

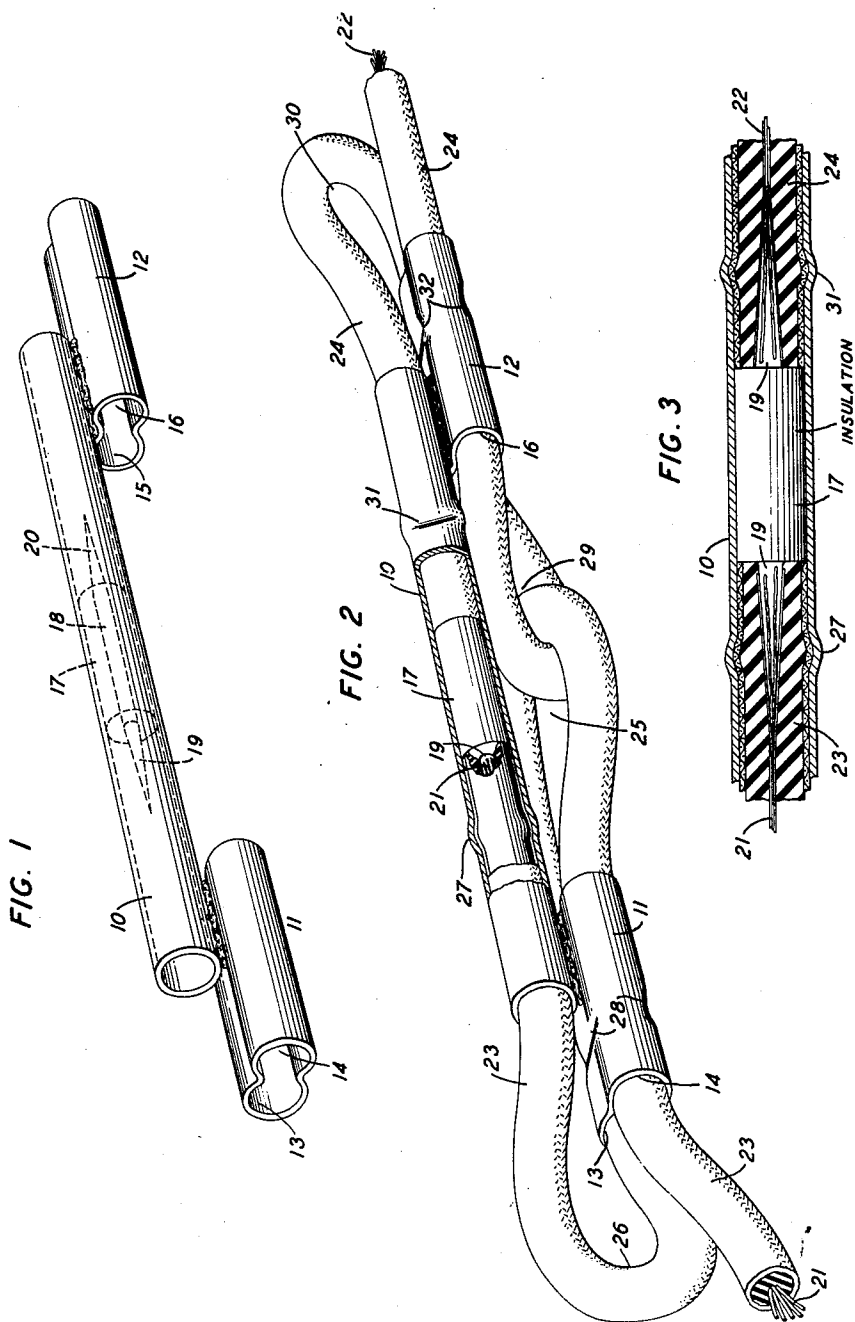
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WIRE CONNECTOR

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WIRE CONNECTOR

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4 Claims. (Cl. 173—340)

This invention relates to wire connectors and more particularly to connectors for joining together the ends of flexible insulated wires having stranded conductors.

The object of the present invention is the provision of a wire connector which can be quickly applied and which will hold to the breaking strength of the wire.

Another object of the invention is the provision of a wire connector which will exclude moisture and have a low electrical resistance.

A further object of the invention is the provision of a wire connector which may be applied without the need of special tools.

In accordance with the preferred embodiment of my invention, which contemplates the provision of a connector for making joints in insulated wires having a central conductor comprising a plurality of fine stranded wires, my connector comprises an elongated tubular member provided with means in the bore thereof for making contact with the ends of the wires inserted therein and clamping means, adapted to embrace the wires when they are looped back upon themselves, to firmly hold the wires in place secured to each end of the tube.

