Dec. 19, 1967 J. W. SCHOLZ 3,359,528

WIRE INSERTING GUIDE FOR WIRE CONNECTORS

Original Filed May 26, 1964

Fig. 1

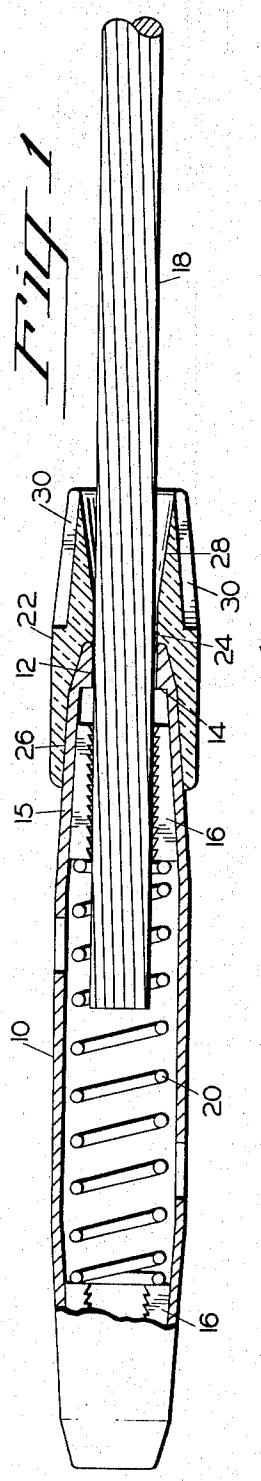


Fig. 2

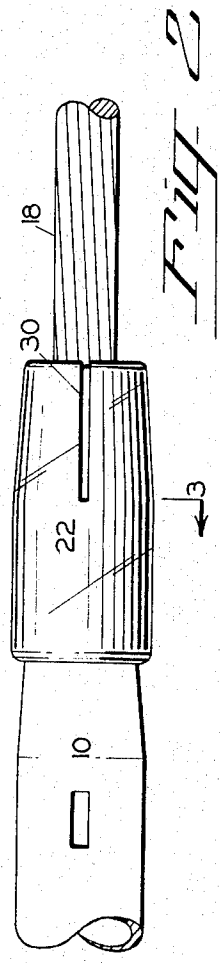
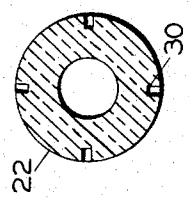


Fig. 3



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United States Patent Office 3,359,528
Patented Dec. 19, 1967

3,359,528

WIRE INSERTING GUIDE FOR WIRE CONNECTORS

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Continuation of abandoned application Ser. No. 370,165, May 26, 1964. This application Aug. 15, 1966, Ser. No. 575,488

3 Claims. (Cl. 339—65)

ABSTRACT OF THE DISCLOSURE

The invention comprises a guide adapted to fit on a wire connector and assist in directing a wire end into the connector. The guide has a bore for receiving a wire and has a socket on one end for attaching it to one end of a connector. The other end of the guide has a tapered socket for guiding a wire through the guide. As an important part of the guide, it is constructed of a breakable material in order that it can be broken off after it has served its purpose.

This application is a continuation of application Ser. No. 370,165, filed May 26, 1964, and now abandoned, for Wire Inserting Guide for Wire Connectors.

This invention relates to new and useful wire guide structures for connectors.

It is common practice to use connectors for connecting wire ends together, such connectors comprising a body portion and internal structure which automatically grips the ends of the wire when the latter are inserted in end openings in the connector. The end openings which receive the wires usually are of limited size and it is extremely difficult to insert the wires into said end openings particularly when the wires are being handled by hot line tools.

It is a primary objective of the present invention, therefore, to provide guide means adapted for mounting adjacent the end openings of connectors and adapted to assist in guiding a wire into the connector.

It is another object to provide a guide for wire connectors which is constructed of transparent material in order to view an inserting function of the wire ends thereinto.

It is still another object to provide a guide for wire connectors which is adapted for mounting on the connectors but which is adapted to be broken off to rid the connector of such guide means after the wires are inserted in the connector.

Briefly stated, the invention comprises a guide member having a central bore at least as large as the wire to be inserted in a connector and having a first socket end adapted to fit on the end of a connector. The opposite end of the guide, comprising a second socket end, receives and guides a wire into the connector. The outer end of the socket is considerably larger than the diameter of the wire in order that only an approximate position of the wire need be obtained while initially inserting it into the guide.

