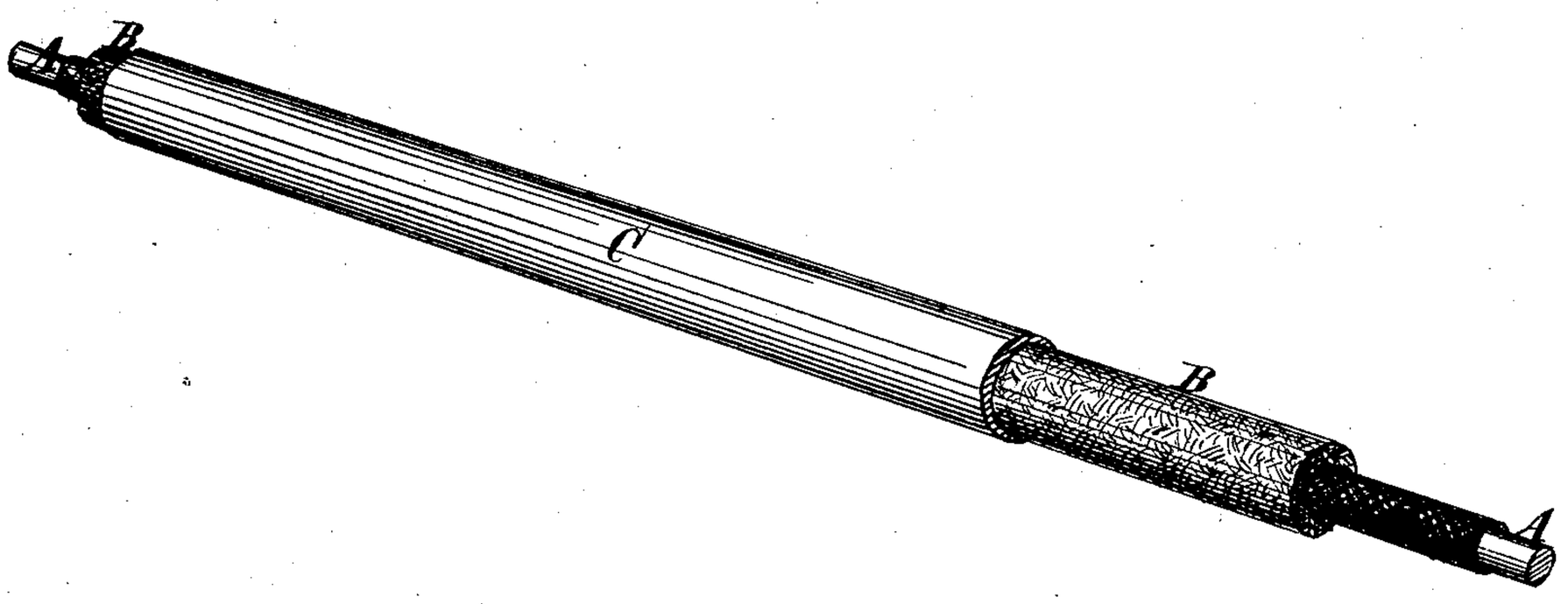
(No Model.)

T. EGLESTON.

ELECTRICAL CONDUCTOR.

No. 376,818. Patented Jan. 24, 1888.



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UNITED STATES PATENT OFFICE.

THOMAS EGLESTON, OF NEW YORK, N. Y., ASSIGNOR TO THE PLUME & ATWOOD MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT.

ELECTRICAL CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 376,818, dated January 24, 1888.

Application filed January 5, 1883. Serial No. 81,071. (No model.)

To all whom it may concern:

Be it known that I, THOMAS EGLESTON, of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Electrical Conductors, of which the following is a specification.

The object of my improvement is to produce a wire or electric conductor for telegraphic and other purposes which shall be well insulated, fire-proof, and water-proof.

The accompanying drawing is an enlarged view of an electrical conductor embodying my improvement.

In carrying out my invention I take a wire, A, made of copper or other suitable metal, and apply to it an insulating material. This will consist of cotton, paper, or other fibrous material. If cotton, it may be woven, braided, or wound on the wire, and if paper it may be wound on or laid on in pulp. A material, B, used for rendering the insulating material fire-proof, is applied to it in a liquid form. The fireproofing material will consist of a metallic oxide or oxides. I now prefer to use oxide of zinc. Linseed-oil, either raw or boiled, may be used as a binding material; but I do not wish to be restricted to the use of this particular oil, for any oil not acid can be used. In lieu of employing an oil with these ingredients I can use the silicates of soda or potash, or water-glass. The fireproofing material may be applied to the insulating material either before or after the application of the latter to the wire. The insulating material of a fibrous nature is in all cases thoroughly impregnated with the liquid fireproofing material. The fireproofing material tends to preserve the fibrous insulating material in case of the wire becoming overheated by the electric current, and under such circumstances it prevents injury to an outer coating which covers the fireproofing material and obviates the danger of setting fire to the surroundings.

Outside the fibrous insulating material, impregnated with liquid fireproofing material, I apply a waterproofing material, C, consisting of a lead or the alloy of metal which is commonly known as "fusible metal." The wire covered with the insulating and fireproofing material may be passed through a bath of the molten metal, and the metal will preferably be chilled to a solid condition by a current or currents of air directed upon it as the wire leaves the bath. The metal may then be smoothed off and rendered uniform in thickness by means of rollers or dies.

I do not here claim the process or method of applying the metal or alloy as above described, as that invention forms the subject of United States Letters Patent No. 286,796, granted to me October 16, 1883.

The metallic waterproofing material above described is not intended to serve as an insulator, because the fibrous material impregnated with the fireproofing material forms of itself the insulation for the wire. The metallic waterproofing is simply added to protect the insulating material from the weather and from injury by heat when the conductor is overcharged with electricity.

I am aware that an insulated electric conductor has had an external covering or sheath of lead or fusible metal before my invention; but a new combination is formed with the sheath of lead or fusible metal when it is outside a wire having an insulating covering of fibrous material impregnated with a fire-proof compound composed of metallic oxide or oxides and a binding material, as in my invention, because the fire-proof insulating material protects the outer sheath from any heat from the wire sufficient to fuse the sheath.

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

A wire or conductor having applied directly to its surface an insulating covering of fibrous material impregnated with a liquid fireproofing material composed of metallic oxide or oxides and a binding material, the impregnated fibrous material forming of itself the insulating covering for the wire, and also having applied to it an external water-proof covering of lead or fusible metal as a protection to the insulating material, substantially as herein described.

THOS. EGLESTON.

Witnesses:
AMOS EGLESTON,
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