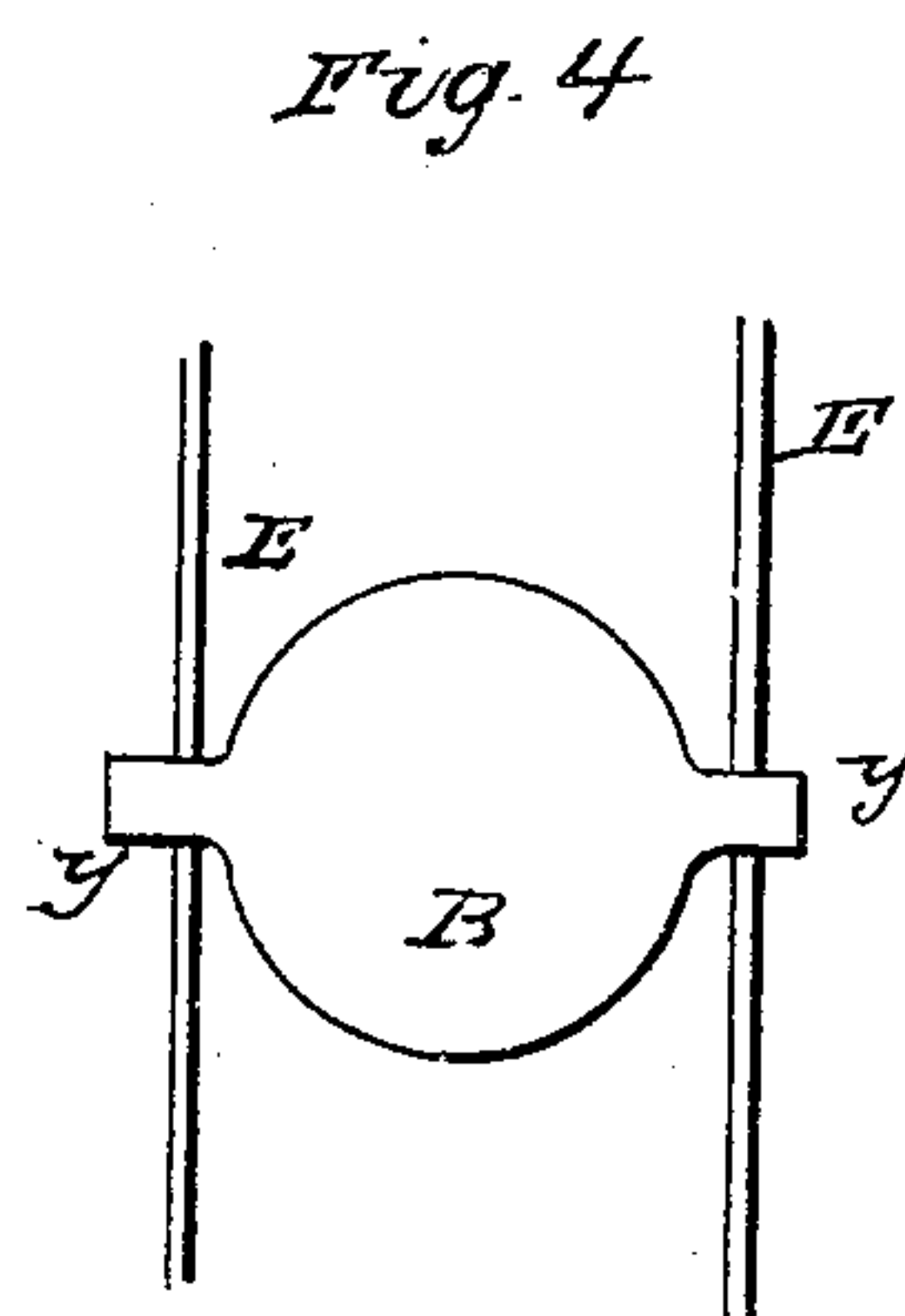
