

(No Model.)

D. M. STEWARD.
ELECTRICAL INSULATOR.

No. 271,994.

Patented Feb. 6, 1883.

Fig. 1.

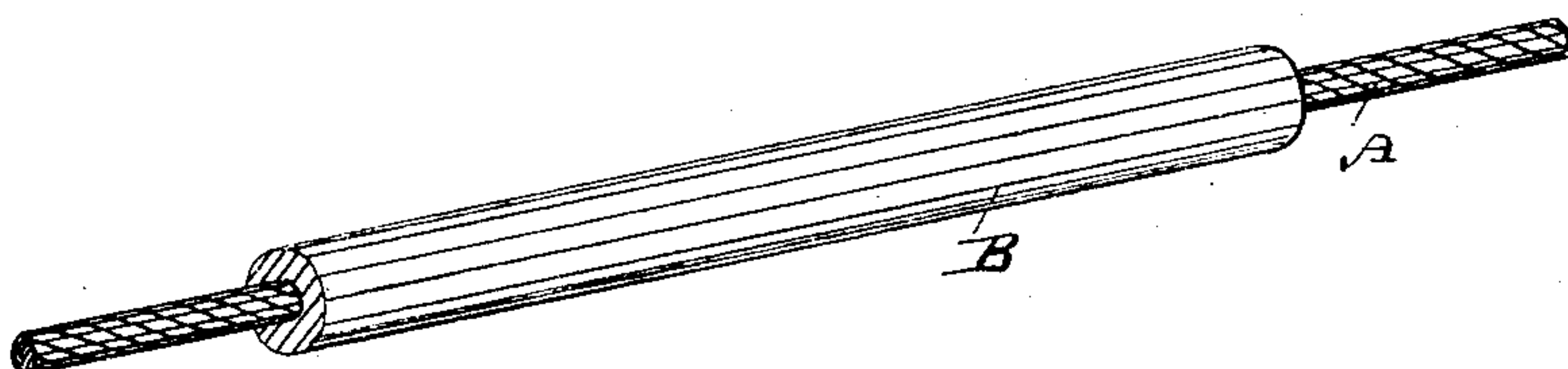


Fig. 2.

