

D. BROOKS.
Telegraph Insulator.

No. 69,622.

Patented Oct. 8, 1867.

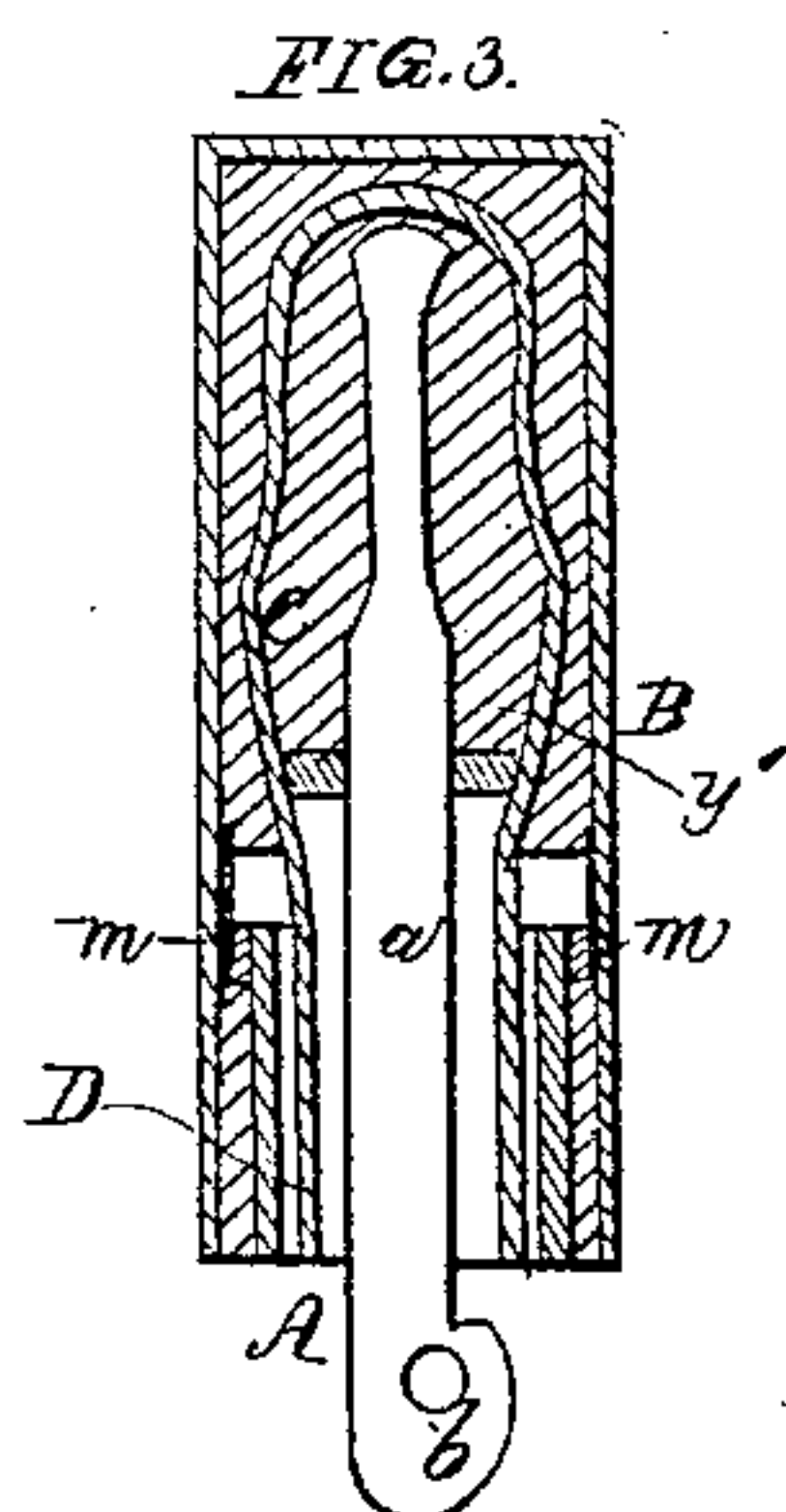
