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L. S. BRACH
EXTENSION CORD CONNECTER

1,669,038

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Fig. 1

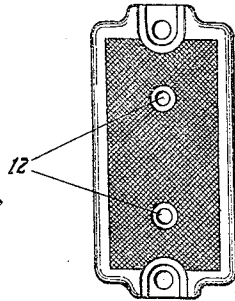


Fig. 3

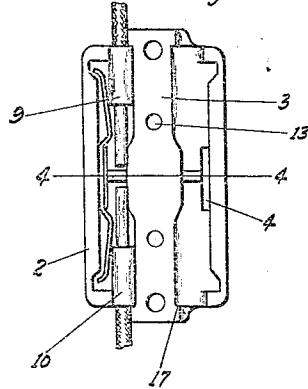


Fig. 2

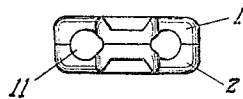


Fig. 4

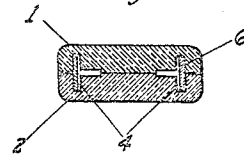


Fig. 5

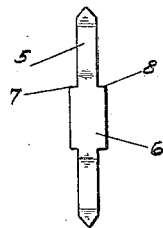
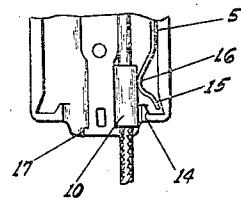


Fig. 6



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EXTENSION-CORD CONNECTER.

Application filed August 1, 1925. Serial No. 47,551.

This invention relates to a connector which is not necessarily limited to, but, particularly, adapted for use in connection with extension sets used in telephone or radio work wherein it is desired to carry, for example, a loud speaker into a different room from that containing a radio receiving set and be able to connect a loud speaker or pair of head phones to the extension cord coming from the radio set.

The principal object of my invention is to provide an extension cord connector which is extremely simple in design, hence, cheap to manufacture, but, one that is highly efficient in operation and artistic in design.

Another object of my invention is to provide a connector in which the cord terminals are securely held in position within the connector to prevent accidental withdrawal of the terminals therefrom, but, in which the arrangement is such that the operator, by proper application of a slight force, may readily withdraw the terminal.

Another object of my invention is to provide a connector in which the interior parts are so constructed as to insure the proper alignment of the spring member so that the terminals may be readily inserted.

These and other objects will be apparent to one skilled in this art after a reading of the specification taken in connection with the annexed drawing wherein

Figure 1 is a plan view of the assembled connector.

Figure 2 is an end view of Fig. 1.

Figure 3 is a view of the connector shown in Fig. 1, but with one half of the connector removed and showing but one pair of the terminals with the associated spring.

Figure 4 is a section on the line 4-4 of Fig. 3.

Figure 5 is a plan view of the spring shown in Fig. 3.

Figure 6 is a partial view of a preferred form of construction of the interior part of one of the connector members.

In the drawing wherein like numbers refer to corresponding parts in the various views, the connector comprises two pieces 1 and 2 preferably of good insulating material. The pieces 1 and 2 are, in the ordinary course of manufacture, molded so as to form a chamber within the two pieces when they are put together. Each of the two pieces 1 and 2 is preferably provided

with a central rib 3 to strengthen the members 1 and 2 as well as to act as a protection between the connecting members within the chamber. Referring particularly to Figs. 3 and 4 each of the members 1 and 2 is provided with a groove 4 disposed on either side of each of said pieces 1 and 2.

A spring 5 is provided with a central arranged enlarged portion 6 having shoulders 7 and 8. These shouldered portions 7 and 8 are adapted to fit within the grooves 4 as clearly indicated in Fig. 4, the spring 5 being mounted within the pieces 1 and 2 in an edgewise manner. The springs 5 extend nearly the full length of the chamber within the pieces 1 and 2 and are formed so as to engage cord conductor tips 9 and 10, one at each end of the spring.