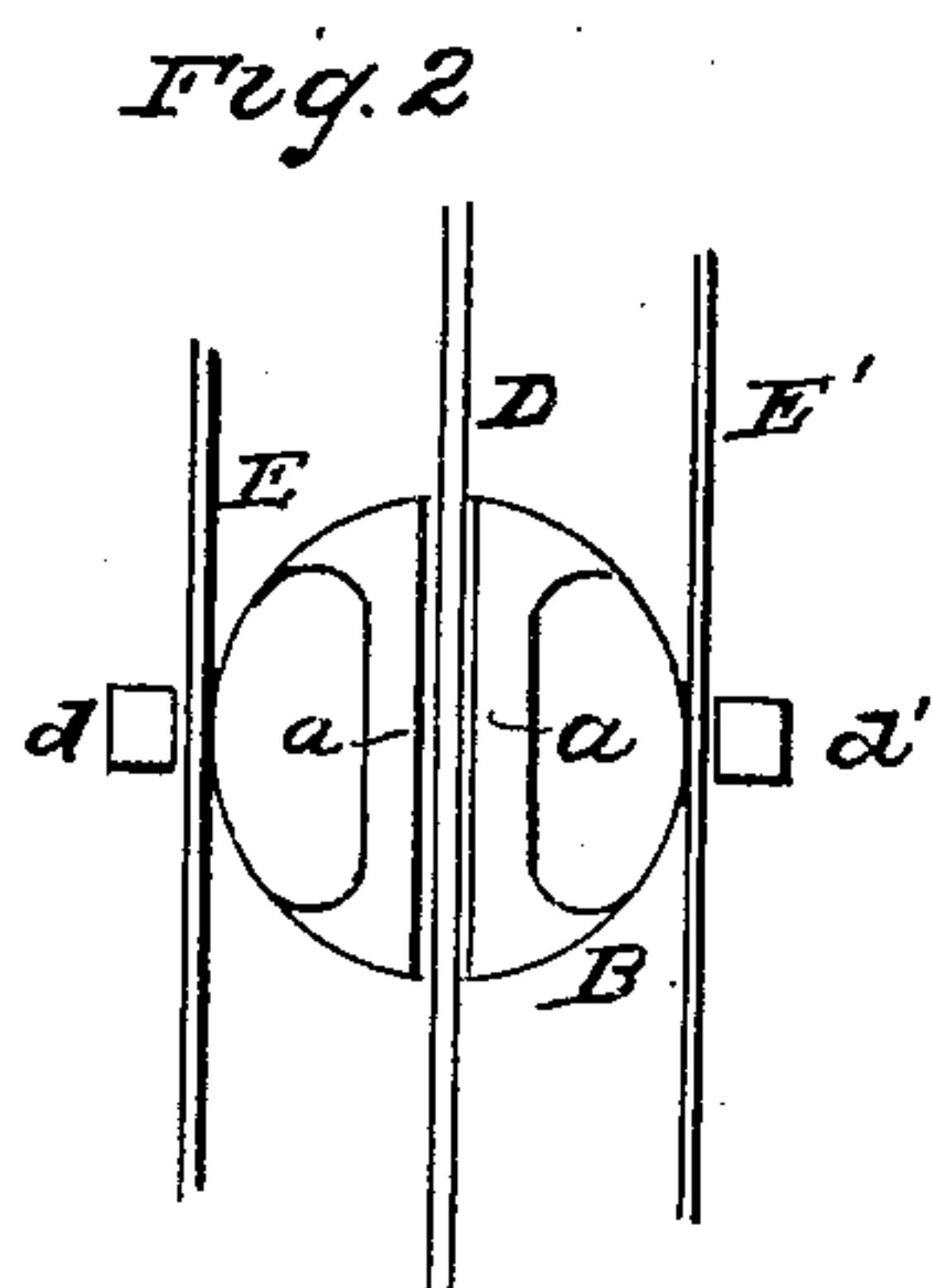