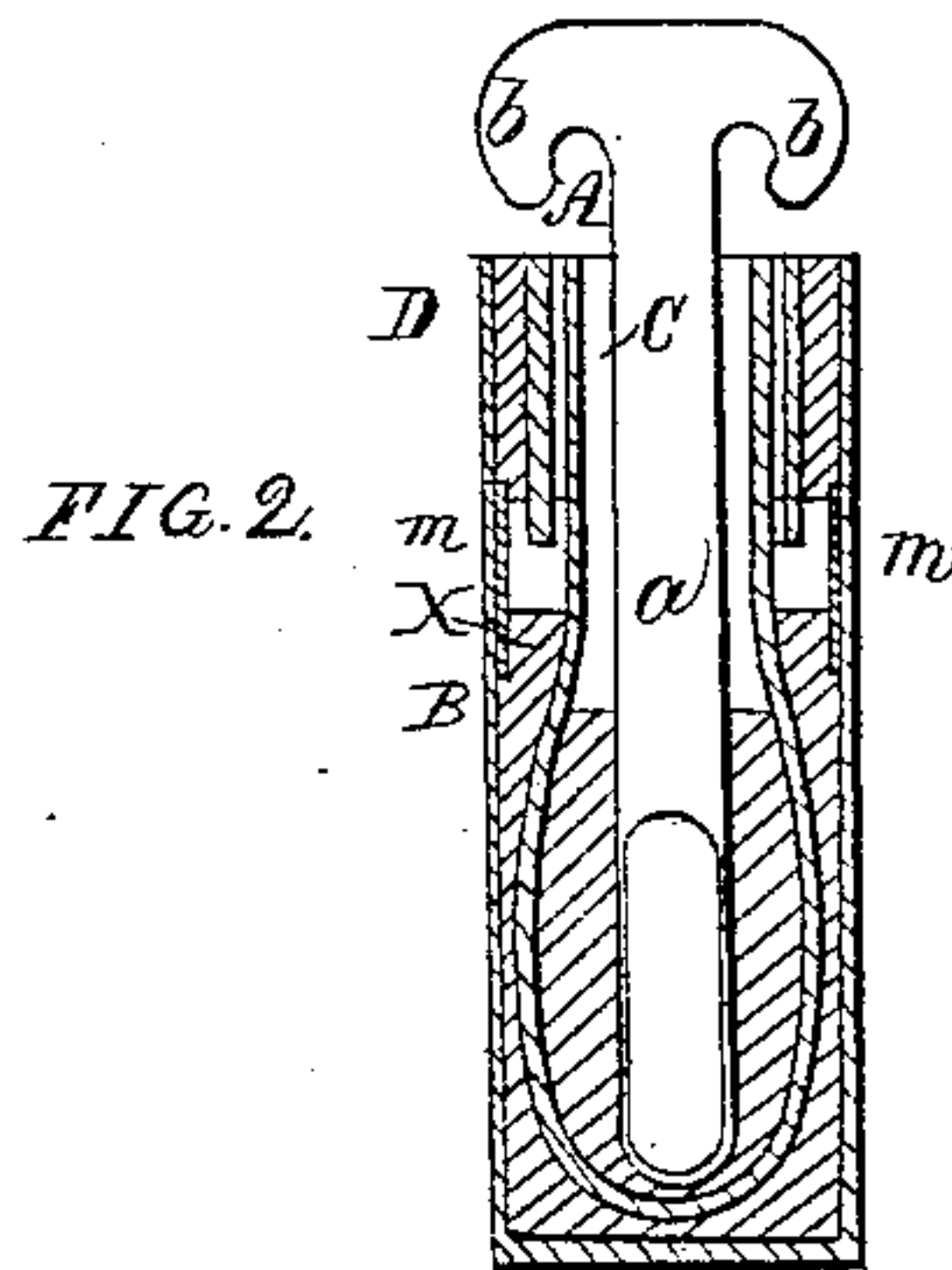
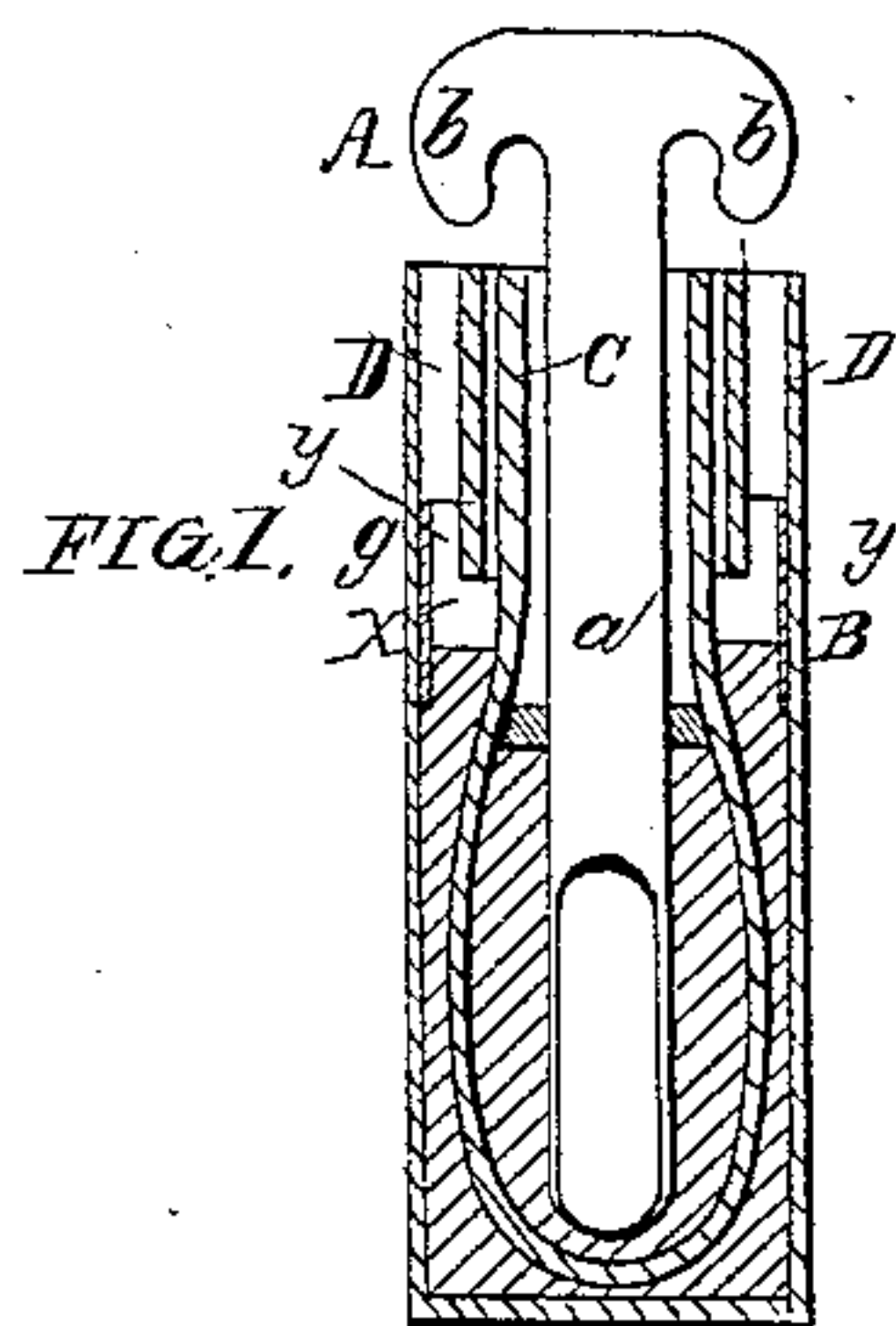


