(No Model.)

H. A CLARK.

Machinery for Covering Wire with Insulating Material.

No. 242,884 **Patented June 14, 1881.**

Fig. 1.

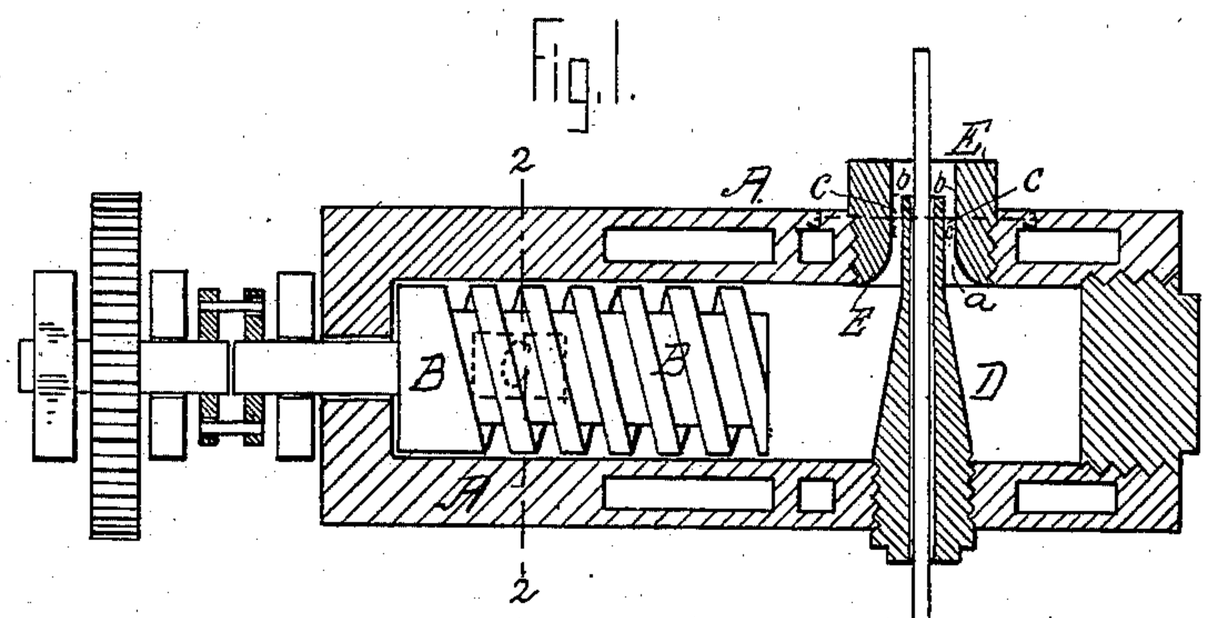


Fig. 2.

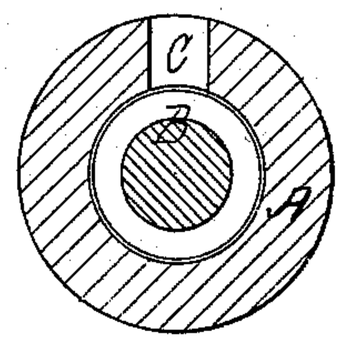


Fig. 3.

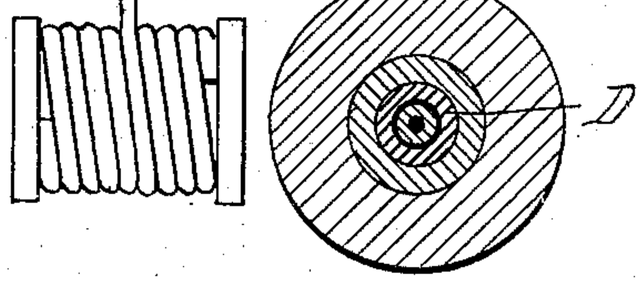


Fig. 4.

