April 25, 1933. C. A. ROWLEY 1,905,245

CABLE TERMINAL

Filed Feb. 1, 1932

Fig. 1

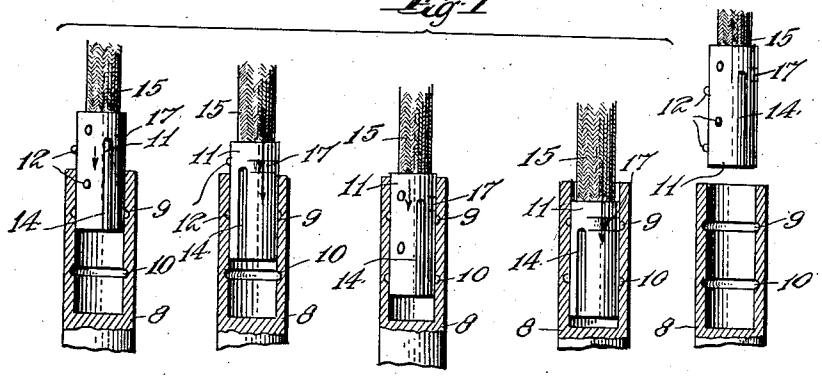


Fig. 4

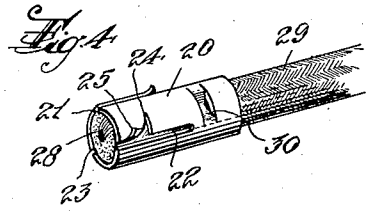


Fig. 2

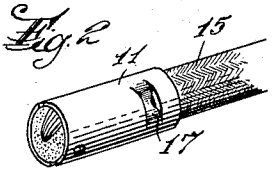


Fig. 5

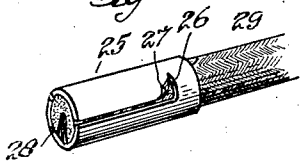


Fig. 3

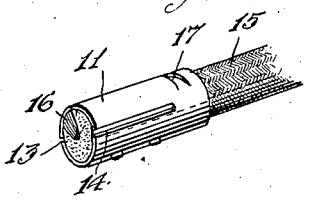
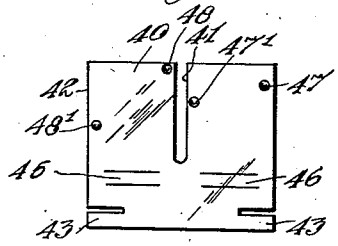


Fig. 7



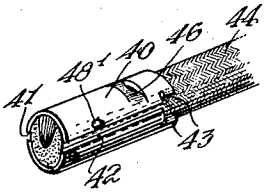


Fig. 6

INVENTOR.
Charles A. Rowley
BY Frank C. Fischer
ATTORNEY.

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UNITED STATES PATENT OFFICE

CHARLES A. ROWLEY, OF EAST ORANGE, NEW JERSEY

CABLE TERMINAL

Application filed February 1, 1932. Serial No. 590,055.

This invention relates to cable terminals, and more particularly to improvements in cable terminals especially adapted for use on distributors in automotive engines and the like.

The usual distributor has a cap provided with a plurality of metallic tubular terminals in which cables are inserted, the cables connecting the distributor with the several cylinders of the engine. Heretofore, it has been the practice to attach a metallic terminal to the end of the cable, the terminal being resilient so that it will be frictionally held in the tubular terminals of the distributor cap, and each terminal being provided with a prong forced through the insulation of the cable into contact with the wire of the cable. But, such terminals are objectionable in that the constant vibration of the engine tends to dislodge the cable terminals and cable from the tubular terminals, and the prongs on the cable terminals do not at all times make a positive electrical connection with the wire of the cable.

It is therefore, an object of my invention to provide a terminal which may be conveniently secured to a cable without resort to the use of a special tool, and which may be securely, yet detachably held in a tubular terminal of a distributor so that it will not be dislodged by the vibration of the engine.

A further object is the provision of a cable terminal in which positive electrical connection is at all times maintained with the wire of the cable and which has means for positively and detachably holding the cable in a tubular terminal of a distributor.

These and other advantageous objects, which will later appear, are accomplished by the simple and practical construction and arrangement of parts hereinafter described and exhibited in the accompanying drawing, forming part hereof, and in which:

Figure 1 shows several steps in inserting and withdrawing my terminal from a tubular terminal,

Figure 2 is a perspective view of one side of a terminal embodying my invention,

Figure 3 is a view of another side of the terminal shown in Figure 2,

Figures 4 and 5 are perspective views of a modified form of the invention,

Figure 6 is a perspective view of a further modification, and

Figure 7 is a view of a blank for making the terminal shown in Figure 6.

