

(No Model.)

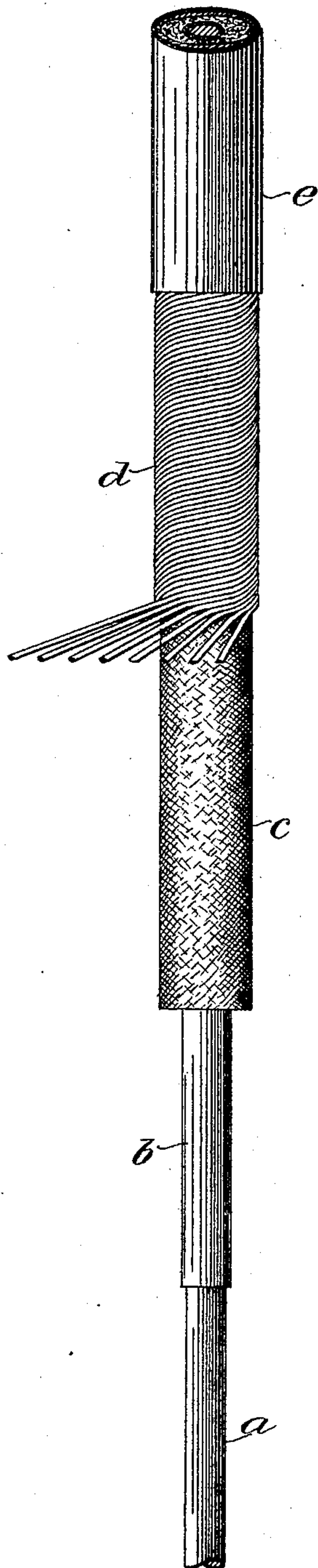
2 Sheets—Sheet 1.

J. ROBINSON.
INSULATED ELECTRIC CONDUCTOR.

No. 529,412.

Patented Nov. 20, 1894.

Fig: 1



Witnesses:
Thomas M. Smith.
Richard C. Maxwell.

Inventor.
John Robinson,
By *J. Walter Hughes.*
Attorney.

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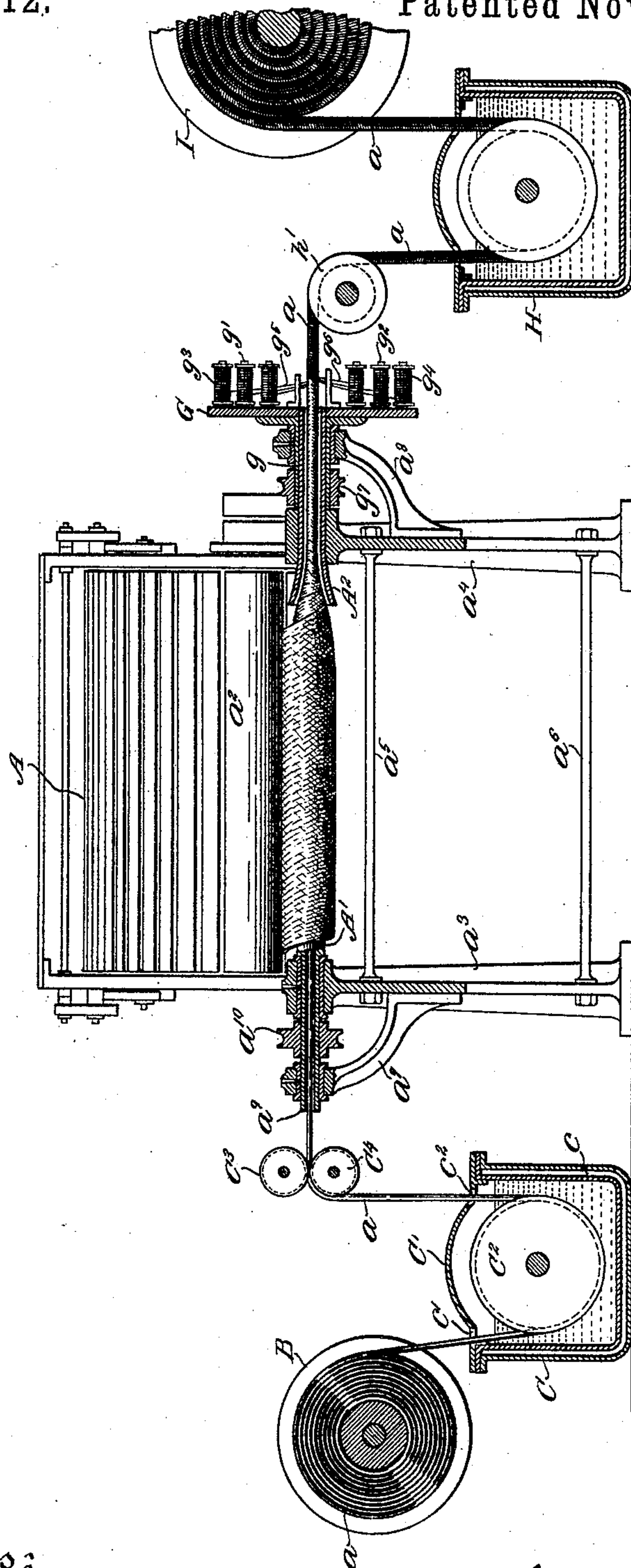


Fig. 2

Witnesses:
Thomas M. Smith,
Richard C. Maxwell.

