

(No Model.)

W. A. PHILLIPS.
ELECTRIC CONDUCTOR.

No. 434,885.

Patented Aug. 19, 1890.

FIG. 1.

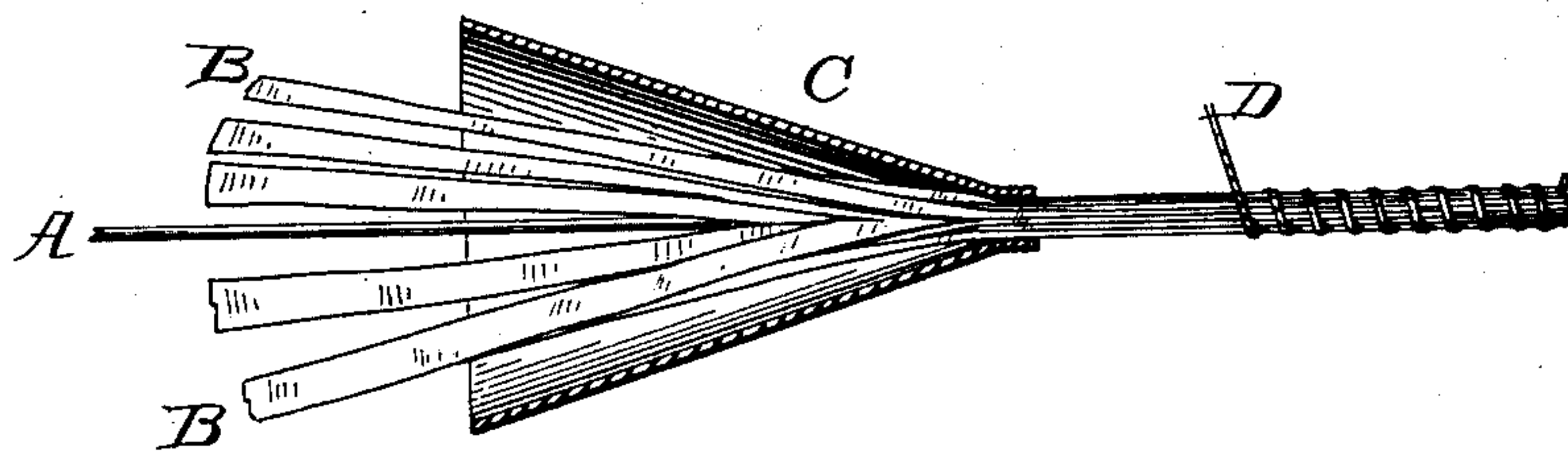


FIG. 2.

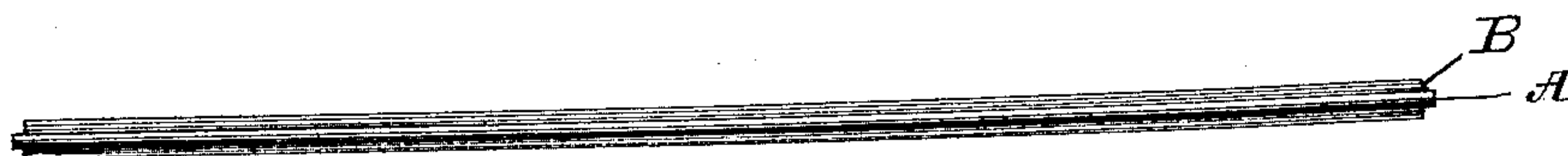


FIG. 3.

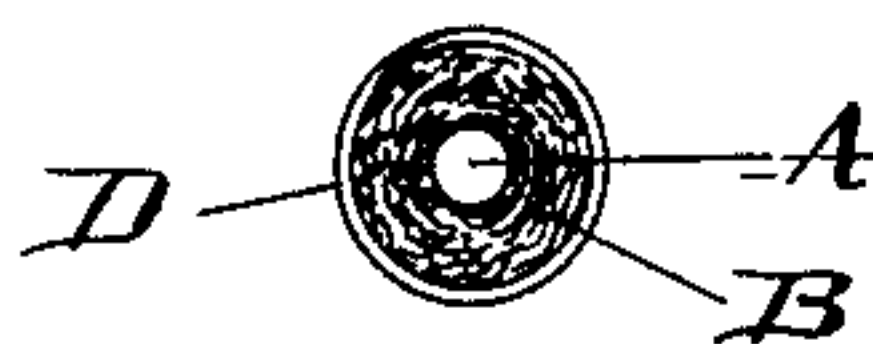
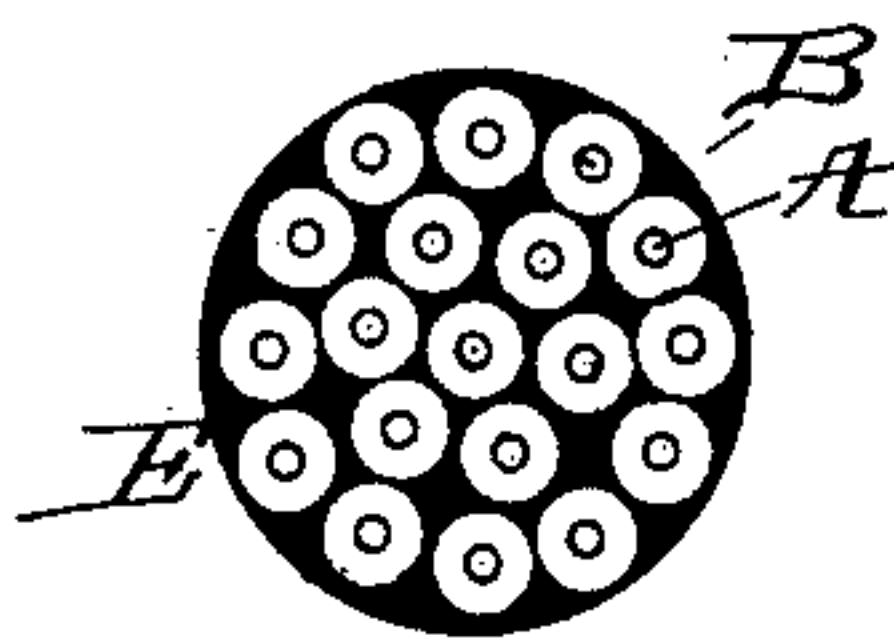