As will be seen from Fig. 2, the pieces 1 and 2 have cut away portions at the end to form orifices 11 when the pieces are put together. In assembling the connector the pair of springs 5 are set in position in the grooves 4 in one of the pieces and the other insulating piece is then placed over the first assembly and a pair of rivets or eyelets 12 are passed through the holes 13 and riveted or spun over thereby completing the connector.

I prefer to use the form shown in Fig. 6 in which each end, of the pieces 1 and 2, is provided with a plurality of shoulders. The shoulders 14 are utilized as stop or retaining members for the ends 15 of the springs 5 thereby positioning the springs so that the contact portion 16 thereof is always in the same position with respect to the orifice whereby the cord tip 10 can be readily inserted within the connector. Another shoulder 17 adjacent the shoulder 14 is used for the purpose of engaging the end of the cord tip 10 after it has been inserted within the connector. The end of the spring 5 pushing against the cord tip 10 will move this so as to cause the end thereof to pass behind the shoulders 17 thereby preventing accidental straining on the cord from drawing the tip from the connector. The features of these two shoulders and particularly the first herein described is described and broadly claimed in my pending application Serial No. 45,028 filed July 21, 1925.

From the foregoing description it will be observed that my complete connector comprises two pieces of insulating material, two

double ended springs and at least one rivet or eyelet, or some equivalent means for fastening the two pieces 1 and 2 together. Furthermore, it will be observed
 5 that no screws are required to hold the spring 5 in position within the connector and neither are any screws used in the construction of the complete connector; consequently, the great ease with which the con-
 10 nector may be assembled and its extreme simplicity will be readily apparent.

My invention, of course, is susceptible to certain changes in the details without departing from the spirit of the same or the
 15 scope of the appended claims.

Having thus described my invention what I claim is:

1. A cord connector comprising; two hollow pieces of insulating material having a
 20 cut-away portion of each end to form orifices when the pieces are held together, two double ended springs arranged on opposite sides and longitudinally of the hollow part of said pieces and terminating adjacent said
 25 orifices and means for holding said pieces securely together.

2. A cord connector comprising; two pieces of insulating material hollowed out to form a chamber, a spring positioned on
 30 each side of the chamber and adapted to receive cord terminals in sliding engagement at both ends, said pieces having cut-away portions at the ends forming orifices for said cord terminals and means for holding
 35 the two pieces securely together.

3. A cord connector comprising; two pieces of insulating material hollowed out to form a chamber, each piece having a
 40 groove near the center and side of the chamber, a spring having a double shoulder fitting in the grooves on opposite sides of the chamber in both pieces, said pieces having cut-away portions at the ends forming orifices for cord terminals, said springs termi-
 45 nating in ends adjacent said orifices to receive said terminals and means for holding the two pieces securely together.

4. A cord connector comprising; two pieces of insulating material having cut-
 50 away portions at each end to form a pair of orifices at both ends for conductor terminals when the pieces are held together, a pair of springs held by and within said insulating pieces and each spring having its
 55 ends terminating adjacent orifices at opposite ends of said pieces and means for holding said insulating pieces together.

5. A cord connector comprising; two pieces of insulating material having cut-
 60 away portions at each end to form a pair of orifices at both ends for conductor terminals when the pieces are held together, a pair of springs set on edge within the pieces and having parts adapted to be held by said
 65 insulating pieces, each spring having its

ends formed, adjacent an orifice at opposite ends of the pieces, to engage said conductor terminals when they are inserted within the orifices and means for holding
 70 said insulating pieces together.

6. A cord connector comprising; two pieces of insulating material having cut away portions at each end to form a pair of orifices at both ends for conductor terminals when the pieces are held together, a
 75 pair of springs positioned approximately the same within each piece of insulating material, means for holding said springs in position, each spring having its ends formed, adjacent an orifice at opposite ends of the
 80 pieces to engage said conductor terminals when they are inserted within the orifices and means for holding said insulating pieces together.

