

(No Model.)

W. H. SAWYER.

INSULATED ELECTRICAL CONDUCTOR.

No. 252,262.

Patented Jan. 10, 1882.

Fig. 2.

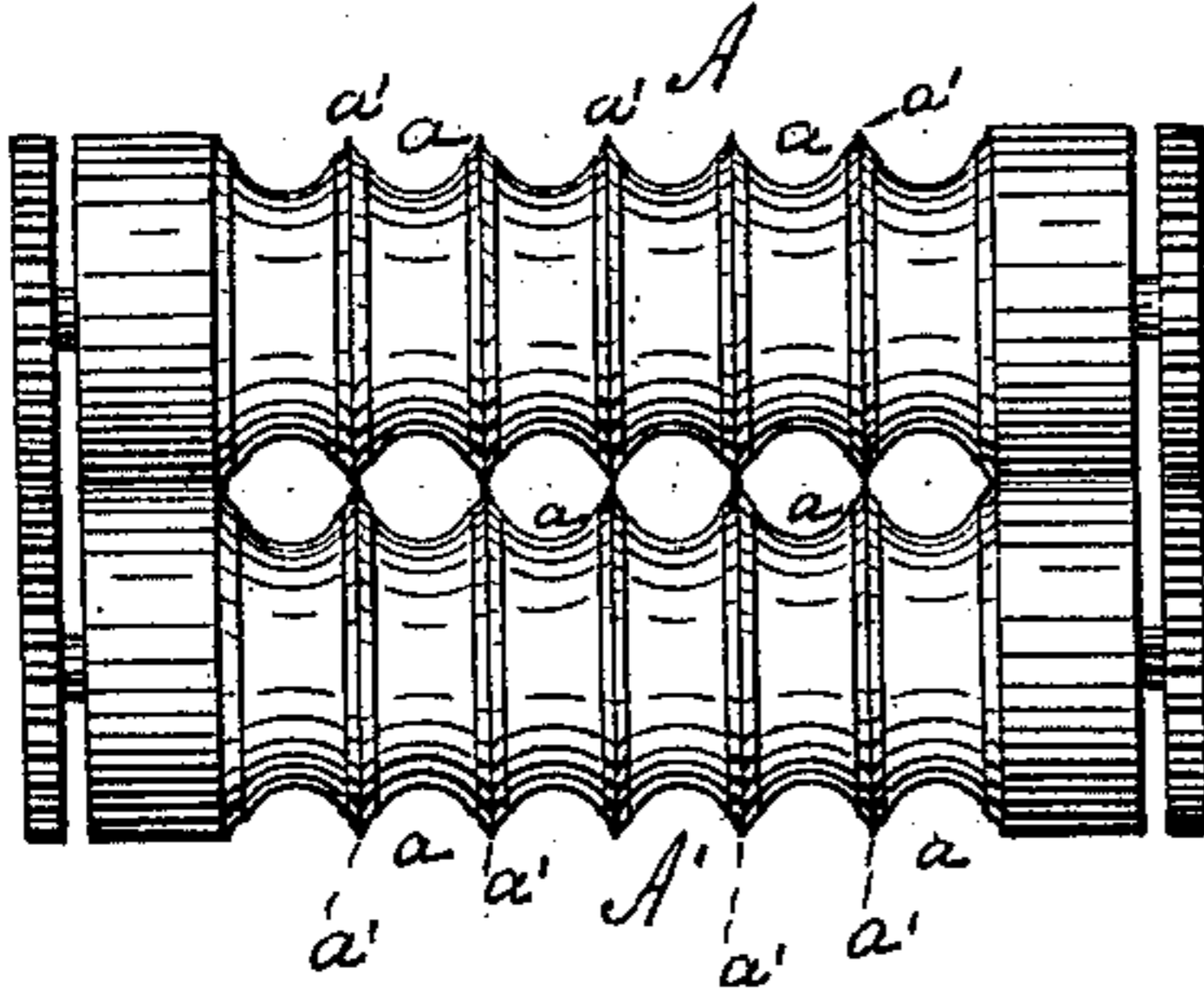


Fig. 1.

