

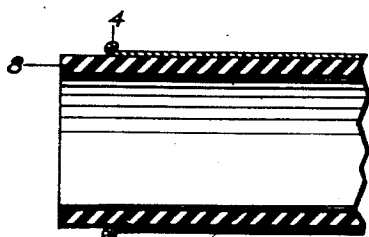
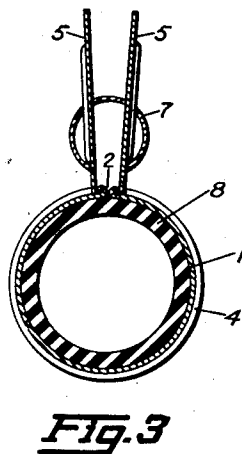
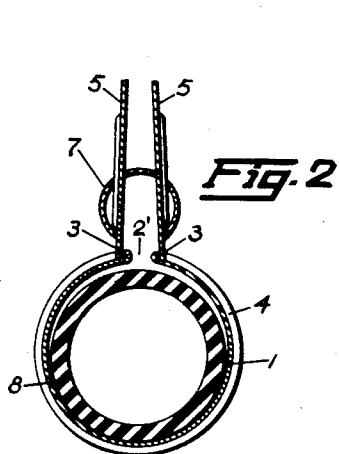
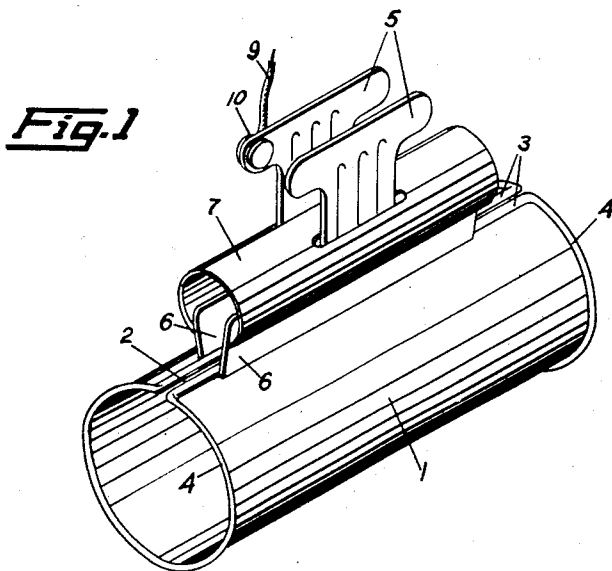
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2,445,808

ELECTRODE

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ELECTRODE

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1 Claim: (Cl. 173-273)

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This invention relates, in general, to electrical connectors, and in particular to a circumferential electrode for cylindrical members. Although this connector may be adapted to other uses, it is principally designed for use in connection with dielectric testing of electrical insulating tubing. In order to make a satisfactory test it is desirable that the electrode or connector, as far as possible, completely surround the sample being tested and fit closely thereagainst. It is also important that the electrode be devoid of sharp edges at which voltage stress may concentrate.

A principal object of my invention, therefore, is to provide a split electrode, substantially cylindrical in shape, adapted to be expanded to accommodate tubular members of different diameters.

Another object is to provide an expandable electrode for tubular members and an expanding and contracting means therefor, whereby the electrode may be opened for application to a tubular member and the expanding means released to urge the electrode snugly against the tubular member.

Another object is to provide an electrode for tubular members with curved edges for elimination of areas of high voltage stress concentrations.

Further objects and advantages of my invention, as well as its construction and operation, will be apparent by reference to the following description in connection with the accompanying drawing in which:

Fig. 1 is a perspective view of my invention in closed position.

Fig. 2 is a cross-sectional view through the electrode in open position, preparatory to application on a tubular sample also shown in section.

Fig. 3 is a similar view with the electrode expanding means released to fit closely about the tubular member.

Fig. 4 is a fragmentary, longitudinal, cross-sectional view through the electrode and tubular sample.

As shown in the drawing, reference character 1 indicates a sleeve, cylindrical in shape and having a longitudinal slit 2. The portions of the sleeve adjacent the slit 2 are provided with curved edges 3, preferably rolled or beaded as shown. The ends of the sleeve 1 have similarly curved or rolled edges 4.

The sleeve 1 is expandable about its longitudinal axis. To expand and contract the sleeve I have provided a pair of fingergrrips 5 having elongated portions 6, secured to the sleeve adjacent the slit

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2 and normally urged into sleeve-contracting position by resilient member 7.

The electrode is applied to the tubular member 8 by forcing the fingergrrips 5 together, spreading apart members 6 and rolled edges 3, to provide gap 2', whereupon the electrode is slid over the tubing to the desired position and the fingergrrips released, resilient member 7 urging the elongated members 6 toward each other to close gap 2' so as to cause sleeve 1 to bear tightly against the tubular member.

The power source may be connected to the electrode through conductor 9, terminating with any suitable connection 10.

I have provided a simple and efficient electrical connection or electrode for tubular members, adapted to be easily applied and removed, and having a large contact area with no voltage-stress-concentration points.

Modifications and changes can be made in the above-described embodiment of this invention without departing from the spirit and scope thereof as set forth in the appended claim.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

What I claim is:

30 An electrode comprising an elongated, tubular sleeve, said sleeve being split longitudinally, upstanding ridges along the sides of said split and at the ends of said sleeve, thereby to minimize concentration of electric potential thereat, means 35 to urge said ridges together, said means comprising clamping members in contact with said ridges, a resilient sleeve, said clamping members passing through said resilient sleeve, and an electrical connector on one of said clamping members.

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