Referring to the drawing, in Figure 1 is shown a tubular terminal 8, or what is commercially known as a distributor insert designed to receive a cable terminal of a distributor, which has two internal annular grooves 9, 10. In Figure 1 is shown the manner in which a terminal embodying my invention is held in the tubular terminal 8. It will be seen that the cable terminal 11 has a plurality of small protuberances or bosses 12 arranged in staggered relation on the terminal. When the cable terminal 11 is inserted in the tubular terminal 8, the groove 9 is first engaged by the lowermost boss 12 on terminal, 11. Further insertion of terminal 11 will cause the lowermost boss to enter groove 10, and one of the other bosses will rest in groove 9. By this arrangement a positive holding of the terminal 11 in the tubular terminal 8 is assured regardless of the distance the terminal 11 is forced into the tubular terminal. This is important since many mechanics carelessly insert the terminals 11 in the tubular terminals 8, and frequently the terminal 11 is not forced all of the way into the tubular terminal 8. With my structure, as soon as one of the bosses 12 enters either of the grooves 9 or 10, the terminal 11 will be securely held in the tubular terminal 8.

In Figures 2, 3, the terminal 11 is shown formed from a tube and to have opposite slots 13, 14, which give the desired resiliency

necessary to hold the bosses 12 in the grooves, the bosses 12 being struck up from the tube in any well known manner. In attaching the terminal to a cable 15, insulation of a part of the cable is first cut away and the stranded wire 16 bent back over the outside of the cable. The terminal 11 is then forced over the end of the cable, and the arrangement of the stranded wire 16 insures good electrical contact. The tube is then indented at 17 and forced into the insulation. This arrangement positively holds the terminal on the cable and no special tool is required to force the indented portion 17 into the insulation.

In Figures 4 and 5, is shown a modified form of terminal which is preferably formed from a tube. In this form a tube 20 is provided with three spaced longitudinal slots 21, 22, 23, each slot communicating with transverse cuts 24, 26, the transverse cuts enabling the wall of the tube to be turned outwardly to provide projections 25, 27 which correspond in use to the bosses 12 above described, the projections 25 and 27 being longitudinally and laterally spaced from each other. The stranded wire 28, of the cable 29 is folded over the outer surface of the cable as described above; and the terminal 11 is securely held on the cable by means of an indented portion 30 corresponding to the indentation 17 in Figures 2 and 3.

In Figure 6 is shown another form of terminal, and in Figure 7 is shown a blank from which the terminal is made. The terminal comprises a cylindrical member 40 having a slot 41 extending about two-thirds of its length on one side, and a slot 42 on the opposite side extending the full length of the terminal. At one extremity of slot 42 the member 40 has prongs 43 which may be bent over into the insulation of a cable 44, or the member 40 may be held on the cable 44 by portions 45 and 46 which may be forced into the insulation of the cable by using any convenient pointed tool. The terminal is provided with staggered bosses 47, 47′, 48, 48′, similar to bosses 12, by means of which the terminal is detachably secured in a tubular terminal such as shown in Figure 1.

From the above description it will be seen that I have provided simple but effective terminals for positively maintaining electrical connections between cables and the tubular terminals of a distributor of an automotive engine or the like.

The foregoing disclosure is to be regarded as descriptive and illustrative only, and not as restrictive or limitative of the invention, of which obviously an embodiment may be constructed including many modifications without departing from the general scope herein indicated and denoted in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A cable terminal for use with a tubular terminal having spaced internal annular grooves, comprising a metal cylindrical member having a plurality of staggeredly arranged bosses arranged longitudinally of the member and oppositely disposed longitudinal slots, said member having a section intermediate its length adapted to be forced into the insulation of a cable to hold the terminal in position.

2. A cable terminal for use with a tubular terminal having spaced internal grooves, comprising a cylindrical member having a plurality of spaced longitudinal slots, each slot communicating with a transverse cut, the wall of the member being bent outwardly at the junction of each slot and cut to provide a plurality of projections, said member having a section adapted to be forced into the insulation of a cable to hold the terminal in position.

3. A cable terminal for use with a tubular terminal having spaced internal grooves, comprising a cylindrical member having a plurality of spaced longitudinal slots, each slot communicating with a transverse cut, the wall of the member being bent outwardly at the junction of each slot and cut to provide a plurality of projections, and means to securely hold the terminal on a cable.

4. A cable terminal for use with a tubular terminal having spaced internal grooves, comprising a cylindrical member having a longitudinal slot extending part of its length and an opposite slot extending the entire length of the member, prongs at the extremity of the last mentioned slot adapted to be forced into the insulation of a cable, said member having a section intermediate its length also adapted to be forced into the insulation of a cable to hold the terminal securely in position, and spaced bosses on the member adapted to enter the grooves of a tubular terminal.

5. A cable terminal for use with a tubular terminal having spaced internal grooves, comprising a cylindrical member having a longitudinal slot extending part of its length and an opposite slot extending the entire length of the member, prongs at the extremity of the last mentioned slot adapted to be forced into the insulation of a cable, and spaced bosses on the member adapted to enter the grooves of a tubular terminal.

This specification signed this 30th day of January, 1932.

CHARLES A. ROWLEY.