The invention will be better understood and additional objects will become apparent from the following specification and claims, considered together with the accompanying drawings, wherein the numerals of reference indicate like parts and wherein:

FIGURE 1 is a side elevational view of a wire connector showing the present guide associated therewith, this view being principally in section;

FIGURE 2 is a fragmentary elevational view also showing the present guide on a connector and showing structure of the guide facilitating removal of the latter from the connector; and

FIGURE 3 is a criss sectional view taken on the line 3—3 of FIGURE 2.

With particular reference first to FIGURE 1 of the drawings, a connector with which the present guide may be used is designated by the numeral **10**. This connector is hollow and has opposite end openings **12** the diameter of which is somewhat smaller than the interior diameter of the connector adjacent such open end, thus forming shoulder portions **14**. The end portions **15** of the connector are tapered to a smaller diameter than the central portion, and incorporated within the connector are two sets of slidable, toothed jaws **16** adapted for clamping engagement with wire ends **18**. Confined within the connector is a compression spring **20**. The opposite ends of this spring engage the spaced sets of jaws **16** for normally urging the latter toward the tapered ends of the connector.

Thus, to connect a pair of wires together the ends are inserted forcefully into opposite ends of the connector. As the wire ends move inwardly they pass through the jaws **16**. Since the jaws are biased toward the ends of the connector by the spring **20** they will remain in substantial engagement with the wire ends **18**, and as soon as the latter are released the jaws **16** in moving outwardly therewith are compressed together by reason of the tapered construction of the connector to accomplish a positive grip on the wires.

The present invention is designated by the numeral **22** and comprises a guide adapted for mounting on the ends of connector **10** to facilitate easy insertion of the wires **18** into said connector. The present guide **22** comprises a body portion having a central longitudinal bore **24** and oppositely directed end sockets **26** and **28**.

Socket **26** is of selected shape and size to receive the end of the connector for attachment of the guide to said connector. In a preferred construction the attachment of guide **22** to the connector is accomplished merely by frictionally attaching it thereto in order that a permanent connection be not made, as will be more fully explained hereinafter.

The end socket **28** is tapered outwardly and leads directly into the central bore **24**. The outer end of the socket, in a preferred construction, is substantially larger than the diameter of the wire **18**. This facilitates easy insertion of the wire into the connector even if handled by hot line tools.

It is customary for the lineman to partially insert the wire ends and then to forcefully and rapidly move the wires inwardly toward each other. The use of the present guide assists in this function since the socket **28** lengthens the distance through which the wire ends may travel in their forceful movement into the connector. A more pasitive connection is thus possible.

The present guide preferably is constructed of a transparent material such as glass or suitable plastic in order that the lineman can see the ends of the wire **18** move into the socket **28**.

With reference now particularly to FIGURES 2 and 3, the guide **22** has longitudinal slots **30** leading from the wire receiving socket end. These slots weaken the guide and permit it to be fractured by a pounding instrument to provide for removal from the connector and wire. That is, after the guide has served its function of assisting in the insertion of wire **18** in the connector it may thereafter comprise an obstruction upon the wire and preferably is removed. By constructing the guide **22** of a material which may be shattered by impact, such as a hard plastic, and by providing weakening slots **30**, the lineman can remove the guide merely by hitting it with a hammer.

Thus as stated hereinbefore it is desirable that the guide have only a friction connection with the connector **10** or if it is desired that it be held a little more positively, then

one or more spot areas of glue between the connector and guide may suffice. In either case, the guide is removed by breaking it off.

In a preferred construction, and as shown in the drawings, the slots **30** extend only partially through the thickness of the guide wall, the depth of said slots being sufficient to weaken the guide in order that the latter may be broken off. These slots may be deeper than shown, however, or in fact may extend all the way through the thickness of the guide wall.

It is to be understood that the form of my invention herein shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A wire guide for a connector adapted to receive a wire through an end opening therein, said guide being made of breakable material and having a central bore for slidably receiving a wire to be inserted into said connector, means defining a socket on one end of said guide for fitting over one end of a connector, frictionally connecting itself to a connector with said bore aligned with the end opening of the connector, and means defining an outwardly tapered socket on the other end of said guide leading into said central bore for guiding a wire into said bore.

2. A wire guide for a connector adapted to receive a wire through an end opening therein, said guide having a central bore for slidably receiving a wire to be inserted into said connector, means on one end of said guide for connecting said guide to a connector with said bore aligned with the end opening of the connector, and means defining an outwardly tapered socket on the other end of said guide leading into said central bore for guiding a wire into said bore, said guide being constructed of a breakable material facilitating removal of the guide from a connector by impact.

3. The wire guide of claim **2** including weakened areas in said guide to facilitate breaking.

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