

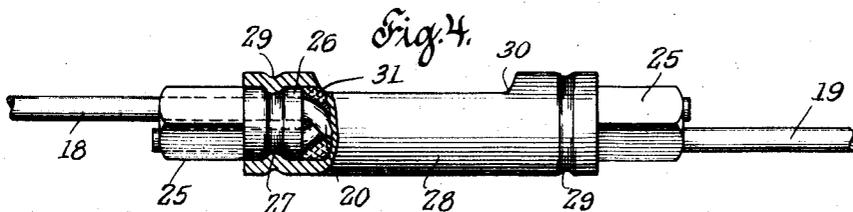
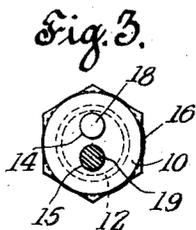
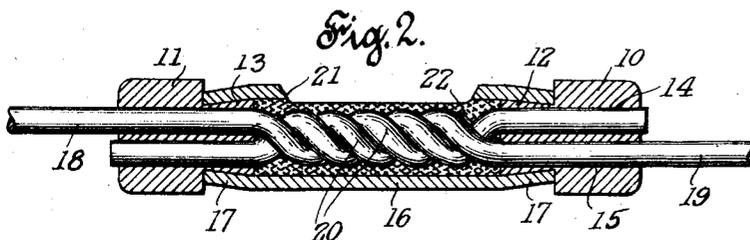
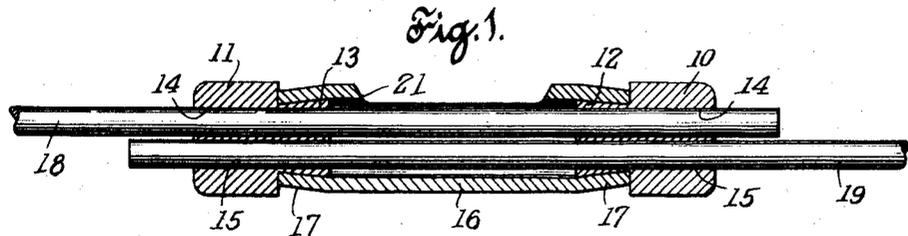
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WIRE END SPLICING DEVICE AND CONNECTING GUARD

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WIRE-END SPLICING DEVICE AND CONNECTING GUARD

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This invention relates to devices for uniting the meeting ends of pliable wires in a manner to constitute a joint of maximum strength and firmness.

Such joints are commonly made by twisting the exposed, parallel extending ends of the wires by pliers or like implements, whereby the strands are strained in the production of a coil, frequently lacking in regularity and symmetry, the operation involving considerable expenditure of energy and previous experience in its performance.

In the case of electric current carrying conductors it often occurs that the wires are twisted when covered with films of oxides of the metal, that spaces intervene between the twisted portions, which if exposed to the weather or even air, collect particles which, in addition to oxidization, act to insulate one wire from the other, destroying the efficiency of their conductivity.

It is therefore one of the objects of this invention to provide a device whereby the ends of the wires may be firmly united by being twisted in a particularly easy and convenient manner.

A further feature is in the provision of means combined with the twisting elements that completely encloses and confines the coiled wires and which may be filled with solder or a melted metallic substance whereby complete conductivity of current is secured.

Another advantageous aim is to provide such devices in a variety of simple forms, all of inexpensive construction and easy of application.

These objects are accomplished by the novel construction and arrangement of parts in a practical manner as hereinafter described and shown in the accompanying drawing, forming a material part of this disclosure, and in which:—

Figure 1 is a longitudinal sectional view of a preferred form of the connector, showing the wires as entered therein preliminary to twisting the same.

Figure 2 is a similar view of the same parts as they appear after the twisting operation.

Figure 3 is an end view of the same.

Figure 4 is a side elevational view of a

modified form of the device partially broken away to show the interior construction.

In Figures 1 to 3 the device is shown to consist of a pair of duplicate heads 10 and 11 of polygonal cross section, each being adapted to receive a wrench or like implement by which they may be individually rotated or held.

Extending integrally from the base of each head are conic frustums 12 and 13, their larger diameters being disposed outwardly, away from the heads.

Formed longitudinally in each head and cone are twin apertures 14 and 15 arranged in parallel equidistant from the center and spaced to present a solid wall of metal therebetween.

A tube 16, approximating the diameter of the short diameter of the heads and having an opening to pass over the enlarged ends of the conical extensions, has its ends conically contracted, by spinning or analogous means, to fit over the extensions 12—13, the ends of the tube abutting the shoulders of the heads 10—11 and acting to connect them in a manner to prevent movement in the direction of their length but permit each cone to turn freely therein.

One of the wires 18 is passed through the aperture 14 in the head 11 to extend within the tube 16 and out through the corresponding aperture in the head 10 to reach slightly beyond; the other wire 19 is entered through the opening 15 in the head 10, extended through the tube and corresponding opening in the head 11, as best seen in Figure 1.

After the wires have been thus positioned as indicated, twisting is accomplished in an obvious manner by holding one of the heads and rotating the other, or by turning the heads in opposite directions, thereby producing a tightly wound coil 20 as seen in Figure 2.

The length of the tube 16 may be proportioned to the diameter of the wires to be connected and, as will be seen, provides a guard for the coil which may fill its interior or not, depending on the material of the coil.

If preferred the tube 16 may contain an open recess 21 and the entire interior of the

tube filled with solder 22 or the like, completing the junction between the wires, which, if previously cleaned, possess as great conductivity as would the same wire without a joint.

5 In the form shown in Figure 4, a pair of heads 25 of the same general nature are provided with cylindrical extensions 26 containing annular recesses 27 and are drilled to receive the wires 18—19 as described.

10 A tube 28 receives the extensions at its ends and is rolled or otherwise treated to produce in reaching beads 29 engaging the recesses 27 to be held rotatably in place.

A cut out 30 in the tube wall provides means for the entry of solder 31 if desired, the device being otherwise in all respects as that previously described.

15 While certain preferred embodiments of this device have been shown and described, it will be understood that changes in the form, arrangements, proportions, sizes and details thereof may be made without departing from the scope of the invention as defined in the appended claims.

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

1. In a wire connector having a tubular element through which a pair of wires to be
30 twisted may extend, a head having a pair of perforations to receive the ends of wires to be connected, and an integral frusto-conical extension on said head extending within the tubular element and swivelly connected
35 therewith.

2. A wire connector comprising a pair of heads, each head having perforations to receive the wires to be connected, a tube disposed between said heads and through which
40 the wires extend, and integral portions on said heads extending within the tube and freely rotatable in either direction in the tube to twist the wires within the tube.

3. A wire connector comprising a tubular
45 element for the reception of wires to be twisted, a head having perforations to receive the wires, and a portion extending from said head into the tube and freely rotatable in either direction therein to twist the wires.

4. A wire connector comprising a tubular
50 element for the reception of wires to be twisted, a head having perforations to receive the wires, and means for swivelly connecting the head with the tubular element.

55 This specification signed and witnessed this 20th day of May, 1927.

ERIC T. FRANZEN.