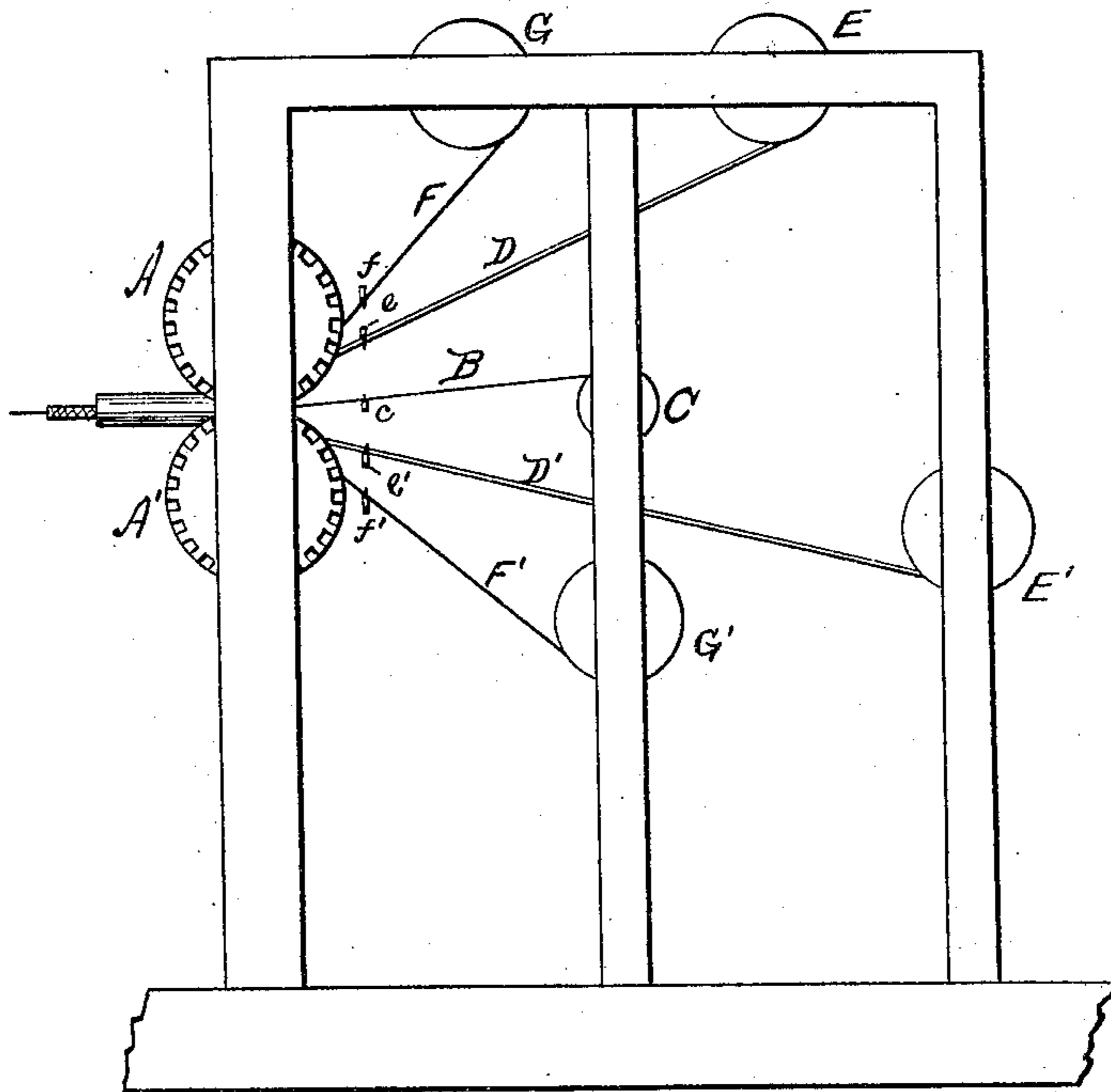


Fig. 3.