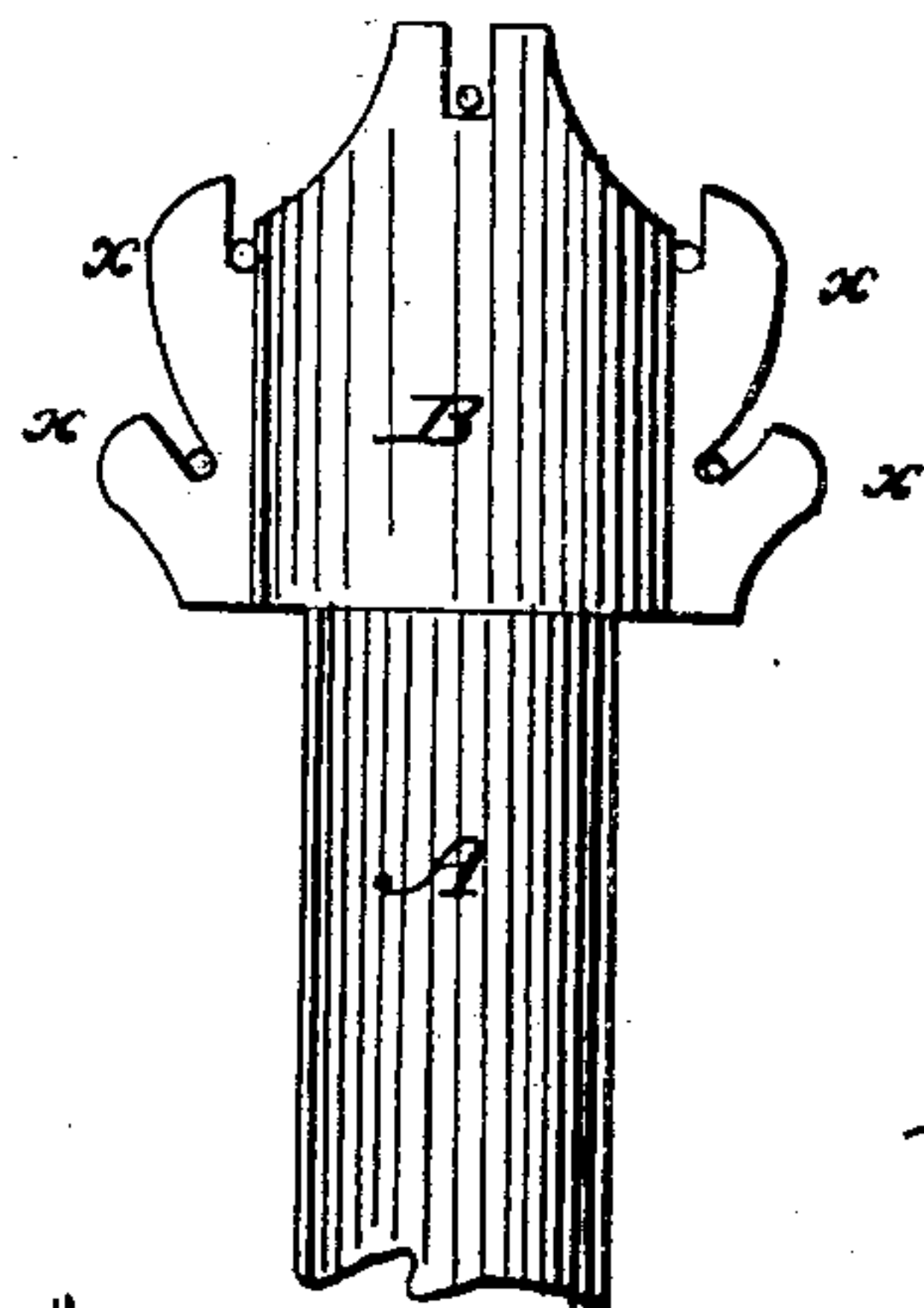
