

UNITED STATES PATENT OFFICE.

EDWIN D. McCracken, OF PATERSON, NEW JERSEY.

ELECTRIC CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 351,191, dated October 19, 1886.

Application filed August 16, 1884. Renewed August 19, 1886. Serial No. 211,261. (No model.)

To all whom it may concern:

Be it known that I, EDWIN D. McCracken, of the city of Paterson, in the county of Passaic and State of New Jersey, have invented a new and useful Improvement in Insulated Electric Conductors, of which the following is a specification.

My invention relates to an electric wire or conductor which has an insulating-covering, consisting of spirally-wound and lapping strips of paper.

The invention consists in an electric conductor having an insulating-covering, consisting of spirally-wound and lapping strips of paper and a vulcanized adhesive material.

The invention also consists in an electric conductor having a coating of non-vulcanizable material and a superposed insulating-covering, consisting of spirally-wound and lapping strips of paper and a vulcanized adhesive substance, serving to secure the paper.

In the accompanying drawing I have represented a portion of a conductor embodying my invention.

A designates the wire or conductor, which may be of copper or other metal; and B designates spirally-wound and lapping strips of paper applied thereto with a vulcanizable adhesive substance. This substance may consist of a solution of india-rubber to which enough sulphur has been added to insure its vulcanization under a proper heat. A solution composed of two ounces of india-rubber dissolved in fourteen ounces of bisulphide of carbon or other suitable solvent may be used, sufficient sulphur being added to insure vulcanization.

I may apply the spirally-wound strips of paper with the vulcanizable compound directly to the naked wire; but as the sulphur would be liable to attack the wire I prefer to apply to the naked wire a covering or coating, *a*, of non-vulcanizable material, which will protect the wire from the sulphur. This non-vulcanizable material may consist of a mixture of two parts of gutta-percha with one part of india-rubber, or thereabout, and in such case it may be applied by drawing the naked wire through a vessel containing the material, or in any other suitable manner. Such a vessel or vat and the manner of using it are well known to manufacturers of electric conductors.

In lieu of a non-vulcanizable material of gutta-percha and rubber, I may apply a spirally-wound and lapping strip of paper directly to the naked wire, such paper serving as a covering of non-vulcanizable material.

I may apply one or more spirally-wound and lapping strips of paper, B, with vulcanizable adhesive substance, such as that above described, or any other suitable for the purpose.

In the drawing I have represented three strips, B, as applied outside the covering *a* of non-vulcanizable material. Each strip will be lapped for about half its width, and the strips are applied so as to break joints with each other. The vulcanizable substance is represented in black on the inner surfaces of the projecting end portions of the paper strips B.

In applying the strips B the vulcanizable adhesive substance is applied to the inner side of the strip by a brush or in any other suitable way. I prefer, however, to apply the strips with vulcanizable adhesive substance by means of the machine shown and described in my application for Letters Patent filed August 16, 1884, and of which the serial number is 140,768. The amount of vulcanizable adhesive substance used will be very little, and the amount of sulphur correspondingly small, and I may in some cases dispense with the non-vulcanizable material *a* and apply the spirally-wound strips of paper with vulcanizable adhesive substance directly upon the naked wire. After the covering of the wire is completed it is to be subjected to a heat sufficient to properly vulcanize the adhesive substance employed to secure the strips of paper. The vulcanization may be effected by subjecting the wire in coils to the proper degree of heat in a chamber or vessel, which may be heated by means of a steam-jacket or by admitting steam directly into it. After the wire has been subjected to a vulcanizing-heat it may be covered or coated with asphaltum or other analogous substance to render it element-proof.

What I claim as my invention, and desire to secure by Letters Patent, is—

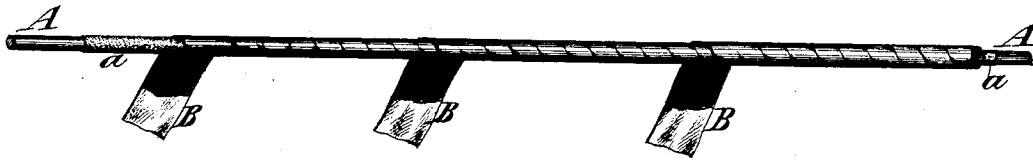
1. An electric conductor having an insulating-covering consisting of one or more spirally-

(No Model.)

E. D. McCracken.
ELECTRIC CONDUCTOR.

No. 351,191.

Patented Oct. 19, 1886.



Witnesses:

Louis H. Whitehead.
Fred Wagner

Inventor:

Edwin D. McCracken
by his attys.
Brown & Hall