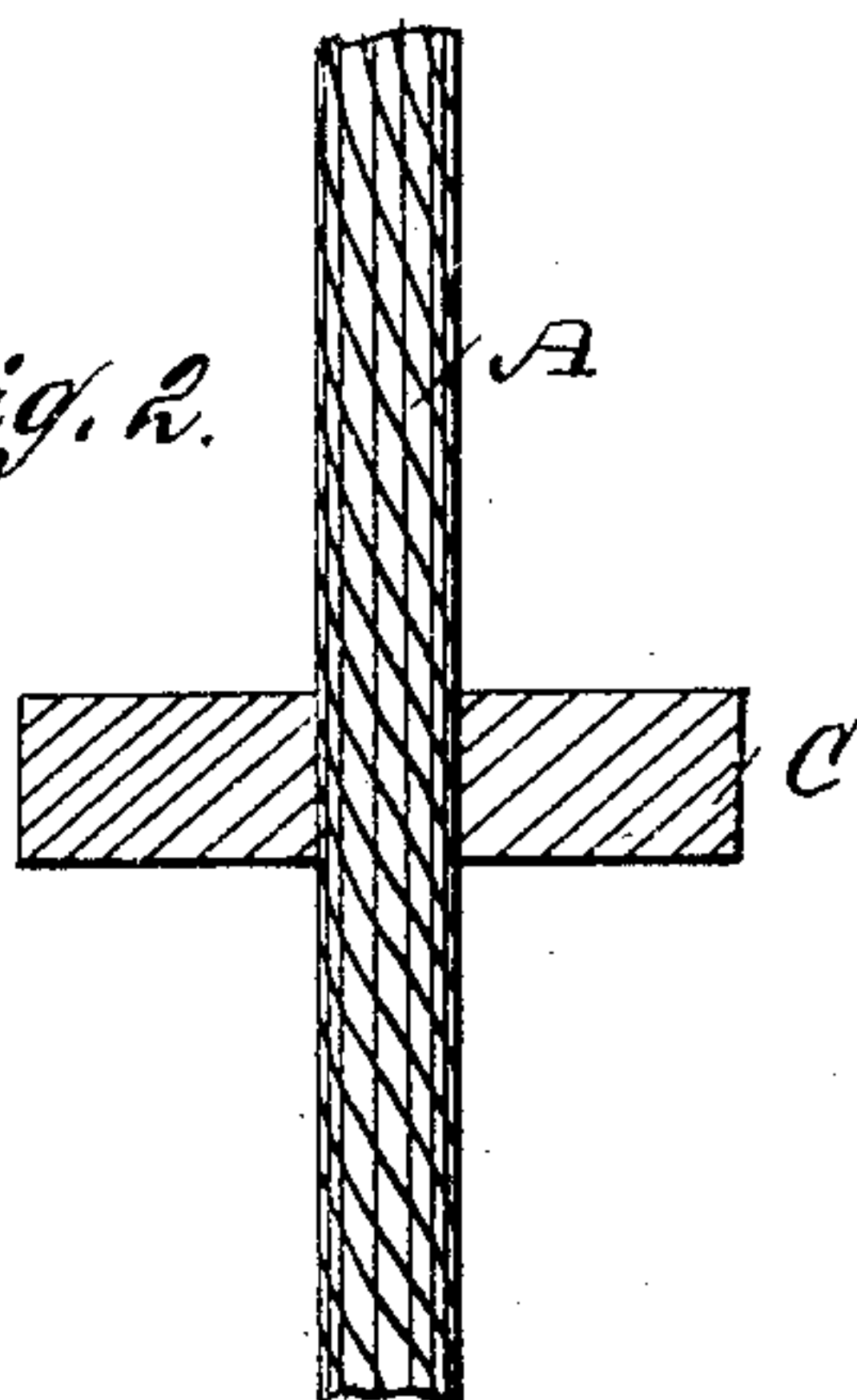
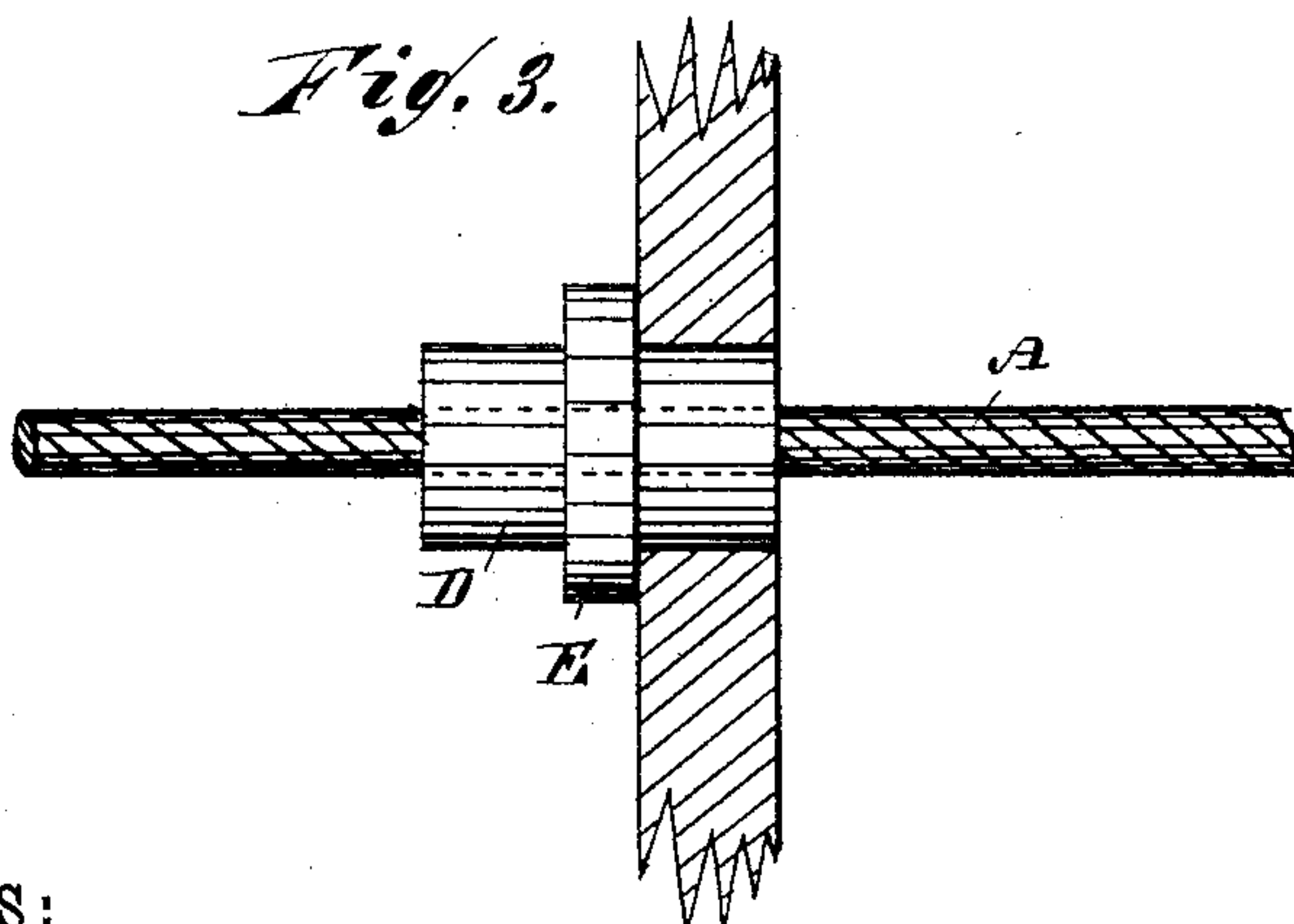