7. A cord connector comprising; two
 85 pieces of insulating material having cut away portions at each end to form a pair of orifices at both ends for conductor terminals when the pieces are held together, a pair of springs positioned approximately
 90 the same within each piece of insulating material, means comprising only the two pieces of insulating material for holding said springs in position, each spring having its ends formed, adjacent an orifice at oppo-
 95 site ends of the pieces, to engage said conductor terminals when they are inserted within the orifices and means for holding said insulating pieces together.

8. A cord connector comprising; two pieces
 100 of insulating material having cut away portions at each end to form a pair of orifices at both ends for conductor terminals when the pieces are held together, a pair of springs within the pieces and extending the greater
 105 part of their length, each spring having its ends terminating adjacent orifices at opposite ends of said pieces and means for holding said insulating pieces together.

9. A cord connector comprising; two pieces
 110 of insulating material having cut away portions at each end to form a pair of orifices at both ends for conductor terminals when the pieces are held together, shoulders on the pieces adjacent each orifice, a pair of springs
 115 within said pieces, each spring having its ends terminating in portions adapted to normally rest on a shoulder adjacent an orifice whereby the spring end is properly positioned to receive the conductor terminal and
 120 means for holding said pieces together.

10. A cord connector comprising; two pieces of insulating material having a cut away portion at each end to form a pair of orifices at both ends for conductor termi-
 125 nals when the pieces are held together, a plurality of shoulders on the pieces adjacent each orifice, a pair of springs within said pieces each spring having its ends terminating in portions adapted to normally rest on one of
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the shoulders adjacent an orifice to insure proper alignment of the spring with the orifice, the tension of the spring end being such that when the conductor terminal is inserted within the orifice the terminal will be forced behind one of said shoulders to prevent accidental withdrawal of the terminal from the connector and means for holding the two pieces of insulating material together.

11. A cord connector comprising; two pieces of insulating material having double openings in each end, a pair of double ended springs held in position by and within said pieces and terminating adjacent said openings, so as to be engaged by terminals inserted in said openings and means for holding the insulating pieces securely together.

12. A cord connector comprising; two housing members having double openings in each end, a pair of double ended contact springs extending within the housing members for the greater part of the length thereof and terminating adjacent said openings and means for holding the housing member securely together.

13. A cord connector comprising only, two housing members having double openings in each end and two double ended contact springs held within the housing and terminating adjacent said openings so as to be engaged by terminals inserted through said openings and at least one device for holding the two housing members together.

14. A cord connector comprising; two pieces of insulating material having a cut away portion at each end to form a pair of orifices at both ends for conductor terminals when the pieces are held together, at

least one shoulder on the pieces adjacent each orifice, a pair of springs within said pieces and having their ends terminating adjacent said orifices the tension of the spring ends being such that when the conductor terminal is inserted within the orifice the terminal will be forced behind one of said shoulders to prevent accidental withdrawal of the terminal from the connector and means for holding the two pieces of insulating material together.

15. An electric connector including a body consisting of complementary sections formed with opposed recesses for the reception of cord tips at the ends thereof, said sections also having opposed grooves intermediate their ends, and a spring connector having the longitudinal edges of the central portion thereof engaged in said opposed grooves to retain said spring connector in position, the extremities of said spring connector being engaged with the cord tips to yieldably retain the same in position within the body.

16. An electric connector including a body consisting of complementary sections formed with opposed recesses for the reception of a cord tip at the ends thereof, said sections also having opposed grooves intermediate their ends and communicating with said recesses, and a flat spring connector the thickness of which is equal to the width of said grooves and which has the opposite longitudinal edges of its central portion seated within said opposed grooves, with an extremity of said connector projecting into said opposed recesses and engageable with said tip to yieldably retain the same in said recesses.

In testimony whereof, I affix my signature.

LEON S. BRACH.