

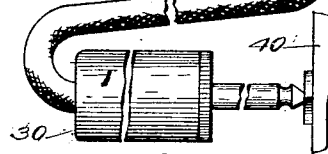
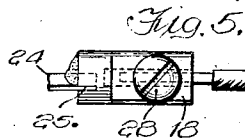
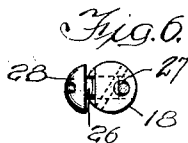
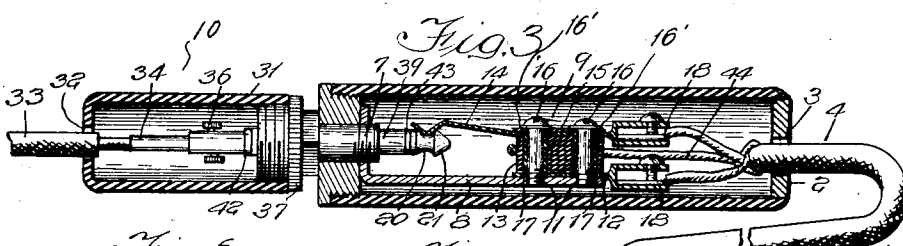
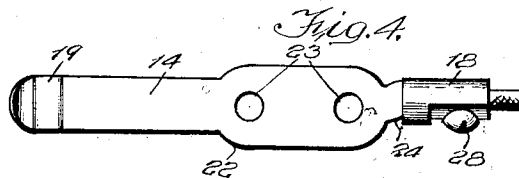
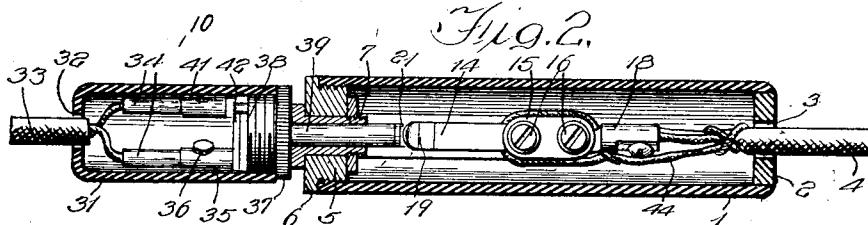
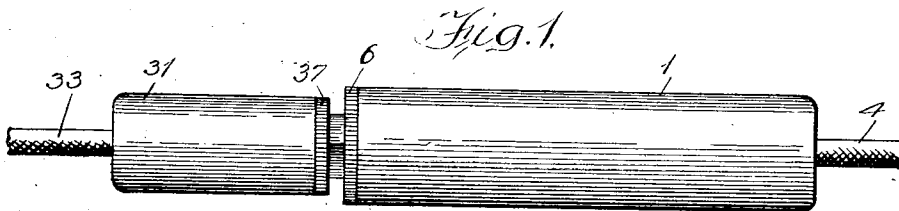
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1,655,263

H. H. FROST

EXTENSION CORD

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EXTENSION CORD.

Application filed December 1, 1924. Serial No. 753,032.

In using a loud speaker in connection with a radio receiving set, it is often desirable to have the loud speaker in a different room or at some point relatively distant from the set itself. Usually, as a matter of practical expedience, the receiving apparatus is generally kept in some out-of-the way spot where it is not apt to be disturbed. Such a place, however, may not be suitable for listening in to the music, speeches, or whatever the nature of the matter may be which is being broadcasted. Unless means are provided, therefore, to permit of the loud speaker functioning at a place which is more desirable from the listener's standpoint, the inconveniences of the room where the set is actually located must be borne even though a more desirable one is available.

To eliminate this inconvenience to the radio listener, I provide an extension cord having a plug at one end which is adaptable for connection to the radio set, and a novel jack at the other end to which the loud speaker may be connected. The type of jack and plug used and the manner in which they are connected, are illustrated in the accompanying drawing.

In the drawing:

Figure 1 is a plan view showing the connection of the plug of the loud speaker to the novel jack of my invention;

Figure 2 is a sectional view showing the manner in which the conductors leading to the plug and jack respectively are connected;

Figure 3 is another sectional view taken at right angles to the view of Fig. 2 of the plug and jack used in my invention showing, however, in greater detail the manner of constructing the jack;

Figure 4 is a plan view of the tip spring used in connection with the jack;

Figure 5 is a side elevational view of the sleeve to which the end of the extension cord is secured; and

Figure 6 is an end view of the sleeve.

One of the novel features of my invention consists in the provision of a suitable sleeve or housing 1 for the jack 8. The sleeve 1 is preferably made of a piece of fibre tubing although I may use what is commonly known and marketed under the trade name of "bakelite," or the like, and has pressed into one of its ends, a washer or ring 2 of the same material. An aperture 3 is

thus provided in the end of the housing through which the cord 4 may be freely admitted for connection with the separate contact members of the jack 8. In order to make the sleeve as attractive as possible, I turn down the end of the sleeve and the washer to a smooth curve and finish.

