Sept. 1, 1953 H. V. ELLIOTT 2,651,025

ELECTRICAL CONNECTION FOR DISTRIBUTORS

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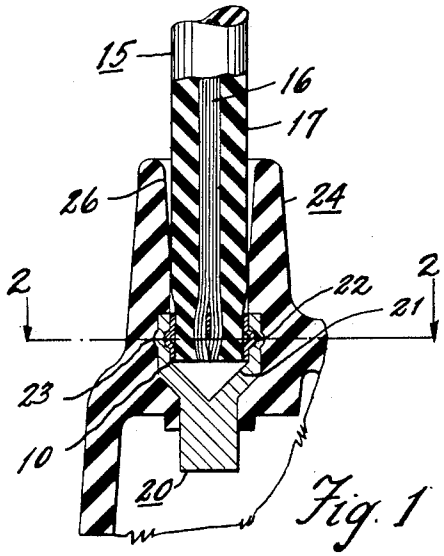


Fig. 1

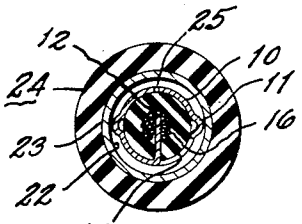


Fig. 2

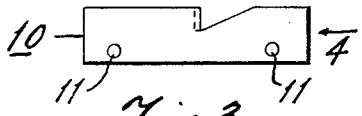


Fig. 3

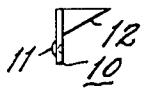


Fig. 4

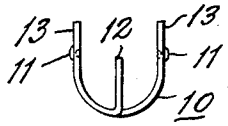


Fig. 5

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ELECTRICAL CONNECTION FOR DISTRIBUTORS

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1 Claim. (Cl. 339—97)

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This invention relates to devices for making mechanical and electrical connections between insulated wires and terminal members.

An object of the invention is to reduce the cost of manufacture of such connecting devices by effecting a reduction in the amount of material and labor involved in the manufacture thereof. In the disclosed embodiment, this object is accomplished by the use of a relatively narrow band initially of U-formation and having a pointed tang for piercing diametrically into the cable to make contact with the wires thereof, said U-shaped member being then formed cylindrically around the insulation of the cable. The terminal member to which the cable is to be connected provides a socket for receiving the band on the cable, said socket having an annular groove for receiving detents provided by the band.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings wherein a preferred embodiment of the present invention is clearly shown.

In the drawing:

Fig. 1 is a longitudinal, sectional view showing the cable connected with a terminal member embedded in a non-conducting support.

Fig. 2 is a sectional view on line 2—2 of Fig. 1.

Fig. 3 is a plan view of the band before it is bent.

Fig. 4 is a view in the direction of arrow 4 of Fig. 3.

Fig. 5 shows the band bent into U-shape.

Referring to Figs. 3 to 5, a band 10 is formed of sheet metal preferably of half hard sheet brass. It is shaped to provide detents 11 and a pointed tank 12 formed by partially shearing the member 10 and bending it away from the plane thereof. Member 10 is then bent into U-formation as shown in Fig. 5 with the tang 12 extending midway between and parallel to the branches 13 of the U. The cable 15 comprises a core of small wires 16 enclosed by an insulating sheet 17 of a rubber-like compound which is somewhat flexible. The terminal 20 with which the cable is to be mechanically and electrically connected provides a socket portion 21 having an annular groove 22 which is provided by the forming socket portion, thus providing an annular bead 23 which assists in anchoring the terminal 20 to a non-conducting support 24 of molded insulating material, member 20 being an insert in the mold in which the member 24 is molded under heat and pressure. The member 24, may, for example, be an ignition distributor cap, the terminal 20 being one of the

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distributor posts and the cable 15 being a connection between the post and the spark plug.

One end of the cable 15 is placed between the branches 13 of the U-shaped member 10 and is forced against it with pressure sufficient to cause the pointed tang 12 to press through the insulation of the cable and to be received between the wires of the core 16 to make electrical connection therewith. The branches 13 are then bent around the insulation of the cable to form a band, the ends of the band being slightly separated as indicated at 25 in Fig. 2.

The band having been assembled with the cable, the cable and band are forced down into the socket portion 26 of the support 24 to cause the band to be received by the socket portion 21 of the terminal 20. This action causes the band to be squeezed inwardly by the tapering walls of the socket 26 so that detents 11 can be received within the upper portion of the socket 21 of terminal 20. When the detents 11 arrive at the level of the annular groove 22, by virtue of the resiliency of the band and the resiliency of the insulation 17 the squeezing of the insulation 17 by the band causes a portion of the insulation 17 to bulge out so as to fit snugly in the lower portion of the socket 26. By virtue of this construction, a relatively narrow band 10 can be used and therefore the terminal member 20 need have only a relatively shallow socket portion. Consequently, the construction provides for minimizing the amount of metallic material required.

While the embodiment of the present invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted.

What is claimed is as follows:

An electrical connection comprising, an insulating body having a tapering cavity; a metal member embedded in said body including a socket which lines with the cavity, said socket including an internal circumferential groove therein; a cable having a flexible conductor and a yieldable sheath; and a conducting band embracing the cable adjacent one end thereof, said band being split the entire length thereof and being slightly larger in diameter than the socket, said band having a prong piercing the sheath and contacting the conductor to hold the band in assembly with the cable and having bosses adapted to be received by the groove, said band, when inserted in the socket, adapted to be compressed radially inwardly so as to fit in the socket and causing the sheath within the confines of the band to be placed under radial compression and also for

causing the sheath above the band to expand radially outwardly into sealing contact with the cavity.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
1,334,040	Lee	Mar. 16, 1920
1,334,084	Dorsey	Mar. 16, 1920
1,700,899	Kroeger	Feb. 5, 1929
1,792,866	Rabezzana	Feb. 17, 1931
1,905,245	Rowley	Apr. 25, 1933
2,026,490	Bell	Dec. 31, 1935

FOREIGN PATENTS

Number	Country	Date
209,306	Great Britain	Jan. 10, 1924
428,006	France	Apr. 10, 1910
595,210	France	Sept. 29, 1925
607,276	France	June 29, 1926