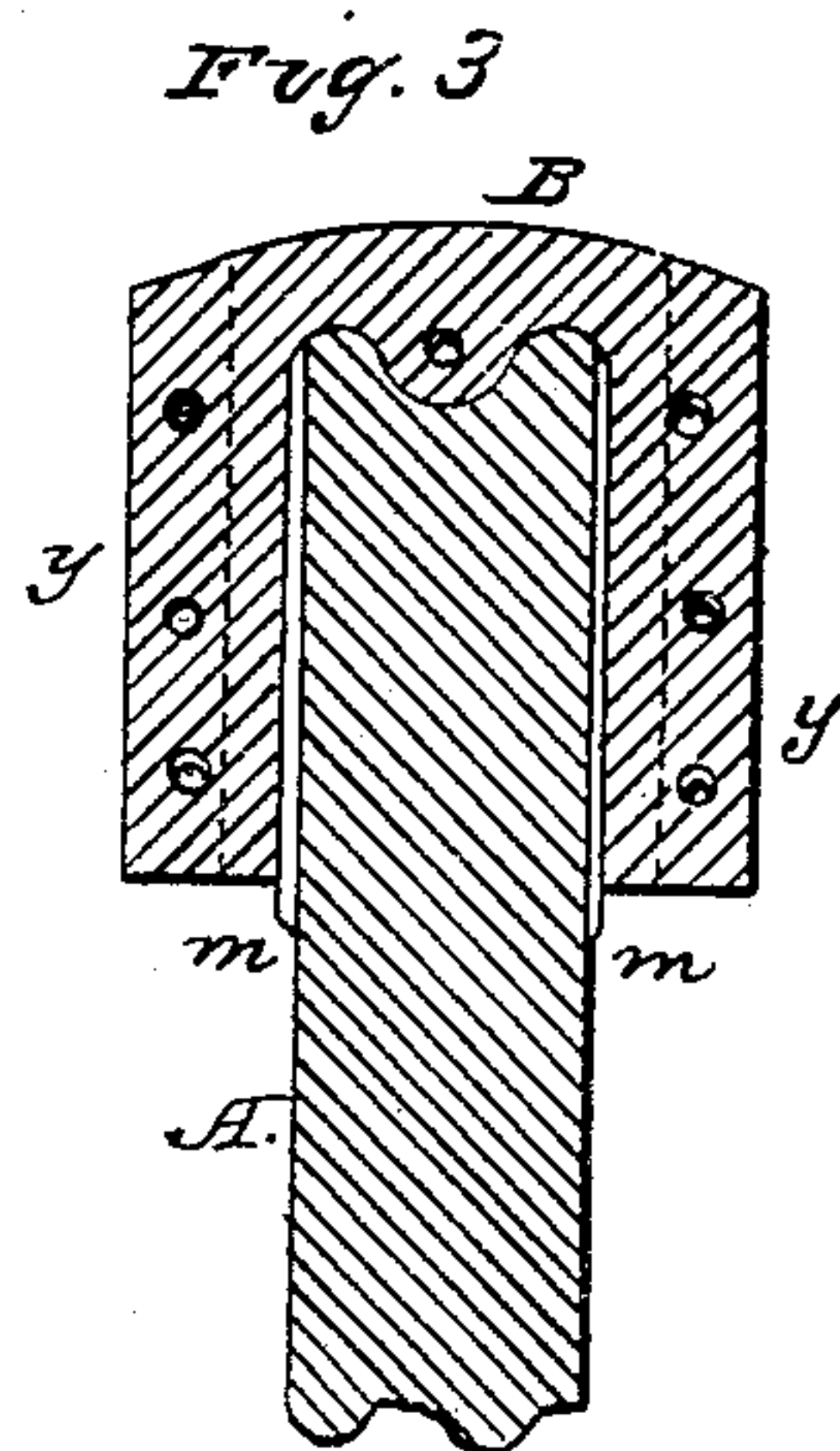
