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2,926,128

ANODE CONNECTOR FOR CONDUCTOR WIRES

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FIG. 1

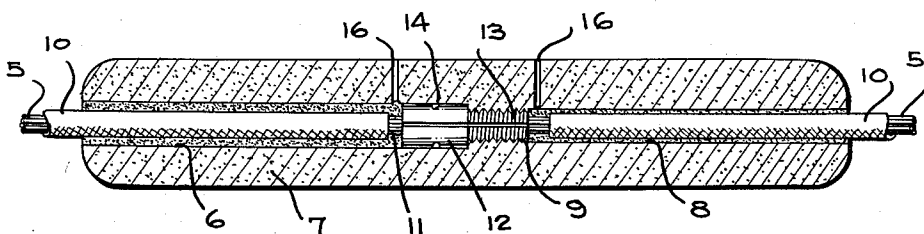


FIG. 2

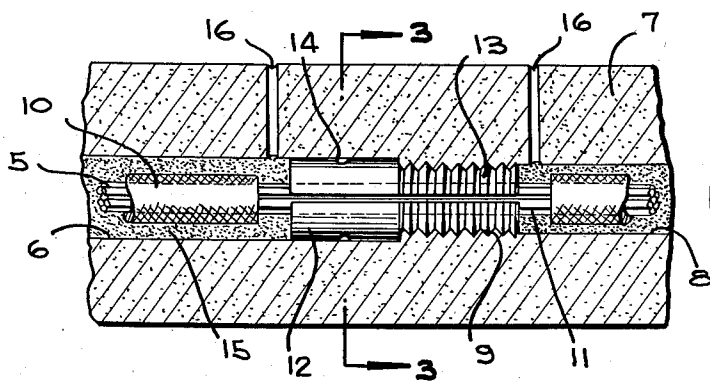
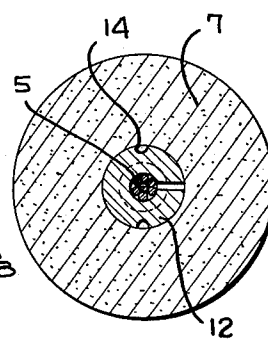


FIG. 3



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ANODE CONNECTOR FOR CONDUCTOR WIRES

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3 Claims. (Cl. 204—196)

This invention relates to sacrificial anodes for protecting underground electric conductor wires, pipes, etc. from the disintegrating action of electrolysis.

It is old and well known in the art to attach anodes of carbon, iron or magnesium to electric conductor wires but in all previous known methods of attaching the anodes to the wire it has been necessary to splice the wire and where a large number of anodes are attached to a length of wire this is highly objectionable and time consuming.

It is an object of the present invention to provide a connector between the anode and conductor wire which will permit the anode to be attached to the wire without the need of splicing the wire.

A further object of the invention resides in providing a connector which will establish a positive electrical connection between the anode and wire.

A still further object of the invention resides in mounting on the bare wire of the conductor a split sleeve having exterior screw-threads for threaded engagement with the bore of a tubular anode and then filling the clearance between the conductor and walls of the bore with a cement to completely protect the connector from electrolysis and the elements of the ground.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a longitudinal sectional view of an anode mounted on a conductor wire by my improved connector.

Fig. 2 is an enlarged fragmentary sectional view of the same, and,

Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Referring to the drawing wherein for the purpose of illustration a preferred embodiment of the invention is shown the numeral 5 denotes a conductor wire extending through the axial bore 6 of an elongated cylindrical anode 7 which may be constructed of carbon, iron or magnesium but in the present instance is shown as made of carbon. The bore 6 for approximately one-half its length is of reduced diameter, as at 8, and the reduced bore at its inner end is formed with screw-threads 9. A section of the insulation or sheathing 10 of the conductor wire 5 is removed to expose the bare wire, as at 11, and fitted on the exposed wire is a longitudinally split sleeve or bushing 12 made of brass or other suitable material. After fitting the sleeve on the wire it is crimped or brazed on the wire to establish a positive electrical connection and to secure it against movement. The exterior of the sleeve is slightly reduced at one end and screw-threaded at 13 to engage the screw-threads 9 in the reduced bore 8 of the anode. The exterior surface of the larger end of the sleeve has dents 14 formed

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therein to establish a tight fit when the sleeve is crimped on the wire. After the anode 7 is threadedly connected with the sleeve 12 the open space between the conductor wire and anode is filled with cement 15 or other suitable sealing material to secure the anode against accidental displacement and protect the electrical connection from the elements of the ground. A pair of transverse passages 16 through the wall of the anode provide vents for introducing the cement and the escape of air.

In practice, the conductor wire to be run in an underground conduit will be equipped with a series of anodes mounted on the wire at spaced apart intervals. For instance, a wire running 400 to 700 feet from manhole to manhole will be equipped with possibly 40 anodes. The conductor to be equipped will have its insulation removed at each point of connection with an anode to expose the bare wire. The anodes are successively mounted in surrounding relation to the exposed wire by first affixing a sleeve 12 to the bare wire and then sliding the anode over the sleeve until the threaded end 13 of the sleeve engages the threads 9 of the reduced bore 8, whereupon the anode is rotated to establish threaded connection between the sleeve and anode. After the anode is affixed the space between the bore and conductor wire is filled with cement thus firmly affixing the anode in place. Thus, it is seen a series of anodes may easily and securely be affixed to a conductor wire without the need of breaking the wire and forming a splice.

It is to be understood a preferred example of the invention is shown and changes in the shape, size and arrangement of the parts may be made without departing from the spirit of the invention or scope of the claims.

Having thus described my invention, I claim:

1. An anode connector for conductor wires comprising an elongated anode having an axial bore therethrough, one end of the bore being of reduced diameter and provided with screw threads, an insulated conductor wire extending through the bore of said anode having a portion of its insulation removed to expose the bare wire, a sleeve fitted on the bare wire in electrical contact therewith and slidable in the large end of the axial bore of said anode, said sleeve having one end of reduced diameter and exteriorly screw threaded in threaded engagement with the reduced end of the bore of said anode, and a sealing compound filling the bore of said anode throughout its length.

2. An anode connector for conductor wires comprising an anode having a longitudinal bore, a portion of said bore being reduced in diameter and provided with screw threads, an insulated conductor wire extending through said bore having a portion of its insulation removed to expose the bare wire, a split sleeve surrounding the bare wire and crimped thereon, one end of said sleeve being reduced to fit in the reduced portion of the bore of said anode, exterior screw threads on the reduced end of said sleeve in engagement with the threads of the reduced portion of the bore to establish fixed connection between the sleeve and anode, and a sealing compound filling the bore of said anode throughout its length.

3. An anode connector for conductor wires comprising an anode having an axial bore throughout its length, a portion of said bore being of reduced diameter forming a shoulder intermediate the length of the bore, said reduced portion having screw threads, an insulated conductor wire extending through the axial bore of said anode having a portion of the insulation removed to expose the bare wire, a sleeve mounted on the bare wire

in electrical contact therewith and slidable in the large portion of the bore of said anode, said sleeve having a reduced screw threaded end forming a shoulder in contact with the shoulder in the bore of said anode when the reduced end of said sleeve is threaded in the reduced portion of the bore of said anode, and a sealing compound filling the axial bore of said anode throughout its length.

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