FIG. 4.

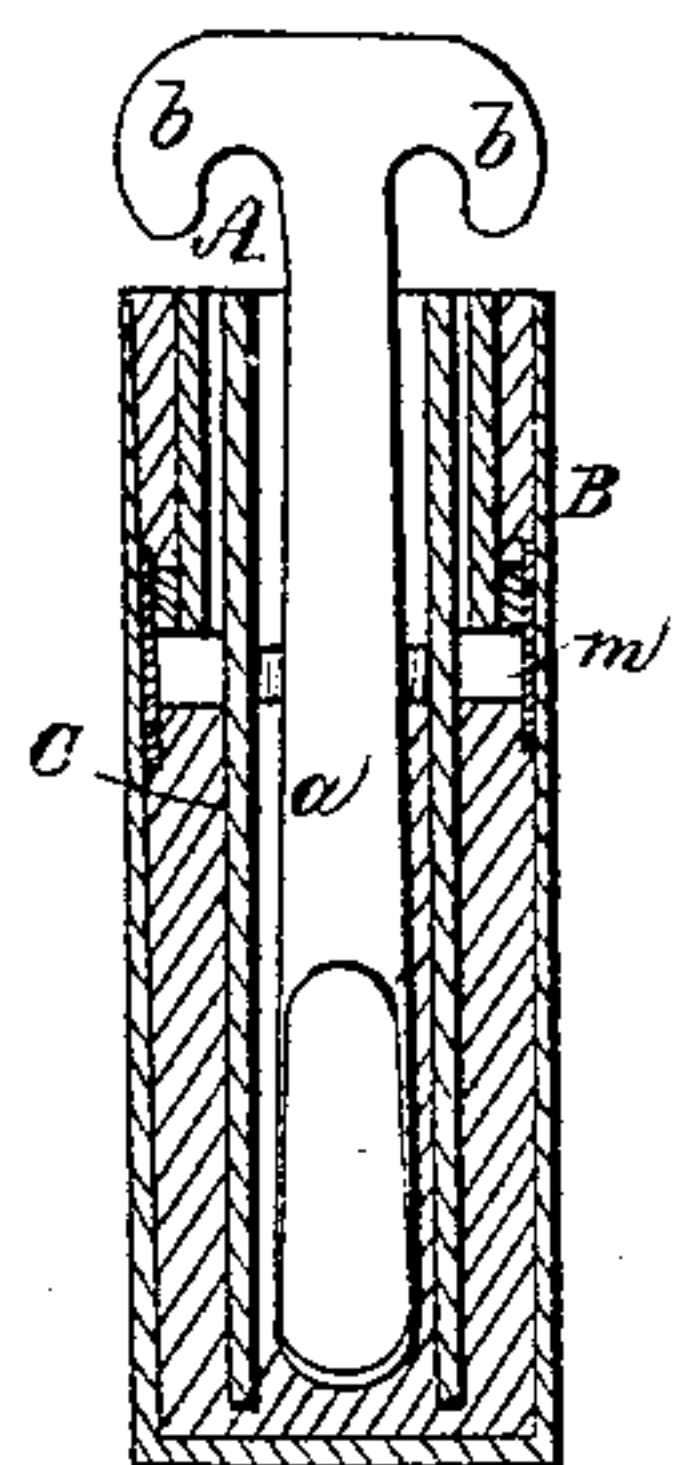
