

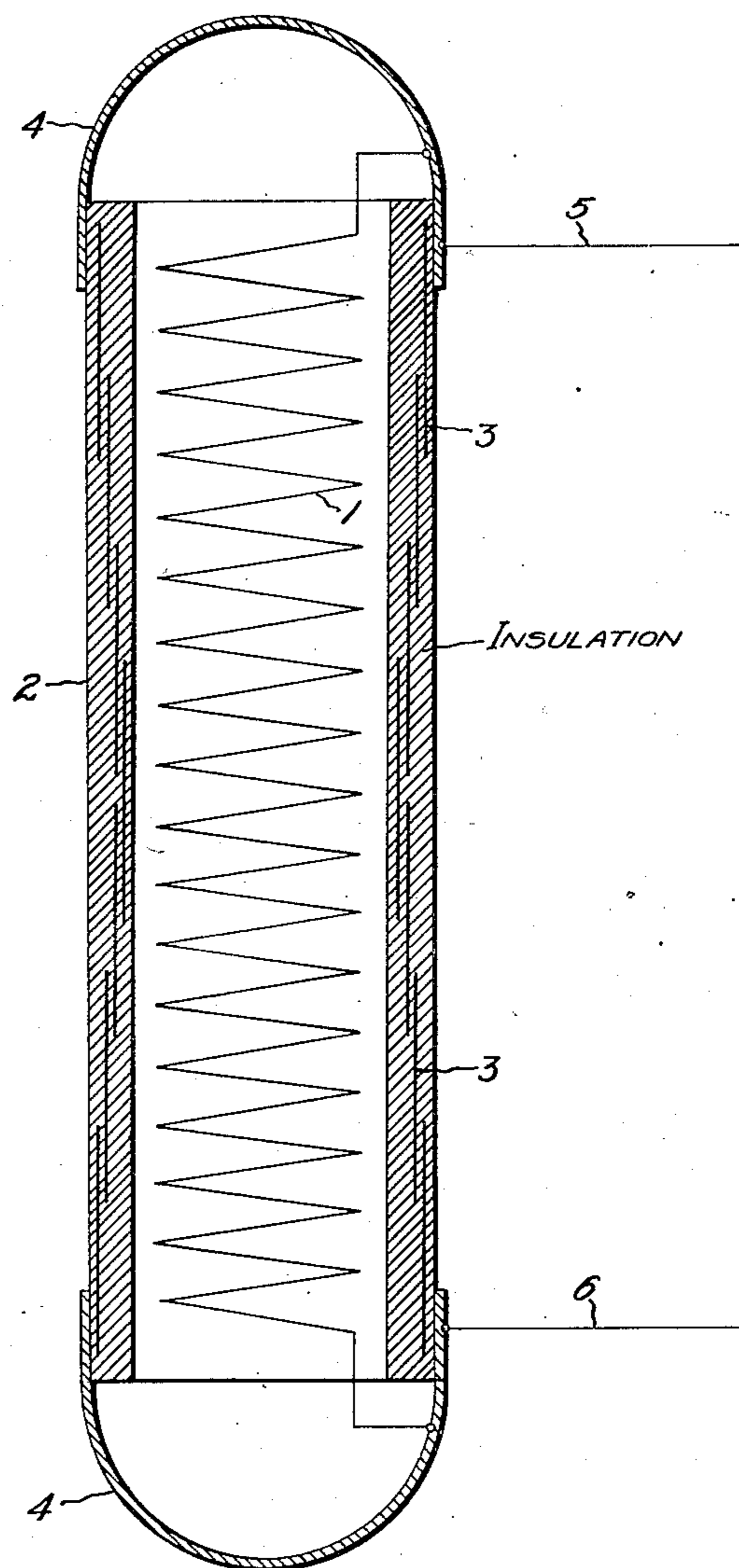
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CORONA PREVENTING APPARATUS

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CORONA-PREVENTING APPARATUS.

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My invention relates to apparatus for preventing the formation of corona on conductors subjected to high potential being particularly applicable to the prevention of corona formation on step resistances of oil switches and an object of my invention is the provision of an improved apparatus for this purpose.

My invention will be better understood from the following description taken in connection with the accompanying drawing, and its scope will be pointed out in the appended claims.

In the single figure of the drawing which represents a resistance and a container in which the resistance is mounted embodying my invention, 1 represents the resistance which may be in the form of a helix and may be of wire of such a size that when raised to the potential of the circuit with which it is used would normally be surrounded by a corona discharge. The resistance 1 is surrounded by a tube 2 of insulating material having metallic inserts 3 imbedded therein. These inserts are completely insulated from each other by the material of the tube and have overlapping portions. They are shown embedded in the tube at various depths and may be in the form of separate rings or bands. A convenient method of making the tube is by rolling it up of paper with a suitable binder and inserting metal foil strips as the tube is being rolled up. The ends of the tube are shown enclosed by metal caps 4 which overlap the ends of the tube and also the end inserts. The caps 4 are thereby insulated from the end inserts but are, nevertheless, in electrostatic relation therewith. These end caps preferably make tight connections with the tube to exclude moisture and are given a rounded contour. The two ends of the resistance are connected respectively to the two end caps 4 and the external circuit may be connected to these caps by suitable connections represented diagrammatically by the leads 5 and 6.

The container thus formed constitutes a shield for the resistance providing a substantially uniform distribution of field throughout its length and in effect is equivalent electrostatically to a conductor surrounding the resistance of a size commensurate with the tube. Corona formation on the relatively

small wire forming the resistance is thereby avoided and a convenient weather-proof container is thereby provided.

What I claim as new and desire to secure by Letters Patent of the United States is:

1. Means for preventing the formation of corona about a resistance conductor comprising a tubular shield of insulating material adapted to receive the conductor, said shield having members closing the ends thereof and having spaced conducting inserts embedded therein and extending in a series lengthwise of the tube.

2. Means for preventing the formation of corona about a resistance comprising a tube of insulating material constructed to receive the resistance, caps closing the ends of the tube and connected respectively to the ends of the resistance, and spaced overlapping conducting inserts embedded in the tube and extending in a series from one cap to the other.

3. Means for preventing the formation of corona about a resistance coil comprising a hollow tube of insulating material constructed to receive the resistance coil, conducting caps closing the ends of the tube and connected respectively with the ends of the resistance and a plurality of spaced conducting inserts embedded in the wall of the tube and arranged in a series extending from one end of the tube to the other.

4. Means for preventing the formation of corona about a resistance comprising a container therefor of insulating material having embedded therein a series of separated overlapping metallic inserts, and metallic end caps for the container connected respectively with the ends of the resistance and in electrostatic relation with the end inserts.

5. Means for preventing the formation of corona about a resistance comprising a tubular container therefor constructed of insulating material having embedded therein a series of metal foil inserts spaced from and overlapping each other, and a rounded cap at each end of the container, said caps being connected with the respective ends of the resistance and having portions overlapping the inserts adjacent the ends of the tube.

In witness whereof, I have hereunto set my hand this 15th day of January, 1926.

JOSEF BIERMANN.