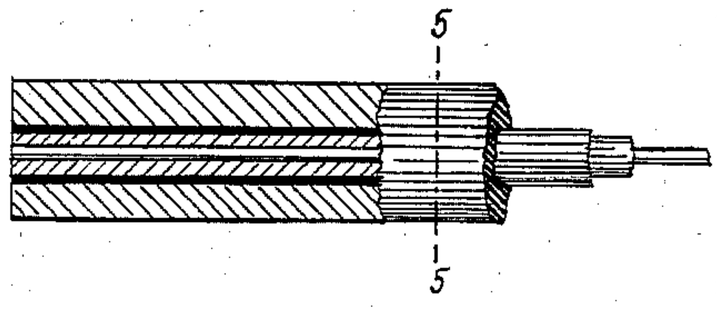


Fig. 5.

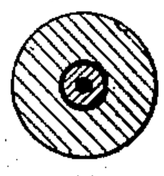


Fig. 6.

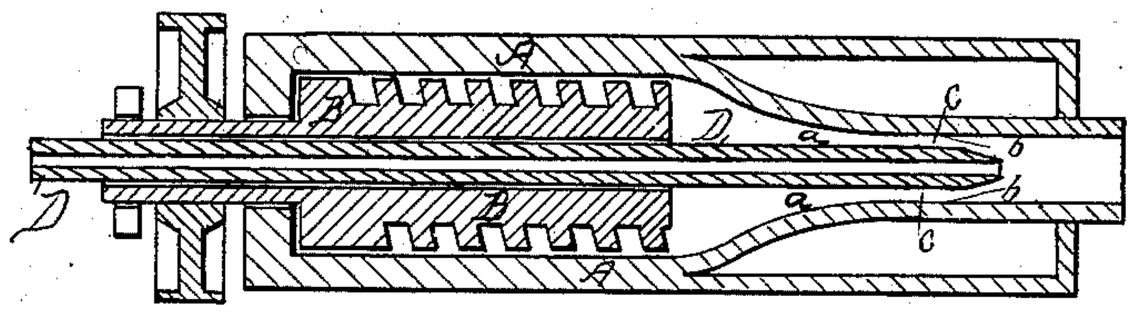
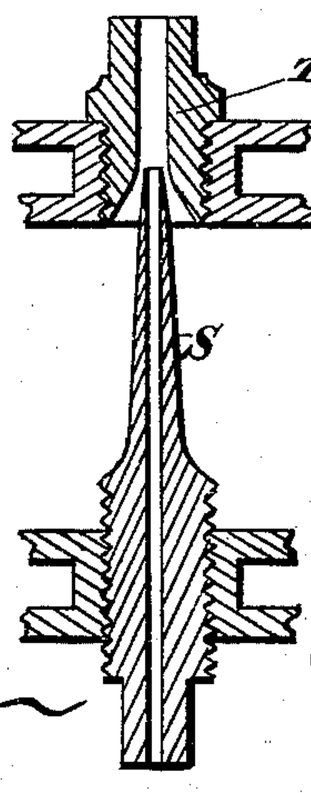


Fig. 7.



Witnesses:
H. F. A. Keever.
Wm. S. Bellows

Inventor,
H. A. Clark.
Per Brown Bros.
Attorneys.

UNITED STATES PATENT OFFICE.

HENRY A. CLARK, OF BOSTON, MASSACHUSETTS.

MACHINERY FOR COVERING WIRE WITH INSULATING MATERIAL.

SPECIFICATION forming part of Letters Patent No. 242,884, dated June 14, 1881.

Application filed February 1, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY A. CLARK, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machinery for Covering Wire with Insulating Material, of which the following is a full, clear, and exact description.

