

C. A. & I. S. BROWNE.

Electric-Fuses.

No. 158,672.

Patented Jan. 12, 1875.

Fig. 1.

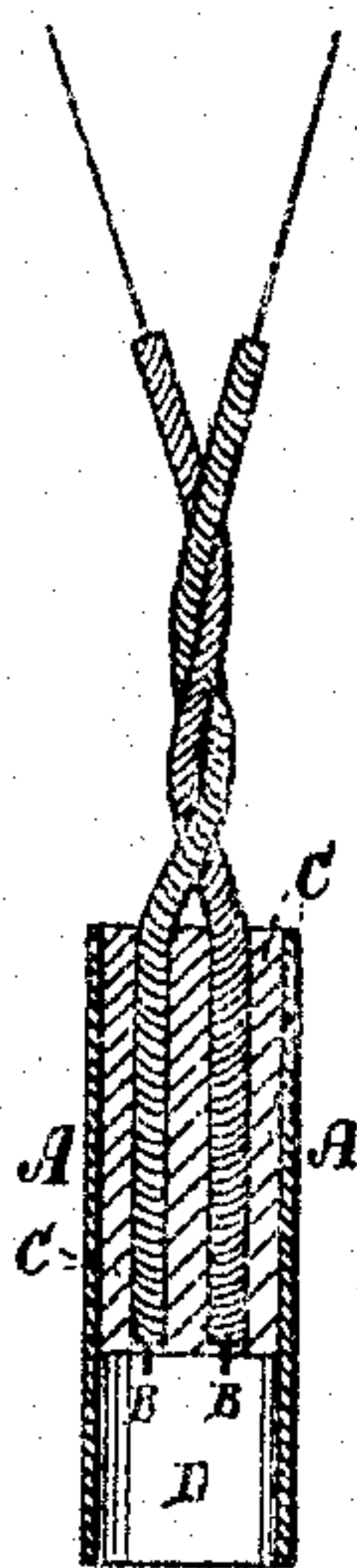
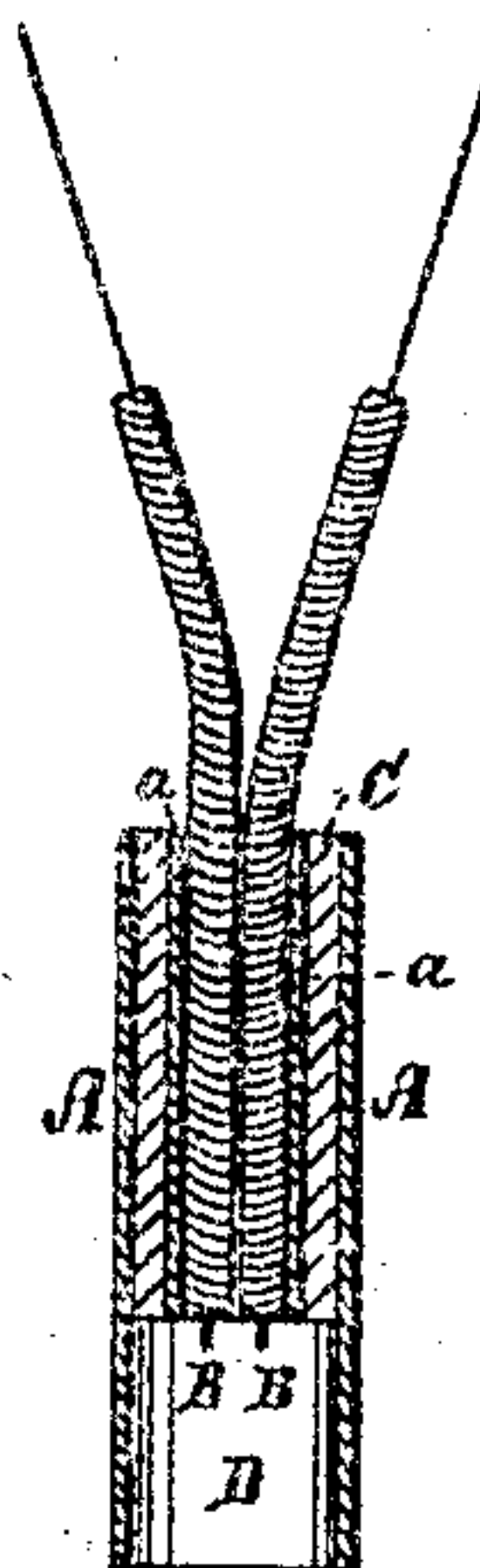


Fig. 2.



WITNESSES:

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## IMPROVEMENT IN ELECTRIC FUSES.

Specification forming part of Letters Patent No. 158,672, dated January 12, 1875; application filed August 22, 1874.

*To all whom it may concern:*

Be it known that we, CHARLES A. BROWNE and ISAAC S. BROWNE, of North Adams, in the county of Berkshire and State of Massachusetts, have invented a new and useful Improvement in Electric Fuses, of which the following is a specification:

The invention relates to electric fuses, consisting of a shell having wires in packing, and attached to a second shell or cup containing the explosive compound. It consists in preparing these for transportation and subsequent consumption, as hereinafter fully described.

The drawing represents our improved fuse in two sectional elevations.

In the construction of our improved fuse we make use of a metal tube, A, Fig. 1, open at both ends about three-fourths of an inch in length. This tube having been placed over a pin whose diameter is equal to the inside diameter of the tube A, and of the proper length—say, one-fourth of the entire length of the tube A—the extremities of two insulated wires, B B, are inserted in the upper end of the tube A, and rest in two small holes corresponding in size to the diameter of the wire. These holes are about one-sixteenth of an inch apart in the end of the pin, which serves as a gage to separate the terminals of the fuse-wires B B the proper distance. The tube A is now filled with cement, wax, rosin, sulphur, or their equivalents, C. As soon as the material used in cementing has become hardened, the tube A is removed from the pin, whereby a chamber is formed, D, in the end of the tube A, for the reception of the priming

material. Or the insulated wires B B can be first secured to a tube, *a*, Fig. 2, and this tube inserted in a second tube, A, having a chamber corresponding with and for the same purpose as in the first manner mentioned.

To the consumer an opportunity is thus afforded of examining the fuse-wires to see that they are in proper adjustment before inserting the priming-charge, which is not the case when the second or fulminating charge and priming-charge are secured in a single shell with a closed bottom, and the fuse-wires inserted after the priming-charge. Again, the independent fuse, consisting of the tube A with the wires B B attached, and the priming secured in the chamber D, are perfectly safe to transport, there being not enough force in the priming alone to cause, if by chance one of them should explode, the explosion of other fuses with which it might be in contact.

When independent fuses are shipped in this manner, the outer or second cap containing the fulminate charge can be shipped in a wet state, and then dried and attached by the consumer to the independent fuse.

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

The tube A, having wires *a a* in a packing, C, and provided with open-ended chamber D for the priming.

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Witnesses:

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