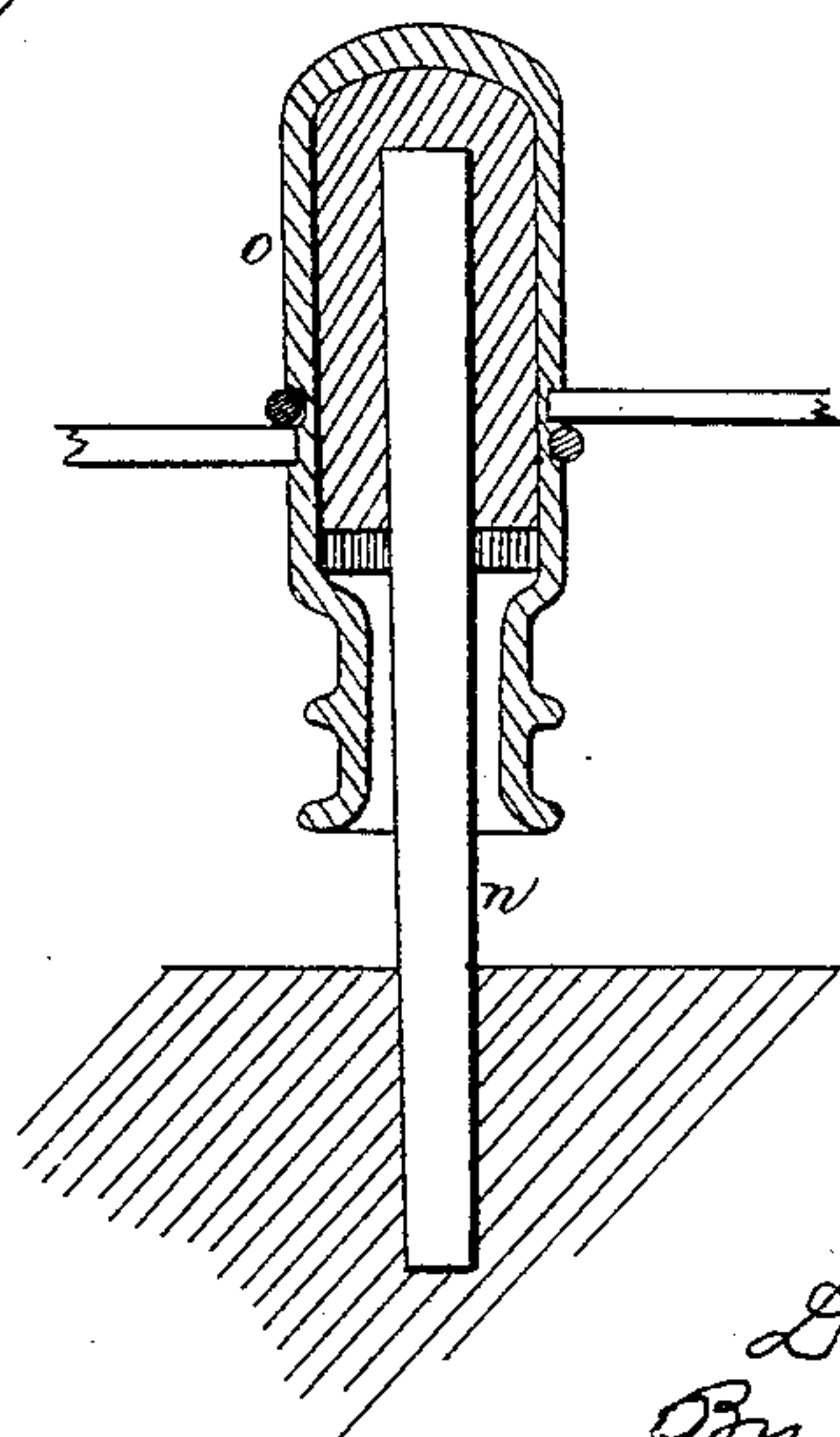