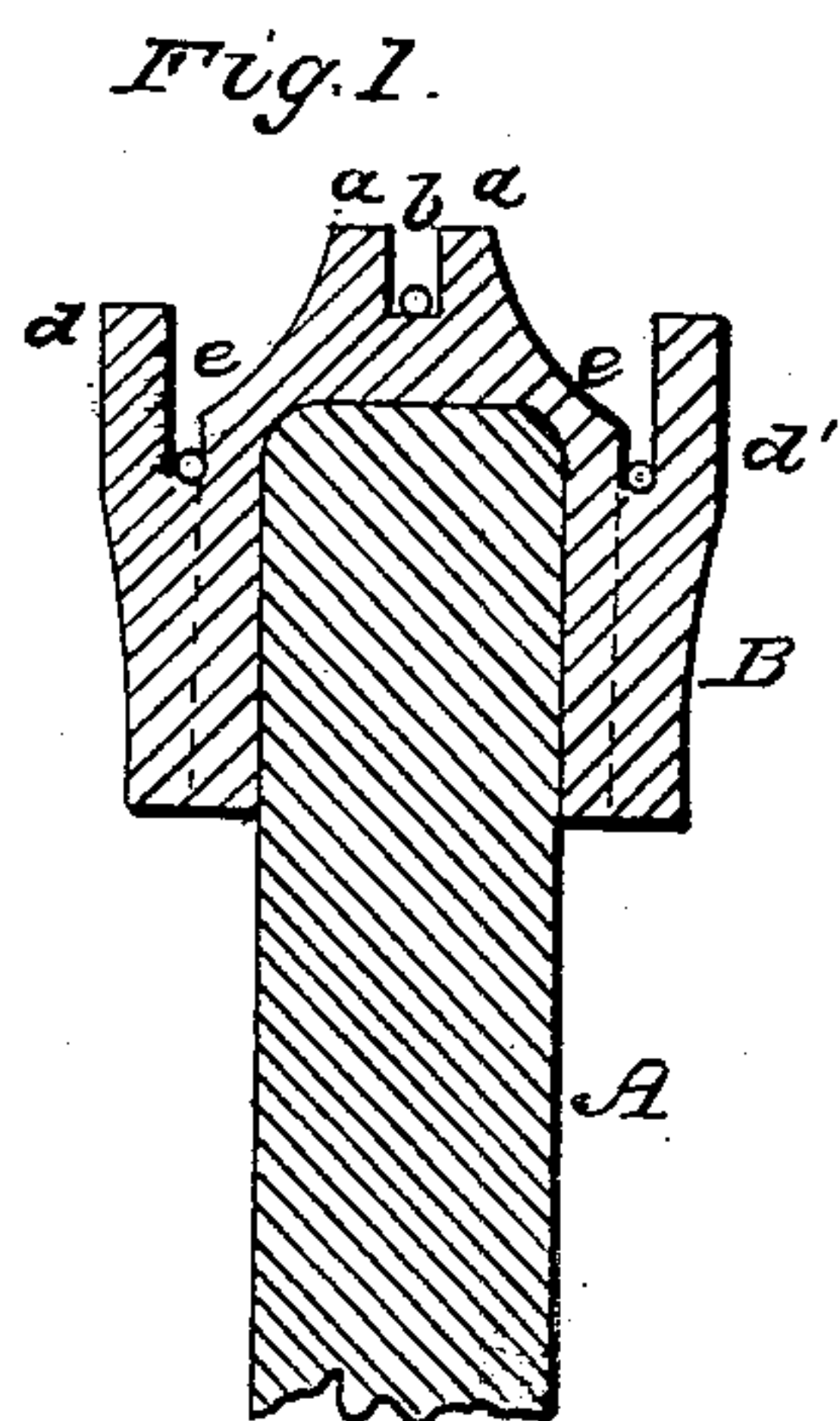