This invention relates more particularly to machines adapted for the covering of telegraph or telephone wire with an insulating material—as, for instance, india-rubber or gutta-percha, or restored waste vulcanized india-rubber or gutta-percha, in any of their vulcanizable or other compounds—and to that class of such machines as are constructed and arranged for the passage and guiding of wire axially through a circular opening in a die or head block, and for the forcing at the same time of the material with which the wire is to be coated through the same die-opening in a manner to dispose and place such coating material about and around the wire; and as an illustration of this class of machines reference is hereby had to the schedule annexed to and making a part of the Letters Patent of the United States issued to Thomas Sault, dated December 9, 1862, No. 37,112; and the object of this invention more especially is to adapt such machines for their application of such coating material to wires previously coated with a material or materials of a nature or formation to yield or give either in their thickness or length, or both, to the pressure thereon under the operation of the machine to force and apply the coating to such wire as they together pass through the circular die-opening; and to that end it consists of a guide for the wire which at and along its end at which the wire escapes and passes therefrom into the die-opening has exterior parallel sides, or sides substantially parallel, in combination with a die-opening which, for a part of its length, has parallel sides, or sides substantially parallel, when the former is so located in reference to the said die-opening that its said parallel, or substantially parallel, sides, either for the whole or for a part of their length, shall project and lie within the said die-opening at and along its said parallel sides, or substantially parallel sides, either for the whole or a part of their length, substantially as hereinafter described.

In the accompanying plate of drawings this invention is illustrated as applied in two ways in relation to the forcing of the coating material through the die-opening and to the guiding of the wire to be coated, which ways consist, in the one instance, of locating such parts in lines at right angles to each other, and in the other instance in lines parallel with each other.

Figures 1 and 6 are central longitudinal sections, respectively, of the machine arranged in the two ways stated. Fig. 2 is a transverse section on line 2 2 of Fig. 1; and Fig. 3, a transverse section, enlarged, on line 3 3 of Fig. 1; Figs. 4 and 5, views of the wire.

In the drawings, A represents a chambered cylinder; B, a screw arranged to turn within said cylinder; C, a hole which opens to the said screw intermediate of its length; D, the guide for the wire, which, in Fig. 1, is shown as running at right angles to the length of the screw B and cylinder A, and in Fig. 6 as loosely within the screw; and E, the die-block, which axially is coincident with the axial line of the wire-guide D, severally arranged for the passage of a wire through the die-opening, and at the same time for the forcing of a coating material through the die-opening as the wire passes through the same, all substantially (except as hereinafter described) the same as in the schedule annexed to the Letters Patent hereinbefore referred to.

The guide for the wire at and along its end at which the wire escapes or passes therefrom to the die-opening *a* is made with exterior parallel sides, or sides substantially parallel, and such portion of the said guide enters and projects either for the whole or a part of its length into the die-opening *a*, which die-opening, either for the whole or a part of its length corresponding therewith, is similarly provided with parallel sides *b b*, or sides substantially parallel, and these said parallel sides, as well, also, as the location of the wire-guide within the die-opening, are such as to leave an opening or space, *c*, between them for the passage of the material with which the wire is to be coated. This construction and arrangement

of the guide D for the wire and the die-opening *a* under the operation of the apparatus to force the coating through the die-opening as the wire proceeds through the same gives direction to such coating material in the line along which it is intended to and should pass through the die-opening before it reaches and comes in contact with the wire which it is to coat, and thus it is prevented from working itself in a backward direction upon the wire, which obviously is most advantageous if the wire should have been previously covered with a coating or coatings of materials which are of a nature capable of compression in their thickness or of extension or movement in their length—as, for instance, a wire previously coated with insulating material, either alone or in combination with a strip of tin-foil exteriorly covering said insulated wire.

The construction of the guide-tube and die employed by me to accomplish the results hereinbefore specified differs from the form of guide-tube and die in those machines now in use which employ a guide-tube, S, and a die, T, of the form shown in the sectional view, Fig. 7, of the drawings, which particular form is not claimed by me.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In a machine of the class herein described, the wire-guide D, having parallel sides, and the opening *a* in die-block E, having similar parallel sides, *b b*, arranged and combined together, so that the wire-guide at and along its parallel sides enters and lies axially within the portion of the die-opening in its portions having parallel sides *b b*, substantially as described, for the purpose specified.

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

HENRY A. CLARK.

Witnesses:
EDWIN W. BROWN,
W. S. BELLOWS.