The connectors may be made of any suitable material but are preferably made of metal so that they may be constricted at various locations.

The features of my invention will be readily understood from the following detailed description made with reference to the accompanying drawing of which:

Fig. 1 is a view in perspective of the wire connector of this invention;

Fig. 2 illustrates the wire connector of Fig. 1 with the wires inserted therein and a portion of the connector broken away to show the interior thereof; and

Fig. 3 is a longitudinal sectional view of the central portion of the connector.

In accordance with the preferred embodiment of my invention, as shown in Figs. 1 and 2, I have provided an elongated tubular member 10, having a substantially circular cross section, with comparatively short tubular members 11 and 12 secured to each end thereof. The members 11 and 12 are substantially 8-shaped in cross section to provide wire receiving channels 13, 14, 15 and 16 therein and are secured in any suitable manner to the ends of the member 10 in such a manner that they project a substantial amount of their length beyond the ends of the member 10.

As shown by the dotted lines in Fig. 1 and par-

tially shown in Fig. 2, and more in detail in Fig. 3, there is located in the tubular member 10, intermediate its ends, an insulated bushing or plug 17 having a longitudinally extending metallic member 18 embedded therein. The member 18 is centrally located in the bushing 17, extends some distance beyond each end thereof and is sharply pointed at the ends 19 and 20 to permit its ready engagement with the stranded conductors 21 and 22 in the insulated wires 23 and 24 when they are forced into contact as shown in Fig. 3.

In securing together the ends of two wires as contemplated by this invention, and as shown in Fig. 2, the following procedure is followed:

The ends of the wire to be joined together, 23 and 24, are cut off squarely to provide a smooth straight surface. The end of one of the wires, 23 for example, is inserted in the channel 14 of the member 11 and pulled therethrough a short distance to form the loop 25. The end of the wire is then fed back upon itself through the member 11 and positioned in the channel 13 which positions it in parallel relation with the other portion of the wire 23 located in the channel 13. The end of the wire 23 is then looped as at 26 and the end inserted in the tubular member 10, and forced inwardly until the pointed portion 19 of the member 18 is forced in between the strands of the conductor 21. Constrictions 27 and 28 are then made in the tubes 10 and 11 respectively, to prevent displacement of the wire.

Wire 24, with its loop portions 29 and 30, is secured in the connector in the same manner as above described with respect to wire 23 except that the wire 24 passes through the loop 25 of the wire 23 to interlock the loops 25 and 29. The tubular members 10 and 12 are constricted as heretofore described at the points 31 and 32.

No special tool is required to make the constrictions 27, 28, 31 and 32 as they can be readily made with an ordinary pair of pliers or similar tool.

If it is desired, a small amount of grease or the like may be applied to the ends of the conductors 23 and 24 before they are inserted into the tubular member 10. This provides an added protection to prevent the entrance of moisture.

While I have shown and described the preferred embodiment of my invention, it is to be understood that various changes and modifications may be made therein without departing from the spirit of the invention and I am only limited by the scope of the appended claims.

What is claimed is:

1. A connector for insulated electrical wires comprising an elongated tubular member, means in the bore of said member for effecting an electrical connection between the abutting ends of the wires positioned therein, and tubular members rigidly secured on each end of said first member, on the outer surface thereof for firmly gripping the wires to prevent displacement at said abutting ends, said tubular members projecting a short distance beyond the ends of said first member.

2. A connector for insulated electrical wires comprising an elongated tubular member, a double-pointed metal pin insulatedly mounted in the bore of said member for effecting an electrical connection between the abutting ends of the wires positioned therein, and tubular members rigidly secured on each end of said first member, on the outer surface thereof for firmly gripping the wire to prevent displacement at said abutting ends, said tubular members projecting a short distance beyond the ends of said first member.

3. A connector for insulated electrical wires

comprising an elongated tubular member, means in the bore of said member for effecting an electrical connection between the abutting ends of the wire positioned therein, and tubular members of substantially oval cross section rigidly secured on each end of said first member, on the outer surface thereof for firmly gripping the wires to prevent displacement at said abutting ends, said tubular members projecting a short distance beyond the ends of said first members.

4. A connector for insulated electrical wires comprising an elongated tubular member, a double-pointed metallic pin insulatedly mounted in the bore of said member for effecting an electrical connection between the abutting ends of the wires positioned therein, and tubular members of substantially 8-shaped cross section rigidly secured on each end of said first member, on the outer surface thereon for firmly gripping the wires to prevent displacement at said abutting ends, said tubular members being in alignment with each other and projecting a short distance beyond the ends of said first member.

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