FIG. 4.



ATTEST:

E. C. Hayward
W. D. Fizer

INVENTOR:

William A. Phillips
By J. M. [Signature]

UNITED STATES PATENT OFFICE.

WILLIAM A. PHILLIPS, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE
EDISON MACHINE WORKS, OF SAME PLACE.

ELECTRIC CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 434,885, dated August 19, 1890.

Application filed March 25, 1889. Serial No. 304,723. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. PHILLIPS, a subject of the Queen of Great Britain, residing at Schenectady, in the county of Schenectady 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 invention is to effectively insulate wires used for electrical purposes; and my invention especially relates to wires whose insulating-covering is impregnated with a liquid insulating compound which hardens when cooled, although the improved insulation which mainly constitutes my invention may be employed without such insulating compound.

The main feature of my invention consists in the use for insulating a wire of insulating-strips applied longitudinally and parallel to said wire. I find that this mode of applying insulation has many advantages over the spiral winding of insulating-strips which has heretofore been customary. It is more easy of application, it furnishes a very effective insulation, and when fibrous material, such as paper, is so applied it is found that it absorbs the liquid insulating compound much more readily than spiral-wound strips.

My invention is illustrated in the accompanying drawings.

Figure 1 illustrates the process of applying the insulating material. Fig. 2 is a longitudinal section of insulating material applied to the wire in the manner which constitutes my invention; Fig. 3, an end view of the same, and Fig. 4 a sectional view of a cable made up of wires insulated according to my invention.

I take a wire A and lay upon it longitudinally a number of strips of paper B, or other suitable insulating material, preferably of fibrous material, and I draw such wire, with the strips surrounding it, through a cone-shaped die C, by means of which the strips are tightly folded and compressed around the wire, forming a solid and compact mass of paper, which forms an effective insulation for the wire. I prefer to wrap the paper covering with a binding of thread or cord D for holding the paper strips together upon the

wire, or any suitable covering or binding may be applied to the paper if necessary. The insulated wire is then as shown in Figs. 1, 2, and 3, consisting of the wire A, and the mass of compressed and folded paper strips B, massed closely around said wire, and the binding D. The binding may, however, in some cases be omitted, and the wire is so shown in Fig. 2.

Wires insulated as above described are especially useful for the manufacture of cables made up of a number of wires massed together and insulated by a compound applied in a liquid state and which hardens while cooling. Such a cable is illustrated in Fig. 4, the wires A covered with the paper insulation B being surrounded and separated from each other by the insulating compound E. The wires may of course be used with any kind of cable besides that illustrated in Fig. 4, or be used separately for various electrical purposes.

I may provide the strips with adhesive material for sticking them together, so that when the wire is cut into lengths the ends of the strips will not be liable to become separated. Such adhesive material is preferably applied by coating one or more of the strips with it before passing the wire through the die. Such material in the passage through the die becomes placed upon all the strips so as to stick them together. I find that a compound of rosin and vaseline is a particularly effective material for this purpose.

What I claim is—

1. The combination, with a wire, of flat strips of absorbent insulating material applied longitudinally to said wire, the strips being individually in a folded condition, substantially as set forth.

2. The combination, with a wire, of flat strips of paper applied longitudinally to said wire, the strips being individually in a folded condition, substantially as set forth.

3. The combination, with a wire, of an insulation therefor composed of two or more strips of fibrous material applied longitudinally to the wire and impregnated with an insulating compound or material, substantially as set forth.

4. The combination, with a wire, of an in-

sulation therefor composed of two or more strips of an insulating material applied longitudinally to said wire and folded and compressed thereon, substantially as set forth.

5 5. The combination, with a wire, of an insulation therefor composed of two or more strips of fibrous material applied longitudinally to such wire and provided with adhesive material for holding them together, substantially as set forth.

10 6. The combination, with a wire, of an insulation therefor composed of two or more

strips of fibrous material applied longitudinally to the wire and provided with an adhesive compound of rosin and vaseline for holding them together, substantially as set forth.

This specification signed and witnessed this 18th day of March, 1889.

WILLIAM A. PHILLIPS.

Witnesses:

D. CADY SMITH,
EVERETT SMITH.