5 illustrates a sheet metal shell 50 with an under section or back 50a and an integral bracket 51 providing standard anchorage means in the aperture 52. A gutter 53 is obtained at either side of back 50 by turning the edges 54 to form sides, and inwardly directed flanges 54a.

Permanent placement of two layers 55 and 56 of dielectric material is had within the back 50 by the compression of the opposed elements of gutters 53. Within the resultant pocket between platens 55 and 56 is the base 57 of an angular metal post 58. The section 59 of the post 58 normal to base 57 projects through an aperture 60 provided in insulating layer 55 and for registry therewith. An aperture 61 is placed in lug 58 to facilitate the connection of an electric conductor thereto.

Although all units described and shown in the drawing include a fastening means at either end, but one only of such fasteners need be employed.

I claim:

1. An assemblage of insulated terminal posts of flat strip metal each comprising a base, and a tongue, and in which there is a metal cover having oppositely disposed gutters, and a dielectric jacket intermediate said gutters and having a longitudinal opening, said bases being confined within said jacket with their tongues protruding through said longitudinal opening.

2. An insulated tie unit comprising a body with upturned and inturned edges and extensions to receive fastening means, a plurality of terminal clips of flat strip metal each having a base and a tongue, and a sheet of dielectric material within said body and over said clip bases, and with its edges extending upwardly along said tongue, the upturned and inturned edges of said body crimping said dielectric material and said posts in position.

3. An insulating tie unit comprising an enclosing member having a body with edge extensions, said edge extensions being foldable to enclose terminals and insulation therefor, a plurality of terminals in said enclosing member, each of said terminals comprising a metallic strip folded at its middle to be seated in said enclosing member with its ends projecting outwardly of said enclosing members and angularly away from one another, and a sheet of insulatory material in said enclosing member and extending around the middle section of said terminals and up the exposed ends thereof.

LESLIE F. MUTER.