

(No Model.)

F. BOREL.
ELECTRIC CABLE.

No. 370,528.

Patented Sept. 27, 1887.

Fig. 1.

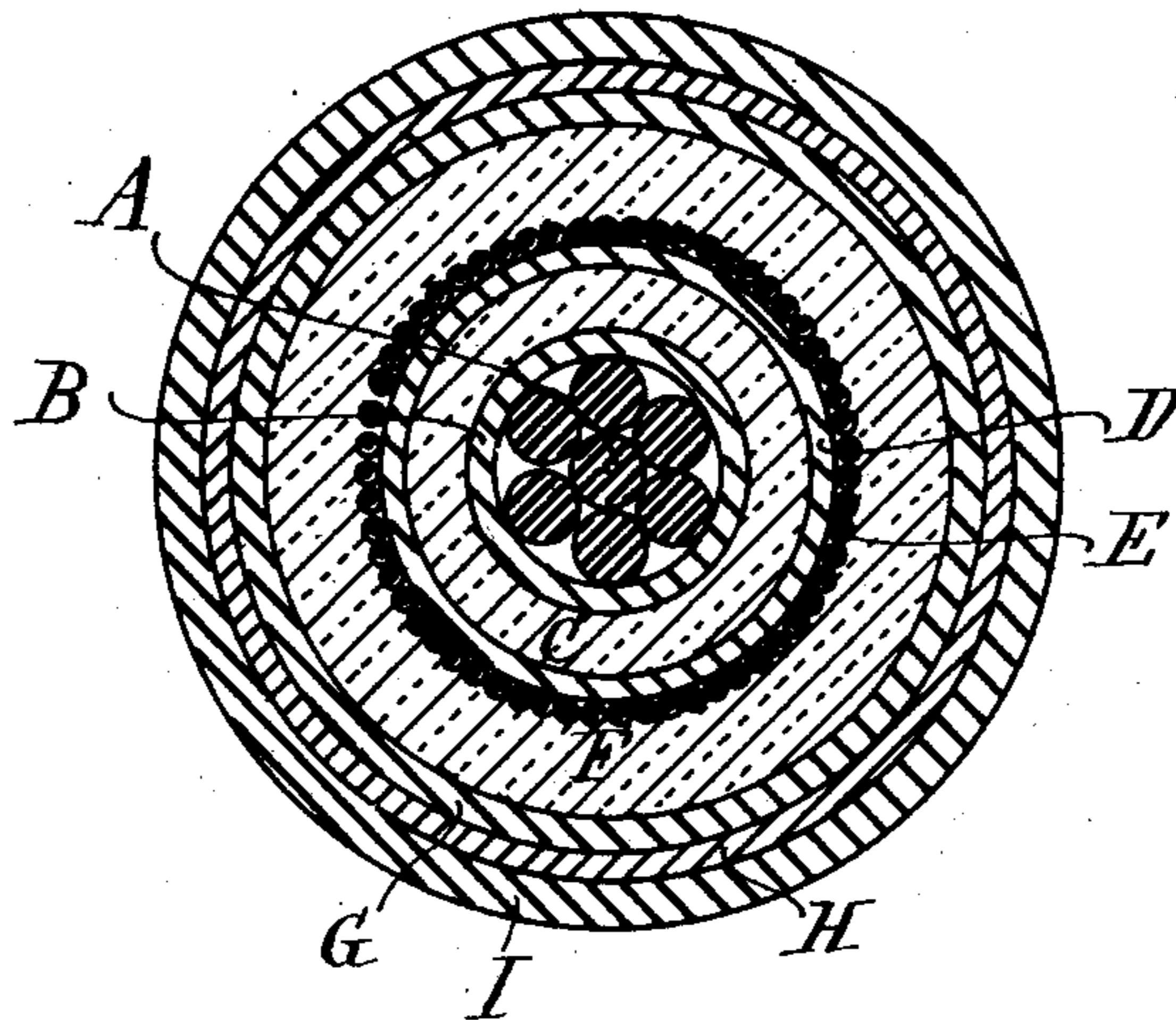
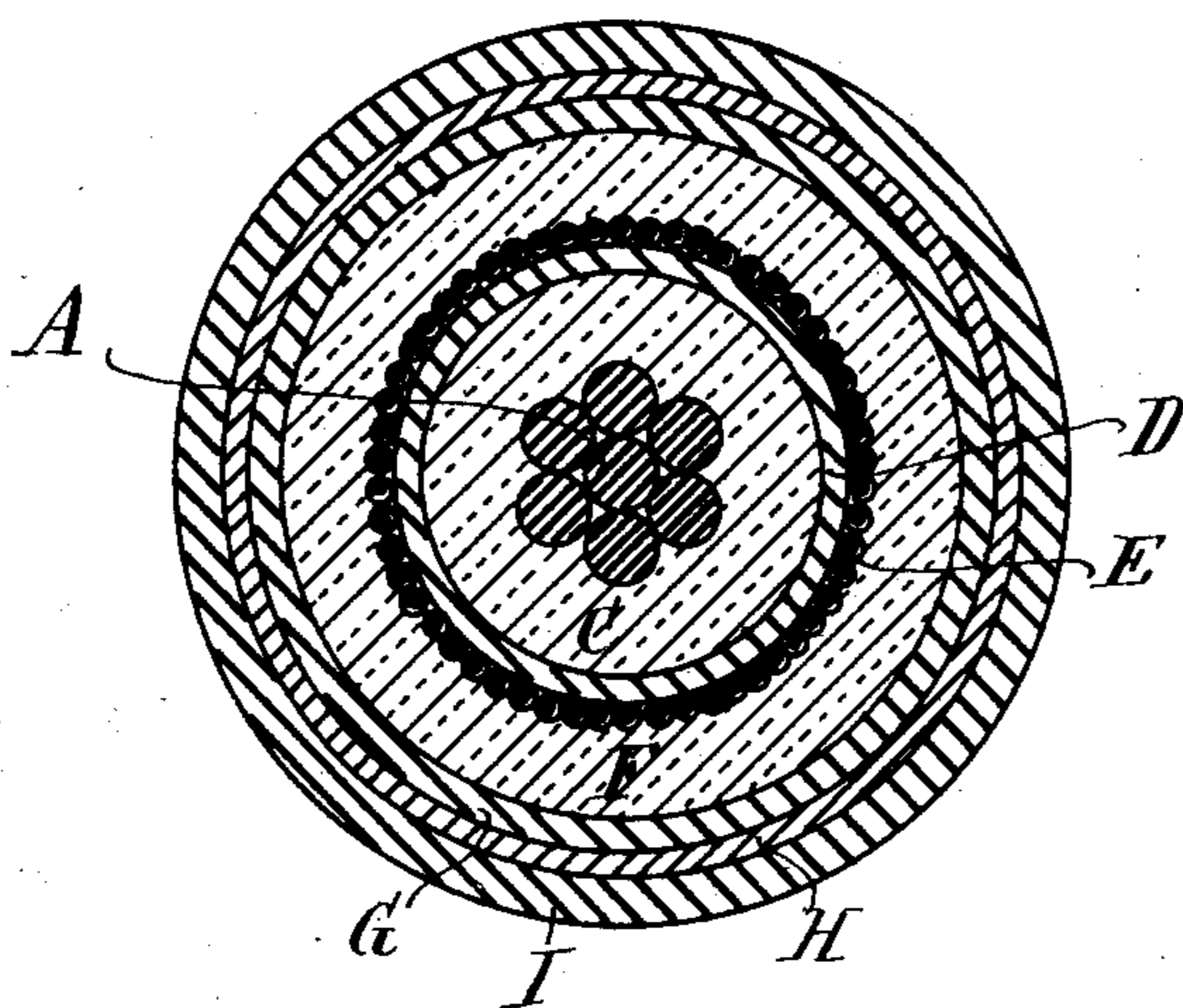