The opposite end of the sleeve 1 is threaded to receive the mounting plate or block 5. A fluted or knurled flange 6, the outer diameter of which is substantially equal to the outer diameter of the sleeve 1, is formed on the block or plate 5 and is provided for manually turning the plate 5 to thread it into or out of the sleeve 1. An adjusting thimble 7 having a hexagonal head and a threaded sleeve integral therewith snugly fits through the mounting screw 5. The threads on the sleeve are adapted to be received by the threads in the aperture contained in the leg of the jack frame 8. By tightening the hexagonal nut of the adjusting thimble 7 the threaded sleeve portion will draw the jack frame 8 against the end of the mounting screw 5 and thus keep it in a relatively fixed position.

Threaded into the base portion of the jack frame 8 are the screws 11. Between the heads of the screws 11 and the jack frame 8, the contact and insulating members of the jack are firmly held together. These consist of a ground spring, 12 which makes electrical contact with the jack frame, of insulation strips 13, the tip spring 14, an insulation strip 15, and the metal washers 16'. Insulation bushings 17 separate the tip spring 14 from the screws 16. A novel means of connecting the extension cord 4 to the ground spring 12 and the tip spring 14 is provided in the use of the contact sleeves 18. The spring 14 together with one of the sleeves 18 connected thereto, is shown in plan in Figure 4. The tip spring 14 has a sharp bend 19 for engaging with the groove 20 in the tip of the contact member 21. In the body portion of the spring, openings 23 are provided into which the insulating bushings 17 are fitted to insulate the spring 14 from the screws 11. An extending terminal member 24 integral with the body 22 serves as a means for connecting it with the contact sleeve 18.

Contact sleeve 18 is illustrated in greater detail in Figures 5 and 6 in which the

spring terminal member 24 is shown as fitting into a diagonal slot 25. These contact sleeves may be stock items and a similar contact sleeve is connected to spring 12. Each sleeve has a flat side face 26 and an eccentric longitudinal opening 27 forming a socket. The flat face 26 is suitable for mounting thereon a contact of the spade type and the longitudinal opening 27 is suitable for inserting therein a contact of the tip type. By means of the clamping screw 28 either type of contact may be firmly secured to the sleeve. The opening or socket 27 is offset from the center of the relatively circular end of the sleeve 18 in order to provide sufficient stock for the screw 28 so that it can clamp the terminal. This disposition of the flat clamping face and the eccentric socket permits reduction in the size of the sleeve 1 considerably thereby making the jack as a whole more compact and more pleasing in appearance.

The jacket which encloses the extension cord 4 terminates in a cord 44 which is wound around the insulating members 13 in order to take the strain off of the flexible conductors which are connected to the sleeves 18.

The plug 30 which is connected to the opposite end of the extension cord 4 is identical with the plug 10 shown in Figures 2 and 3. This plug consists of a sleeve portion or housing 31 which may also be made of fibre, or the like. One of the ends of the sleeve 31 is down turned so as to form the opening 32 to permit the connecting cord 33 to be led therethrough. The cord 33 is provided with contact tips 34 which are adaptable for insertion into the sleeve members 35 and 41. Knurled thumb screws 36 serve as means for holding the tips 34 in fixed position in these sleeves. The sleeve 41 is rigidly secured in the member 37 of which the contact member 39 forms a part. The sleeve 35 is in-

sulated from the member 37 by the strip of insulation material 38. The electrical connection between the sleeve 35 and the contact member 21 is made by means of the metal strip 42 and a central needle, (not shown), which are rigidly connected to both. The insulating washer 43 and a suitable sleeve of insulation separate the contact members 21 and 39 from each other.

The method of using my extension cord may be briefly described as follows: A suitable place for listening in is first determined upon. When this is done the plug 10 of the loud speaker is connected to the jack 9 to which the extension cord 4 is secured. The cord is then led back from this point to the receiving set where it is connected to the set 40 by means of the plug 30 thereby completing the circuit between the loud speaker and the receiving set.

I do not intend to be limited to the details shown and described.

I claim:

In electrical connecting means, a tubular casing of electrical insulating material having an opening through one end to accommodate an electric cord, a mounting block removably secured in the other end of the casing, a jack including a mounting frame disposed within the casing and having an angularly disposed leg seating on the inner face of the block, a thimble having a head on its outer end and extending through the block, said thimble being threaded through the leg of the jack frame and securing it to the block, and a resilient contact member carried by and electrically insulated from said frame, said member being disposed for contact with the terminal element of a plug shank inserted through the thimble.

In witness whereof, I hereunto subscribe my name this 26 day of November, 1924.

HERBERT H. FROST.