Jan. 6, 1942. L. M. KEEFE 2,269,114

CABLE TERMINAL

Filed Dec. 11, 1940

Fig:1.

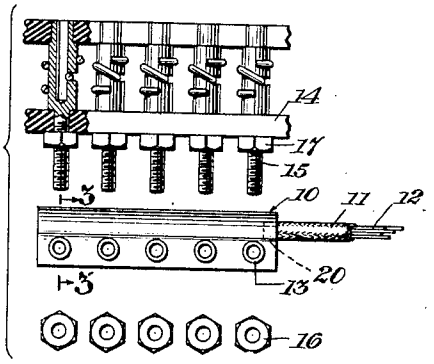


Fig:2.

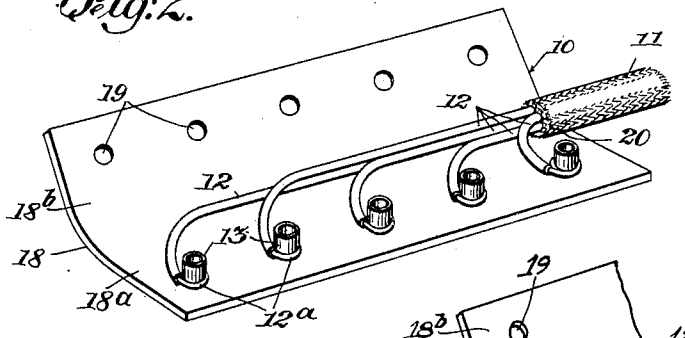


Fig:3.

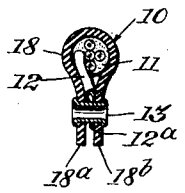


Fig:4.

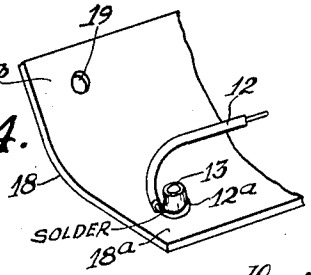


Fig:5.

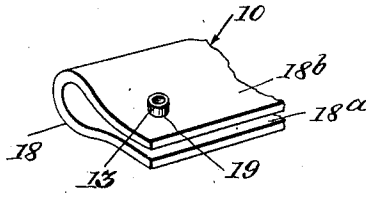
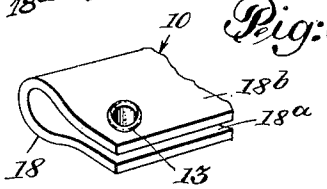


Fig:6.



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CABLE TERMINAL

Lincoln M. Keefe, Springfield, Mass.

Application December 11, 1940, Serial No. 369,569

5 Claims. (Cl. 173—324)

This invention relates to improvements in cable terminals, and has for an object the provision of a cable terminal comprised of a folded sheet of insulation having an eyelet extending therethrough and securing said insulation in its folded relation, a cable extending within the folded piece of insulation and soldered to said eyelet whereby said terminal may be screwed or otherwise electrically connected to an electrical device.

Another object of the invention is the provision of a terminal for cables formed of a sheet of insulating material having a plurality of metallic members such as eyelets or the like mounted therein, each being individually connected and soldered to a cable, after which said piece of insulation is folded and said eyelets are riveted to secure said insulation in its folded relation. The holes for the eyelets are formed in the sheet of material beforehand, the eyelets being inserted in a row of holes adjacent to one edge of said piece, and the holes in the other row are passed over the shank of an eyelet when the insulation is folded together.

Other objects will be apparent to those skilled in the art.

In the drawing:

Figure 1 is an elevation of one embodiment of the invention which is given by way of example, and a cross sectional fragmentary view of a plugboard to which said terminal may be connected;

Figure 2 is a perspective view of the new and improved cable terminal before the sheet of insulation has been folded together;

Figure 3 is a sectional view taken along the line 3—3 of Figure 1;

Figure 4 is a fragmentary view in perspective showing a piece of insulation having an eyelet extending through one hole therein and the end of the cable wound about the body of said eyelet and soldered thereto;

Figure 5 shows the piece of insulation folded together just prior to being riveted or eyeleted; and

Figure 6 shows the arrangement shown in Figure 5 after the same has been eyeleted.

The new and improved terminal, generally designated by the numeral 10, forms the terminus of cable 11 which may consist of one or a plurality of conductors 12. A plurality of eyelets, one of which is designated by the numeral 13, is carried by the terminal member 10 and later may be connected to any electrical device, for example to a plugboard 14. The threaded projections, one of which is designated by the numeral 15, extending from the rear of the plugboard 14 may be equal in spacing to the spacing of the eyelets 13 so that they may extend through the holes in the eyelets 13, after which nuts, one of which is designated by the numeral 16, may be screwed upon the threaded extensions 15 to firmly clamp the eyelet between the nut 16 and a nut 17. In cases where it is desirable to remove the plugboard 14, or to remove the device (not shown) to which the cable 11 is connected, the nuts 16 may be removed after which the terminal member may be slipped off of the threaded studs 15 and then either the plugboard of the device to which the cable 11 is connected may be removed.