Fig. 2.



Witnesses

Chas. H. Smith
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per Lemuel W. Serrell
att'y

UNITED STATES PATENT OFFICE.

FRANÇOIS BOREL, OF CORTAILLOD, SWITZERLAND, ASSIGNOR TO THE SOCIÉTÉ D'EXPLOITATION DES CABLES ÉLECTRIQUES SYSTÈME BERTHOUD, BOREL & CIE.

ELECTRIC CABLE.

SPECIFICATION forming part of Letters Patent No. 370,528, dated September 27, 1887.

Application filed January 3, 1887. Serial No. 223,322. (No model.)

To all whom it may concern:

Be it known that I, FRANÇOIS BOREL, engineer, of Cortailod, Switzerland, have invented a new and useful Improvement in Electric Cables, of which the following is a specification.

My invention relates to an electric cable constructed, as hereinafter described, so as to prevent induced currents in other cables and to economize the materials made use of.

My invention is based upon the following principles: First, if an electric current through two concentric conductors passes in one direction in the central conductor and in the opposite direction in the concentric conductor no induced current is set up in the neighboring conductors; second, to economize insulating material the conductors should be parallel, otherwise the current is liable to pass where the conductors are nearest to each other.

In the accompanying drawings, Figure 1 shows a section of my improved cable. Fig. 2 shows a modification of the same.

The central conductor, A, Fig. 1, containing one or more wires, is surrounded by a metallic tube, B, or by helical-wound metallic ribbons; or these may be dispensed with, as seen in Fig. 2. The insulating material at C, surrounding the conductor, is of sufficient thickness to prevent the current passing from the conductor A to the tube D. The tubular conductor D is preferably of helical-wound metallic ribbons surrounded by metallic wire, E.

F is a second coat of non-conductive material.

The exterior protecting-coat of the cable is formed of the two leaden tubes G and I, between which is inserted a coating of hydrofuge material, H, (rosin, paraffine, &c.)

The purpose of the tube B is to avoid accidents which might be produced by one of the wires of the conductor or a metallic splinter coming near the tube D and lessening the distance through the insulating material.

To obtain regularity in manufacturing the before-described cables, I form the metallic coats B, D, G, and I by a machine similar to a lead-pipe press, into which is introduced the insulating material, C and F, and the hydrofuge material, H, in fusible state, as the cable is manufactured.

I claim as my invention—

The electric cable composed of the central conductor, A, the insulating material, C, surrounding the same, the concentric conductor D outside the insulating material, C, and parallel with the conductor A, and the insulating envelope F and protecting-tubes G I, having hydrofuge material between them and being parallel to and concentric with the conductor A, substantially as set forth.

Signed by me this 6th day of December, A. D. 1886.

FRANÇOIS BOREL.

Witnesses:

EDOUARD DRAY,
J. A. WAREL.