March 7, 1950 E. I. ENGQVIST 2,499,474

ELECTRICAL CONNECTOR

Filed May 9, 1945

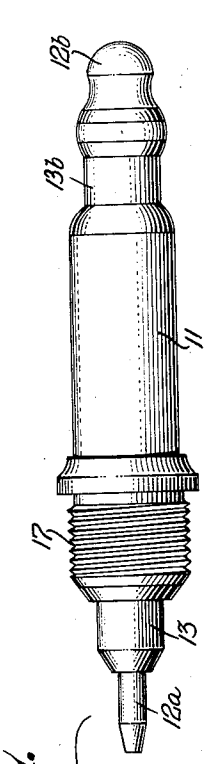


Fig. 1.

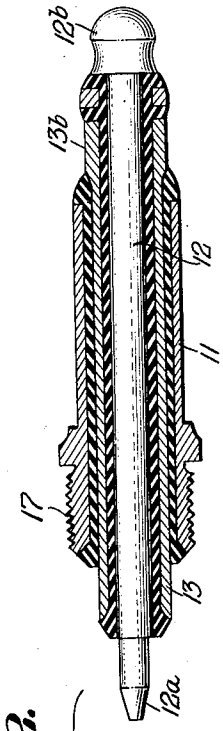


Fig. 2.

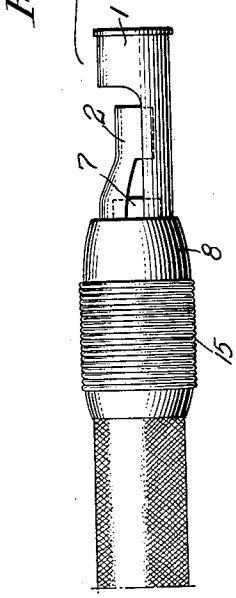
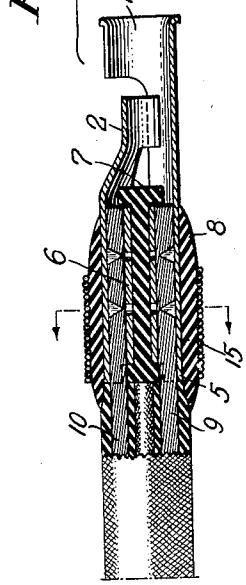


Fig. 3.



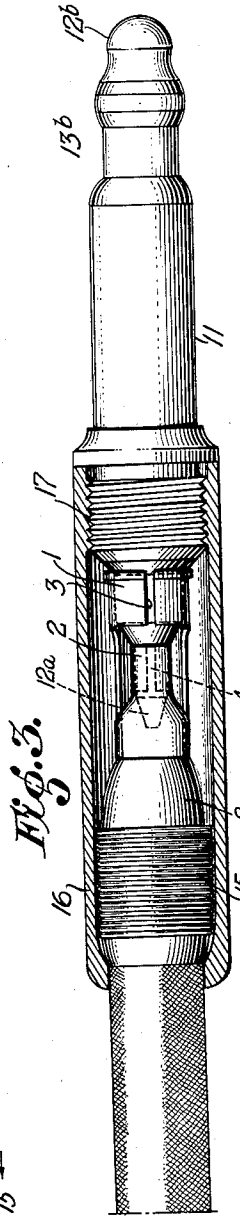
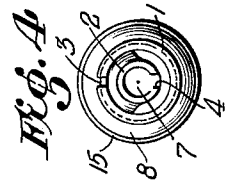


Fig. 5.



Fig. 4.



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ELECTRICAL CONNECTOR

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In Sweden June 19, 1944

4 Claims. (Cl. 173—328)

1

The invention relates to a device for electrical connection of a wire to a contact device, preferably for connecting a switchboard cord to a plug. Hitherto the cord has usually been connected to the plug by means of screws, two or more of the wires of the cord thereby being provided with thimbles which by means of screws have been connected to the plug. Said screw connection entails the inconvenience that the plug is rather complicated and not suitable for modern manufacturing methods. It is besides a rather tedious work to change from one cord to another, due to the difficulties in dealing with the small connection screws.

It is an object of the present invention to eliminate these drawbacks.

The invention will be more closely described with reference to the accompanying drawing showing an embodiment. Fig. 1 is a side view of the cord and the plug detached, Fig. 2 is a longitudinal section of cord and plug and Fig. 3 a side view showing the cord fastened to the plug, Fig. 4 is an end view of the thimbles and Fig. 5 is a section of the cord along the line 5—5 in Fig. 2. The thimbles of the cord are at one of their ends formed as cylindrical sleeves 1 and 2, provided with slots 3 and 4, respectively, so as to make the sleeves resilient. At the other end of the thimbles which is to be connected to the wire, the sheet metal, of which the thimble is produced, is bent in such a way that the thimbles are in the form of segments 5 and 6, enclosing the wires 9 and 10, respectively. The thimble 1 is longer and has greater diameter than the thimble 2. The thimbles are mounted with the flat surfaces of the segmental ends lying on each side of an insulating washer 7, the cord connection thereby obtaining a circular section and the sleeves 1 and 2, respectively, lying concentrically but axially displaced relative to each other. The thimbles are fixed in this position and enclosed by an insulating sleeve 8 over which a wire 15 is wound. The plug consists in a manner known per se of concentrically arranged parts 11, 12 and 13 insulated from each other. As one end of the plug the innermost part of that portion to which the cord is to be connected is formed as a cylindrical pin 12a, conformed to the smaller sleeve 2 of the cord and the center element 13 is formed in a corresponding manner so as to conform to the larger sleeve 1 of the cord. Contact between cord and sleeve is then obtained by pushing the sleeves over the corresponding portions of the plug, an elastic connection between the sleeves and the portions of the plug thereby being obtained. The elements 12 and 13 at the opposite end of the plug are suitably formed as indicated

2

at 12b and 13b to engage a jack (not shown). The cord may thereafter be fastened to the plug in a manner known per se by means of a sleeve 16 being put over the cord and screwed to the plug as indicated at 17 in Fig. 3.

The invention is of course not limited to the embodiment shown on the drawing, but can be modified in several manners. It is for instance not necessary that the sleeves and corresponding portions of the plug are axially displaced relative to each other, but they may instead be arranged inside each other.

I claim:

1. In an electrical connecting device, a cord having conductors therein, thimbles on said conductors, resilient coaxial sleeves of different diameter at the ends of the thimbles remote from said conductors, means for holding said sleeves in position so as to form a unitary structure, means insulating the thimbles from each other, and a plug element including coaxial cylindrical members insulated from each other and projecting from both ends of said element, the portions of the members projecting from one end of said element having such diameter as to fit one of said sleeves, and the portions of said members projecting from the other end of said element being engageable with a jack.

2. A device according to claim 1 wherein said sleeves and said cylindrical members of said plug are axially displaced relative to each other.

3. A device according to claim 1 wherein two of said thimbles are provided, the ends of the thimbles adjacent the conductors being segmentally shaped.

4. A device according to claim 1 wherein the ends of the thimbles adjacent the conductors are segmentally shaped to provide flat portions engaging said insulating means.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
711,556	Clausen	Oct. 21, 1902
726,105	Scribner	Apr. 21, 1903
1,642,064	Engstrom	Sept. 13, 1927
1,680,430	Pacent	Aug. 14, 1928
2,414,498	Warner et al.	Jan. 21, 1947

FOREIGN PATENTS

Number	Country	Date
74,401	Sweden	May 31, 1932