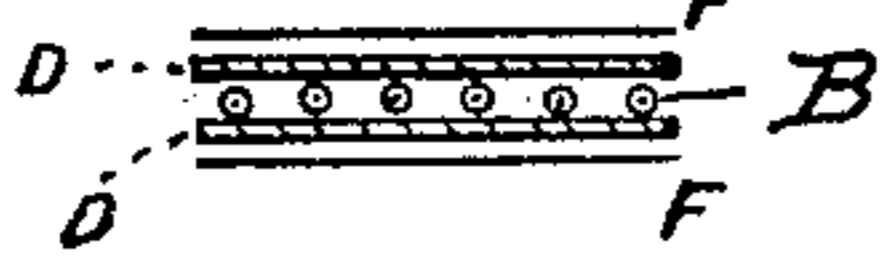


Fig. 4.

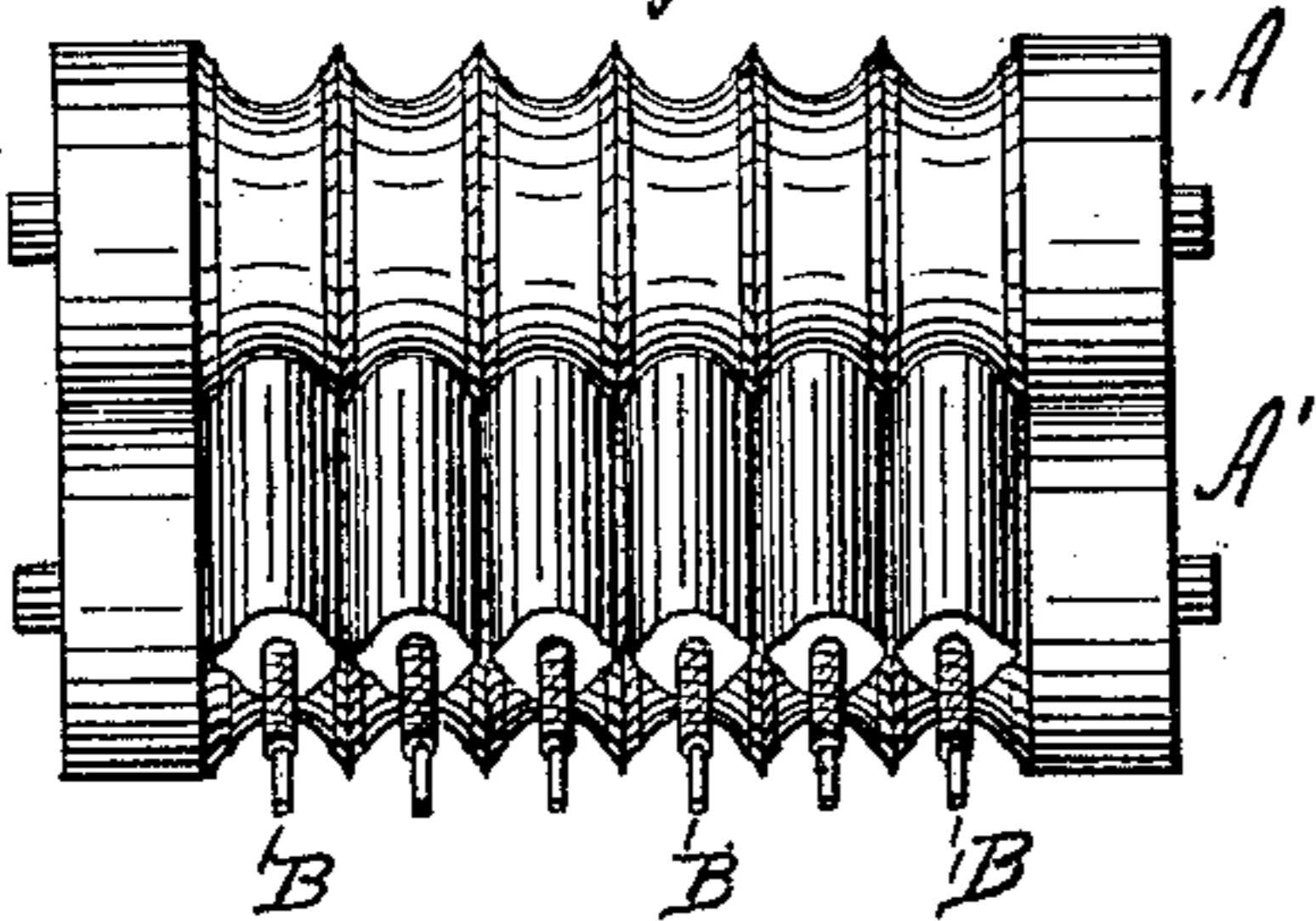
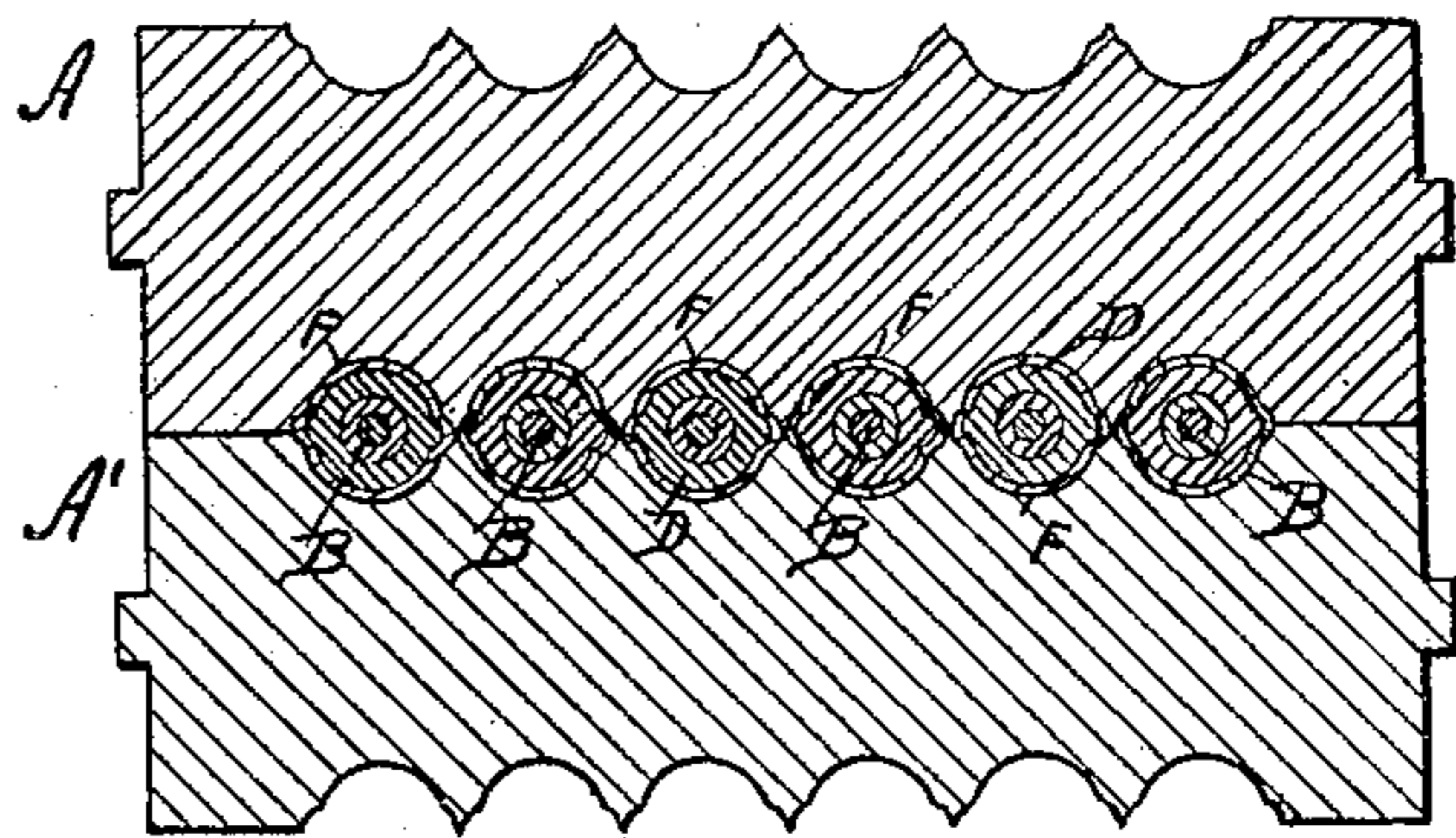