J. HOLLAND.
Telegraph-Wire Insulator.

No. 41,157.

Patented Jan. 5, 1864.



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UNITED STATES PATENT OFFICE.

JAMES HOLLAND, OF CONSHOHOCKEN, PENNSYLVANIA.

IMPROVEMENT IN INSULATORS FOR TELEGRAPH-WIRES.

Specification forming part of Letters Patent No. 41,157, dated January 5, 1864.

To all whom it may concern:

Be it known that I, JAMES HOLLAND, of Conshohocken, Montgomery county, Pennsylvania, have invented an Improved Insulator for Telegraph-Wires; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of an insulator and wire-holder made of terra-cotta, earthenware, or equivalent substance or substances, adapted to a pole and formed for the reception of the wires, substantially as described hereinafter, the said insulator and holder forming a cheap, simple, and durable substitute for the separate insulators, cross-bars, and other appliances heretofore used for the holding and insulating of telegraph-wires.

In order to enable others to make and apply my invention, I will now proceed to describe the manner of carrying it into effect.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a vertical section of one of my improved insulators and holders for telegraph-wires; Fig. 2, a plan view of Fig. 1; Fig. 3, a modified form of insulator and holder; Fig. 4, a plan view of Fig. 3, and Fig. 5 an exterior view of a modification of Fig. 1.

On reference to Figs. 1 and 2, A represents the upper end of an ordinary pole for supporting telegraph-wires; and B is the insulator and wire-holder, which consists, in the present instance, of a hollow cylinder of terra-cotta, closed at the top and fitted to the pole of which it forms the cap. On the top of this cap a groove, L, is formed by the two flanges *a a*, and in this groove rests the wire D, and two projections, *d* and *d'*, are formed, one on each side of the cap, for retaining the wires E and E'.

It will be seen that the cap can be so formed with grooves and projections that the three wires may be a proper distance apart from each other.

In Figs. 3 and 4 the cap has a flange, *y*, on each side, each flange being pierced with three holes, there being another hole through the top of the cap, so that in this instance it serves as a support for seven wires. In Fig. 5 the cap has two projections forming two recesses,

and one groove at the top, so as to support five wires.

The material which I have used with marked success in the manufacture of the above-described insulators and wire-holders is a clay found in abundance in Montgomery county, Pennsylvania, as well as in many other sections of the country, the clay being used in the above locality for making cheap water and drain pipes, and for the manufacture of a variety of cheap vessels and other objects, both ornamental and useful, which have received the name of terra-cotta ware. Articles made of this clay, when properly baked and glazed, are of extraordinary strength. This, together with the facility with which the clay can be molded into any form, renders it especially adapted for the manufacture of my insulators and wire-holders, which possess the advantage of being readily applied to their places.

If the hole in the cap be somewhat too small to receive the end of the pole, the latter can be readily cut to suit the cap; and if the orifice in the cap be too large for the hole, the intervening space can be easily packed with suitable strips of wood, as seen at *m m*, Fig. 3. When the cap is once in its place the insulator and holder is complete, and nothing remains but to apply the wires.

When the time taken to secure the cross-bars of ordinary telegraph-poles and to adjust the separate insulators is considered, and when the expense necessarily incurred in the erection and completion of ordinary telegraph poles and insulators is taken into account, it will be evident that the advantages of cheapness and simplicity, and, I may add, durability, are on the side of my invention.

Although I have described my improved insulators and holders as manufactured of a particular kind of clay, it will be evident that they may be made of any of the clays or earths which, when baked, will be of sufficient strength and durability; that many of the artificial stones, which can be molded or cast into proper shape, may be used, and that even coarse glass can be employed. It will be evident, too, that the shape of the insulator and holder may be modified; that the caps may be made to present an ornamental appearance, and that they may be made for supporting any number of

wires which a telegraph-pole has usually to support. As regards the insulating properties of the cap, it will be at once admitted that it is equal if not superior to the wire-holders hitherto used.

My improved insulator and holder possesses the further advantage of maintaining the top of the pole in an invariably dry condition.

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

An insulator and holder made of terra-cotta,

earthenware, or equivalent substance or substances, adapted to a pole and formed for the reception of the wires, substantially as set forth.

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

JAMES HOLLAND.

Witnesses:

CHAS. DAVIS,
JAMES MATTHEWS.