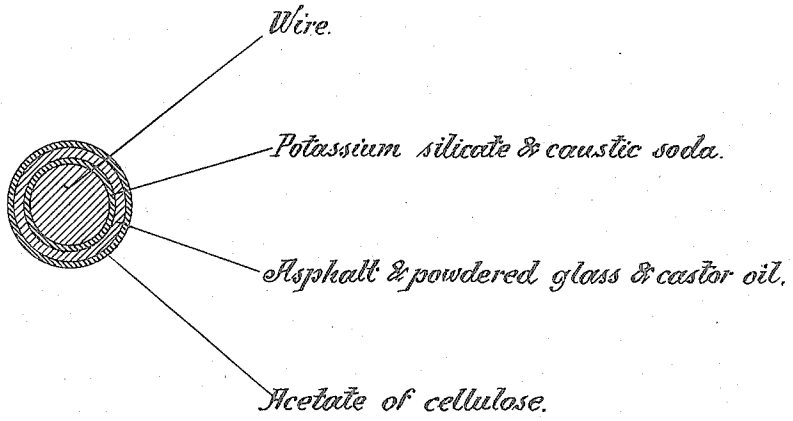
B. BOGNÁR.

INSULATING ELECTRICAL CONDUCTORS.

APPLICATION FILED NOV. 15, 1918.

1,325,709. Patented Dec. 23, 1919.



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BÉLA BOGNÁR, OF NEW YORK, N. Y.

INSULATING ELECTRICAL CONDUCTOR.

1,325,709. Specification of Letters Patent. Patented Dec. 23, 1919.

Application filed November 15, 1918. Serial No. 262,723.

To all whom it may concern:

Be it known that I, BÉLA BOGNÁR, a citizen of Hungary, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Insulating Electrical Conductors, of which the following is a specification.

The present invention relates to improvements in the insulation of electric conductors.

The main objects of the invention are to produce an inexpensive insulating material, which resists high electric voltage, is hard, tough and flexible, and which can be applied conveniently in original application as well as in repairs.

According to this invention, an insulating covering is produced that consists of a plurality of layers, each of which constitutes an insulation in itself and is allowed to set before the next layer is applied. In practising the invention, such insulating material is employed that the usual baking step may be dispensed with, thus cheapening the operation to a considerable extent. This is accomplished by using materials which set within a reasonably short time in the atmosphere.

The drawing represents a section taken through a conductor made in accordance with the invention, the thickness of the layers being exaggerated, no special attempt being made to show proportions.

In carrying out the invention, the electric conductor, for instance a copper wire, is provided, in any preferred manner, with a coat composed of one hundred parts, by weight, of water, ten parts, by weight, of potassium silicate, to which has been added one part, by weight, of caustic soda. This first coat is employed in its cold state, the caustic soda serving mainly to attack and roughen the surface of the wire, so that the potassium silicate will tightly adhere to the same, and will not be cracked or detached when the wire is bent or otherwise handled. The potassium silicate forms an insulating coat and also a binder for the next layer.

The second layer is employed after the first one has been sufficiently dried by exposing the same, for instance, to the drying action of air. The second layer consists of a solution, comprising one hundred parts, by weight, of liquid asphalt, into which have been incorporated twenty-five parts, by weight, of powdered glass, and one part, by weight, of castor oil. Both the asphalt and glass constitute effective insulation, the castor oil changing the stiff characteristics of the asphalt and glass into pliability. The powdered glass, on the other hand, practically produces one integral mass of these two layers.

After the second coating has been dried sufficiently, a third coating is applied consisting of acetate of cellulose. This finishing coating enhances the insulating quality of the compound, is water- and fire-proof, so as to permit the conductor to be used exteriorly under all atmospheric conditions.

It is to be noted that the proportions mentioned above are merely given by way of example, and that they may be varied according to the requirements. The thickness of the several coatings depends entirely upon the insulating effect and insulating properties needed.

The insulating covering produced in accordance with this invention is durable, and may be employed for a variety of purposes, wherein effective and cheap insulating material is desired. The covering is flexible, does not crack when the wire is being bent or otherwise handled, and hence the wire can be wound into rolls or upon drums, without affecting the insulating properties of the covering thereon.

What I claim is:—

1. A metallic conductor having an insulating coating of asphalt into which is incorporated powdered glass and a softening agent, and an interposed coating including potassium silicate for causing said first coating to adhere to the metallic conductor.

2. A metallic conductor having an insulating coating of asphalt into which is incorporated a vitreous material and a softening agent, and an interposed coating including potassium silicate for causing said first coating to adhere to the metallic conductor.

Signed at New York, in the county of New York, and State of New York, this 8th day of November, A. D. 1918.

BÉLA BOGNÁR.