Fig. 5.



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# UNITED STATES PATENT OFFICE.

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## INSULATED ELECTRICAL CONDUCTOR.

SPECIFICATION forming part of Letters Patent No. 252,262, dated January 10, 1882.

Application filed August 17, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. SAWYER, a citizen of the United States of America, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Insulated Electrical Conductors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of this invention is the rapid production of rubber-covered wires for electrical purposes and the providing of such wires, simultaneously with the application of the rubber, with an outer metallic covering by which they are protected against induction.

In the accompanying drawings, Figure 1 illustrates an apparatus for covering wires according to my invention; Fig. 2, a front view of the rollers; and Fig. 4 is a similar view, showing the covered and separated wires passing therefrom. Fig. 3 is a cross-section, showing the arrangement of the strips and wires before being pressed together. Fig. 5 is an enlarged cross-section, showing the strips and wires just at the moment the former are cut.

The letters A and A' indicate the compressing and cutting rollers, having the circumferential grooves *a* separated by the ridges *a'*.

B indicates a series of suitably-spaced cotton-covered wires led from reels C through guides *c*, which direct said wires respectively to the centers of the spaces inclosed by the meeting of the ridges of the two rollers.

The letters D and D' indicate strips of unvulcanized sheet-rubber led from reels E and E' through guides *e* and *e'*, arranged respectively above and below the wires and near the rollers; and the letters F and F' designate strips of tin-foil led from reels G and G', and passing through guides *f* and *f'*, arranged respectively above and below the two rubber strips. The strips of rubber and foil have a width little greater than the width of the series of wires, in order that their outer edges may be brought together in proper contact outside the

outer wires, and the spaces between the wires are of such extent as to permit the strips to meet between said wires with sufficient surface to insure their firm adherence.

In starting the apparatus to work the strips and wires should be first carefully arranged by hand at their ends near the rollers, as shown in Fig. 4, and started between the rollers, and when the ends of the covered wires are first separated they should be directed over grooved guide-pulleys, or a single pulley with several grooves, which will hold them properly centered with respect to the grooves of the compressing and cutting rollers. The apparatus, being thus started into operation, requires but little further attention, and the covered wires as produced may be disposed of in any convenient manner.

The foil covering may be omitted in preparing wires for some purposes, and the apparatus will work just as well without it.

I do not confine myself to any particular apparatus for covering the wires, as various machines may be constructed for that purpose, and the strips may be arranged upon the opposite sides of the wires in long lengths and fed to the rollers, instead of being drawn from reels.

After the wires have been covered and separated they may be passed separately through suitable formers or between grooved rollers to give them a true circular cross-section, which is a preferable marketable shape.

Having now described my invention, what I claim is—

The method of covering wires with rubber and an outer metallic covering, as herein described, the same consisting in arranging between two strips of unvulcanized sheet-rubber a series of suitably-spaced wires, placing upon the outer surfaces of said rubber strips respectively strips of metal foil, and simultaneously pressing the strips together and severing them between the wires, essentially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. SAWYER.

Witnesses:

GEORGE B. BARROWS,  
ERMINA H. SAWYER.