The terminal member consists of a sheet of insulation 18 having a row of holes 19 formed adjacent to one edge thereof and a second row of holes formed adjacent to the opposite edge thereof. These holes do not show in Figure 2 because they have eyelets 13 inserted therein, the heads of which are positioned below the sheet 18 as viewed in Figure 2. The cable 11 is provided with a plurality of conductors 12 and these conductors are individually connected to the eyelets 13 and soldered.

In Figure 4, the manner of connecting a conductor 12 to an eyelet 13 is shown in detail. The conductor 12 has the insulation removed from a suitable length of its end, designated by the numeral 12a and scraped clean. The cleaned end 12a is wound about the shank of the eyelet 13 keeping the winding as low as possible on the shank 13 so that when soldered it will lie as near to the surface 18a as possible.

After the conductors 12 are connected to the eyelets 13 in the manner described, the sheet of insulation 18 is folded together so that the holes 19 pass over the shanks of the eyelets. When this is done, the eyelet will extend through the hole 19 in the manner shown in Figure 5 a sufficient distance to enable the operator to spread or rivet the end. After the eyelet has been spread or riveted as shown in Figures 1 and 6, the terminal is completed and ready for use.

In assembling the new and improved terminal member on the end of the cable, the braid on the cable should extend into the fold of the member in the manner indicated in dotted lines in Figure 1, and indicated by the numeral 20.

Figure 3 is a cross sectional view taken along the line 3—3 of Figure 1, and shows the sheet of insulation 18 folded together and an eyelet 13 extending therethrough and riveted to secure the opposite edges of the sheet of insulation 18

together. The eyelet 13 has one of the conductors 12 connected thereto, the other conductors being shown in cross section as a lead to other eyelets.

It is obvious that a wide range of other electrical contact members can be substituted for the eyelets 13 in accordance with the type of machine or device to which the terminal member 10 is to be connected, without departing from the spirit of the invention.

From the above, it can be seen that the new and improved terminal member may consist of a thin sheet of insulating material having a plurality of holes perforated therein adjacent to the edges thereof and adapted to match each other when the sheet is folded together. Suitable contact members (eyelets are herein described merely by way of example) may be inserted in one row of holes and the conductors of the cable may be individually connected to such members, after which the sheet of insulation is folded together and riveted to form a unitary terminal member. In some instances where the currents carried are not very great, it may not be deemed necessary to solder the conductors to the inserts, as the act of riveting the insulating sheet forming the body of the member may exert sufficient pressure to effect a good connection between the conductor and its insert.

What is claimed is:

1. In a terminal for cables formed of electrical conductors embraced by a sheath, a folded body of insulation having opposite edges in registry and having sets of aligned holes therethrough adjacent to said edges, hollow rivets positioned in said aligned holes for securing said folded body together and serving as terminals for said conductors, and electrical connections between said conductors and said rivets, said folded body at least partially embracing the sheath of said cable and wholly embracing said conductors between the end of said sheath and said rivets.

2. In a terminal for cables formed of insulated electrical conductors, a folded body of insulation of general U shaped cross-section and having sets of aligned holes formed therein adjacent to the open edge thereof, hollow rivets positioned in said holes and set down for securing said folded body together with the legs of the U in registry, and electrical connections between the conductors of said cable and said rivets, said folded body being partially supported on said conductors and enclosing said connections.

3. In a terminal for cables formed of a plurality of insulated conductors, a folded rectangular plate of insulation having two straight edges thereof in registry and having sets of aligned holes formed therein adjacent to said edges, hollow rivet means in said holes securing said folded plate together, and electrical connections between the conductors of said cable and said rivet means, said connections lying within the fold of said plate.

4. In a terminal for cables formed of insulated electrical conductors embraced by a sheath, a folded body of insulation having a curved portion and two flat portions extending therefrom in registry, sets of aligned holes extending through said flat portions, hollow rivets positioned in said aligned holes and adapted, when riveted, to secure said folded body together and at the same time to serve as terminals for the conductors in said cable; and connections between said conductors and said rivets, made before said hollow rivets are riveted, the curved portion of said body enclosing said conductors and at least a portion of the sheath of said cable.

5. In a terminal for cables formed of a plurality of insulated conductors, a sheet of insulation having holes formed therein along opposite edges thereof, said holes being adapted to be brought into alignment when said sheet is folded with said edges in registry, a plurality of rivets positioned in the holes along one of said edges, the conductors of said cable being connected to said rivets and said sheet being folded to bring the holes along the other edge thereof onto the shanks of said rivets, whereby the latter may be set to secure said sheet together in folded relation with said conductors and said connections therebetween.

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