Inventor,
John Robinson,
By J. Walter Douglas,
Attorney.

UNITED STATES PATENT OFFICE.

JOHN ROBINSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILLIAM J. CHANINEL, OF SAME PLACE.

INSULATED ELECTRIC CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 529,412, dated November 20, 1894.

Application filed February 17, 1894. Serial No. 500,477. (No specimens.)

To all whom it may concern:

Be it known that I, JOHN ROBINSON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Insulated Electric Conductors, of which the following is a specification.

My invention has relation to the manufacture of electric conductors; and it relates more particularly to the construction, arrangement and thorough insulation thereof.

The principal object of my present invention is to provide a simple, economical and efficient insulated electric conductor.

My invention consists of an insulated electric conductor constructed and arranged as hereinafter described and claimed.

The nature and general features of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which—

Figure 1, is a view in elevation of an insulated electric conductor embodying the particular features of my invention; and Fig. 2, is a view partly in elevation and partly in section of an apparatus for producing an insulated electric conductor of my invention.

Referring to the drawings with special reference to Fig. 1, *a* is a copper or other suitable wire of good conductivity. *b*, represents an applied coating of insulating material which is effected by passing the wire *a*, through a molten or cold bath of such a material. *c*, represents the covering of fibrous material, such as raw cotton or the like applied to the coated wire *a*, while still moist or in a more or less wet condition and in such manner as to present a smooth surface throughout. *d*, represents a series of threads or cords spirally wound around the covered wire so as to closely hug against one another thereon and so as to present substantially a surface, such as illustrated in Fig. 1. *e*, is a coating of insulating material applied to the covered and corded wire by permitting the same to be conducted through a bath of such material in a molten or other state in order to thoroughly permeate or saturate the covered and corded body of the wire; and more-

over, so as to produce a conductor of substantial efficiency for electrical purposes.

It may be here remarked that for certain uses such as outside conductors, the insulated coating applied to the covered and corded insulated wire *a*, may have applied thereto in any preferred manner a braided or woven covering of fibrous or other suitable material. Not shown.

Having pointed out the particular features of an insulated electric conductor of my invention, as illustrated in Fig. 1, one form of an apparatus for the manufacture of the same will now be described with reference to Fig. 2, in which B, is a reel detachably supported to position in standards or hangers, not shown, and adapted to contain the wire *a*, in a coiled form thereon. C, is a tank provided with a surrounding steam coil or jacket *c*, and provided with a cover C', having openings *c'* and *c''*, therein for the passage of the copper or other wire *a* therethrough around a traveler rod or drum C², adapted to be immersed in a bath of insulating material, in a molten or liquid state, in the said tank C. C³ and C⁴, are supported guide or pressure rolls adapted to permit of the wire being drawn between the same in any preferred manner and frictionally contacting with the passing wire. A, represents a carding engine of any suitable construction provided with a wiper, combs or rolls *a'*, for conducting and directing the fibrous or flaky material to and around a rotatable cone-shaped device A', journaled to a standard *a''*. *a'''*, is the opposite standard and both of the standards are held to position by distance-rods *a'''* and *a''''*. *a'''''* and *a''''''*, are curved bracket-arms secured to the standards *a''* and *a'''*. The standard *a''*, and bracket arm *a''''*, support to position the integral hollow spindle *a'''''*, of the cone-shaped device A', and mounted thereon is a grooved pulley *a''''''*, adapted to be engaged by a belt, not shown, for rotating the device A' at the required speed with respect to the wire *a*, coated with insulating material in the tank C, and adapted to be drawn through the hollow spindle and the cone-shaped device. A², is a funnel shaped nozzle supported in the standard *a''*, and the bracket *a''*, and engaging the sleeve *g*, of a whirler G, having connected therewith a se-

ries of spindles g' and g^2 , carrying cops or bobbins g^3 and g^4 , containing thread or cord g^5 and g^6 , whereby in the rotation of the whirler G, by means of a belt adapted to engage a pulley g^7 , which is secured to the sleeve g , of the whirler, the thread or cord in regular sequence is spirally wound around the cotton covered wire and preparatory to the conduct of the same through a bath of insulating material, in a tank H, adapted to permit of the thorough saturation thereof and the covered and corded wire thereafter being laid up onto a reel I, for subsequent use, as an insulated electric conductor through the actuation of said reel by means of power suitably applied to a pulley or crank connected with a journal of the reel I. Not shown.

I am aware that it is not new to provide an electric conductor in which the wire thereof has applied on the naked surface a coating of non-siccative paint and with a fibrous cov-

ering applied outside of the paint, and hence I disclaim such a construction and arrangement of an electric conductor; but

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

The herein described insulated electric conductor composed of a wire provided with a coating of insulating material having a smooth surfaced covering of cotton thereon, a binder of cords or threads in regular sequence wound around the same, and a coating of insulating material permeating the body of said covered and corded wire, as shown and for the purposes set forth.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

JOHN ROBINSON.

Witnesses:

THOMAS M. SMITH,
RICHARD C. MAXWELL.