Fig. 3.



WITNESSES:

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DEMETRIUS M. STEWARD, OF CINCINNATI, OHIO.

ELECTRICAL INSULATOR.

SPECIFICATION forming part of Letters Patent No. 271,994, dated February 6, 1883.

Application filed August 22, 1882. (No model.)

To all whom it may concern:

Be it known that I, DEMETRIUS M. STEWARD, of Cincinnati, Hamilton county, and State of Ohio, have invented a new and Improved Electric Insulator, of which the following is a full, clear, and exact description.

My invention relates to improvements in electrical insulators; and it consists in the process of treating steatite, as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a piece of wire or cable provided with my improved insulator. Fig. 2 is a cross-sectional elevation of an insulating-disk, which is used to insulate a wire or cable at certain points; and Fig. 3 is a longitudinal elevation of an insulating-sleeve for insulating a wire in a door or window frame or casing.

For the purpose of insulating electric wires, I surround them throughout their length, or at points at which they are to be insulated, with a layer of steatite, which is used in its hardened state—as artificial lava—made by hardening it by treatment with ammonia and muriatic acid in solution, and then subjecting it to heat in a retort, or in any manner preferred which will accomplish the desired result. The powdered steatite may be mixed with plaster-of-paris and liquids to form a mortar, and can then be molded into shape; or it may be cut, turned, or otherwise made of convenient shapes and sizes, wherever an insulator is required for electric light or motor wires—for instance, as insulating tubes, rings, sleeves, or as a saddle, or as a block, with transverse apertures for crossed wires. The tubes are made in sections, and are successively passed over the wire and the sections joined together by a cement, in case the entire wire is to be insulated in the interior of a building; or the electric wire can be packed in and surrounded by powdered steatite, which is held on the wire by a woven tube of cotton or other suitable material.

Underground wires can be insulated by pack-

ing them in a mortar made with powdered steatite. The insulating layer may have any desired thickness. It can also be applied on the wires as a wash or paint, and after several coats of this wash have been applied an insulating layer of steatite will be formed on the wires.

In Fig. 1, A is the wire; B, the insulating-tube, made of steatite.

In case the wire A, Fig. 2, must pass through a partition or the floor, or a support, a ring, C, of steatite is secured in this floor or partition, and the wire A is passed through this ring.

In place of the ring C, a sleeve or collar, D, may be used, and this may be provided with a circular ridge, E, to hold it in proper position in a door or window casing, partition, &c.

The insulating material may be pressed, formed, or molded, turned, cut, or otherwise made into any shape, as the circumstances may require. The insulators made of steatite or artificial lava are very hard and durable, and are not affected by moisture, heat, or frost, oils, gases, acids, or other solvents, nor by any sudden change of temperature, as the heat of a burning building, and are thus far superior to glass and rubber insulators, for the former are very apt to break, and the latter are expensive and liable to crack.

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

1. The process herein described of treating steatite to form electrical insulators, consisting in treating it with ammonia and muriatic acid, and then subjecting it to heat, as set forth.

2. The process herein described of treating steatite to form electrical insulators, consisting in treating it with ammonia and muriatic acid, subjecting it to the heat, mixing it with plaster-of-paris and liquids to form a mortar, and finally forming it into suitable shapes, as described.

DEMETRIUS M. STEWARD.

Witnesses:

CHAS. SWARTZENBURG,
CLIFFORD STEWARD.