R. CORNELIUS.

LIGHTING GAS BY ELECTRICITY.

No. 38,563. Patented May 19, 1863.

Fig. 1.

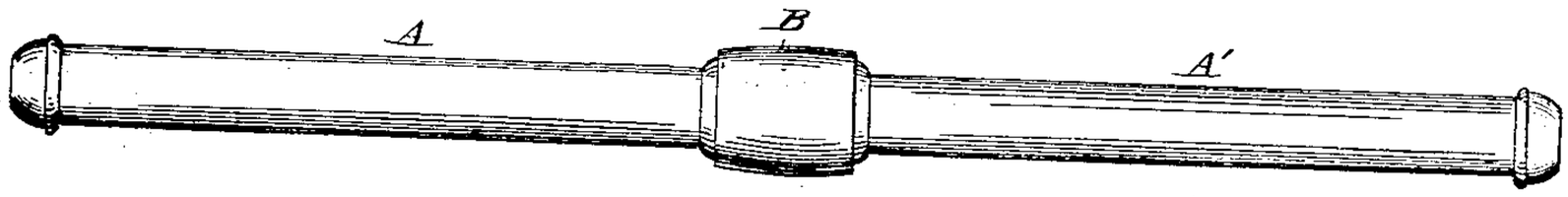


Fig. 2.

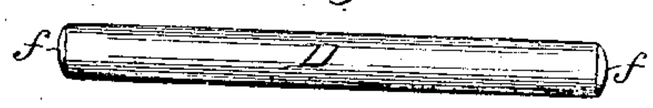


Fig. 3.

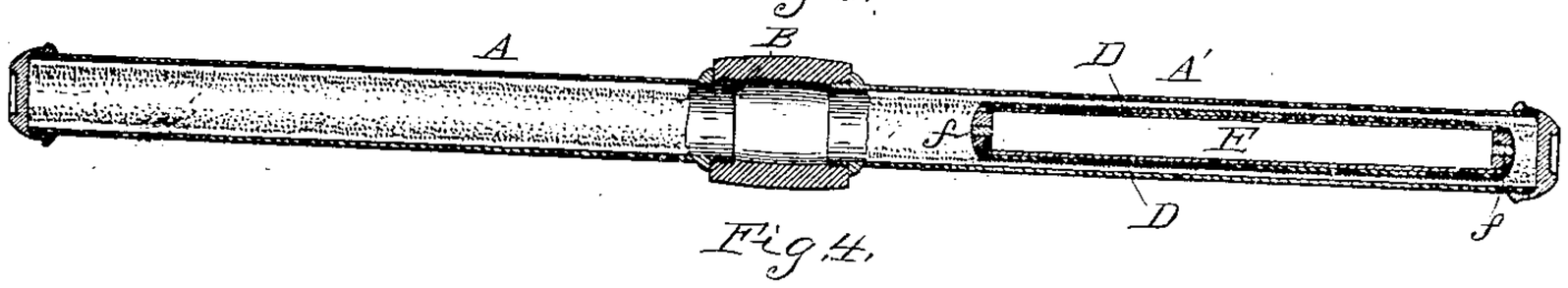
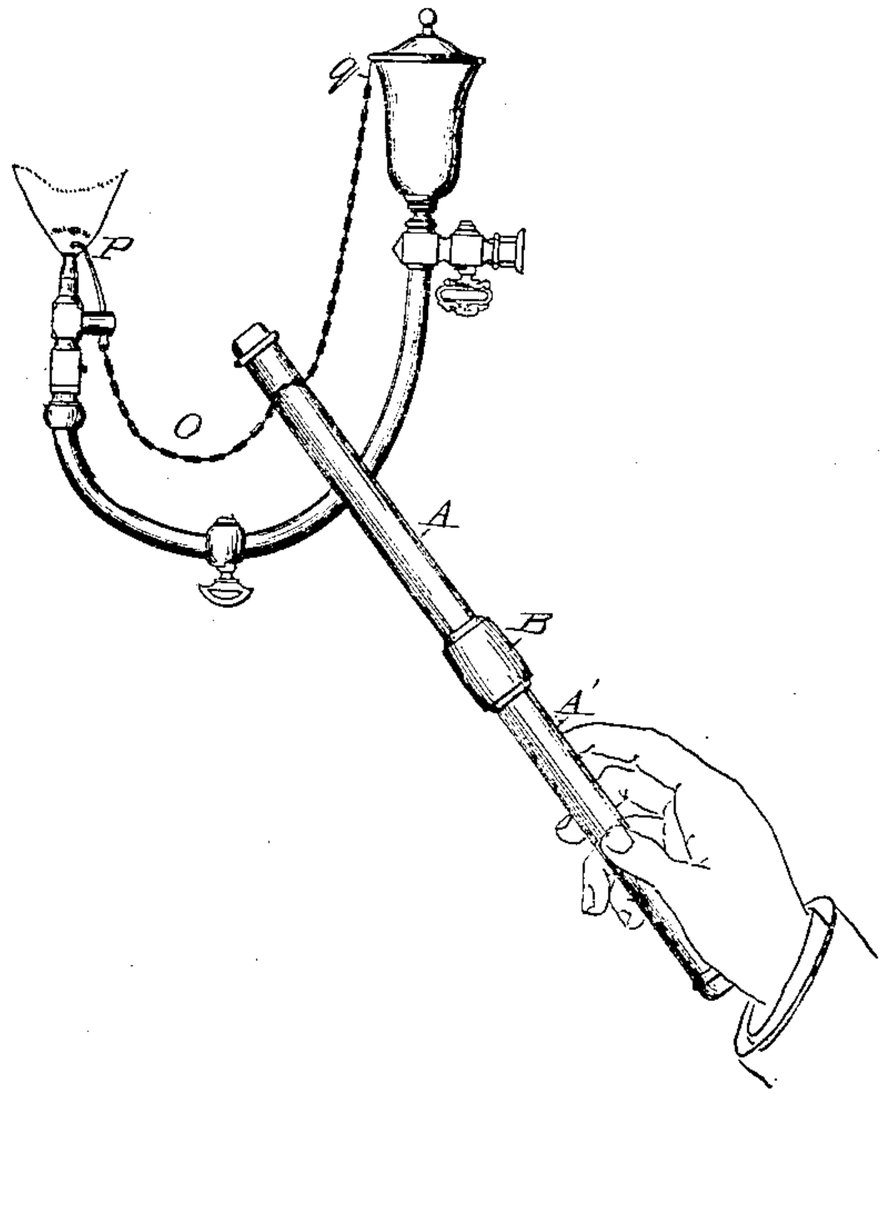