FIG. 5.



Witnesses:

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DAVID BROOKS, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 69,622, dated October 8, 1867.

IMPROVEMENT IN INSULATORS FOR TELEGRAPHS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, DAVID BROOKS, of Philadelphia, Pennsylvania, have invented certain Improvements in Insulators for Telegraph Wires; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the construction of insulators for telegraph wires, the main feature of my invention consisting of the combination, substantially as described hereafter, of a vessel or tube of blown glass with a telegraphic-wire insulator, so that a more perfect insulation may be attained.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figures 1 and 2 are sectional elevations of my improved insulator as it appears when partly completed.

Figure 3, an inverted sectional view of the insulator complete; and

Figures 4 and 5 modifications of my invention.

In figs. 1, 2, and 3, A is a cast-iron wire-holder, which consists of a stem, *a*, having at one end the usual curved arms *b b*. B is a metal case, open at one end, and C is a vessel of blown glass, the opposite sides of which are flattened, as shown in fig. 3. D is a hollow cylinder or band of glass, porcelain, or earthenware, and is of such a size as to surround the neck of the vessel C without being in contact therewith at any point. A band, *x*, of paper or other fabric is cemented to the inside of the case B, a short distance from the open end of the same. Melted sulphur is poured into the case, and the vessel C is inserted in the position shown in figs. 1 and 2, the upper surface of the sulphur being above the lower edge of the paper band *x*. Melted paraffine is now poured on to the sulphur in the case, and the cylinder D is so adjusted that it will be secured in the position shown in fig. 2 by the hardened paraffine. The remaining annular space between the cylinder D and the case B is then filled with melted sulphur. The stem *a* of the holder A is now introduced into the vessel C, and is secured by melted sulphur, with which the said vessel is partly filled, melted paraffine being poured onto the top of the sulphur after the latter has become hard. The case is now heated and then inverted, so that all the paraffine except that absorbed by the sulphur, and that which remains in the annular portion *m*, fig. 3, between the cylinder D and the paper band *y*, will escape. The case and its contents are then allowed to cool, after which paraffine is again poured into the vessel C, so as to cover the surface of the sulphur in the same, and form a ring or belt, *y'*, round the stem.

I have found, after lengthened and repeated experiments, that blown glass is a much more perfect insulating medium than glass pressed in a mould, for the reason that the surface of pressed glass contains minute fissures, in which moisture or dust collects, and permits the escape of electric currents. I have also found that the inner surface of a blown-glass vessel is much less liable to collect and retain moisture than the outer surfaces of the same. By the substitution, therefore, of a blown-glass vessel for the pressed or moulded cup or cylinder of glass heretofore employed, the wire-holder is much more perfectly insulated, while the amount of glass, and consequently the weight of the insulator, is reduced. A tube, *c*, of blown glass, as shown in fig. 4, may be substituted for the glass vessel illustrated in figs. 1, 2, and 3. A vessel of blown glass may be used in the manner illustrated in fig. 5, when it is desired to dispense with the case B and wire-holder, the wire in this case being wrapped round the vessel, which is adjusted to the pin *n* in a manner clearly shown in the drawing. The body *m* of paraffine contained within the annular recess *y* perfectly insulates the holder from the case, and the recess thus situated serves to retain the paraffine in its place, even if it should be melted by the heat to which insulators are sometimes exposed. By the use of a detachable cylinder, D, the recess for the reception of the paraffine may be formed after the vessel C has been introduced into the casing, the expense of so constructing the case as to form a recess or receptacle for the paraffine being thus avoided.

I claim as my invention, and desire to secure by Letters Patent—

1. The combination, substantially as described, of a vessel or tube of blown glass with a telegraphic-wire insulator, for the purpose described.

2. A wire-holder, A, and case B, in combination with a tube or vessel, C, of blown glass, arranged between the holder and case, and insulated from both, substantially as and for the purpose specified.
3. A recess, y, arranged between the case B and holder A, and containing paraffine for the purpose set forth.
4. A detachable cylinder, D, arranged in respect to the holder, case B, and vessel C, and insulated from the same, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DAVID BROOKS.

Witnesses:

JOHN WHITE,
C. B. PRICE.