Fig. 4.



Witnesses

James H. Colvin

Inventor

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UNITED STATES PATENT OFFICE.

ROBERT CORNELIUS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN LIGHTING GAS BY ELECTRICITY.

Specification forming part of Letters Patent No. **38,563**, dated May 19, 1863.

To all whom it may concern:

Be it known that I, ROBERT CORNELIUS, of Philadelphia, State of Pennsylvania, have made certain new and useful Improvements in Apparatus for Lighting Gas and other Inflammable Materials; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and in which—

Figure 1 is an exterior view of my improved lighter. Fig. 2 is a view of a portion of the interior. Fig. 3 is a sectional view of the whole apparatus. Fig. 4 shows the manner of using it.

A B A′ is a hollow tube, consisting of the two metallic parts A and A′, and the central hard-rubber cylinder or ring, B, which insulates the parts A and A′ from each other. This tube is about sixteen inches long and about three-fourths of an inch in diameter. Inside of this tube A B A′ a short cylinder, D, slides. This cylinder D is composed of hard rubber with a metallic rod, E, inside, connected with two metallic ends, *f f*. This cylinder D is about six inches long. The inner surface of the metallic parts A A′ of the tube A B A′ is lined with lamb's wool, partially covered with silk. The ends of the large tube A B A′ are closed by small metallic caps. The parts of the tube A B A′ are fitted together so as to screw together and make a close case for the cylinder D to slide through. These joints can be cemented by using melted rosin and wax, or beeswax alone, or other ordinary cement. This has the effect of excluding the interior of the case perfectly from the effect of the atmosphere. This apparatus may be thus considered as a double electrophorous.

To use this apparatus a burner must be fitted with a metallic point, *p*, Fig. 4, insulated in hard rubber, as described in my former patents, and having a chain attached to it, which chain, *o*, may hang down or be attached at the other extremity to the bracket by an insulated thread, *q*. The tube A B A′ is grasped in the hand in such manner that the interior cylinder, D, shall slide from one extremity to the other inside of the tube A B A′. The extremity of the metallic tube from which the interior cylinder is sliding is then to be instantly placed in contact with the chain *o* when the spark passes and ignites the gas. The tube is always to be held at the opposite end to that which is applied to the burner.

The advantage of this apparatus is its simplicity, being easily made and not liable to get out of order, its efficiency and freedom from atmospheric influence, for the operative parts are at all times inclosed securely from atmospheric contact.

Instead of a double tube, A A′, a single tube, A, could be used, through which the cylinder D would slide; but the double tube has the advantage that you can light the gas from either end.

It is also evident that the metallic tube A B A′ might have been lined with a hard-rubber lining and a small metallic cylinder, covered with fur or wool, slid inside of it, so as to produce the same effect.

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

1. A double electrophorous, substantially as above described, for lighting gas and other inflammable materials.

2. An air-tight electrophorous, constructed and operating substantially as above.

3. The metallic tube, with the interior sliding piece, substantially as above described.

4. The non-conducting piece B, for uniting the metallic tubes A and A′.

ROBERT CORNELIUS.

Witnesses:

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