

R. Cornelius.
Lighting Gas by Electricity.
N^o 42,840. Patented May 14, 1864.

Fig. 4.

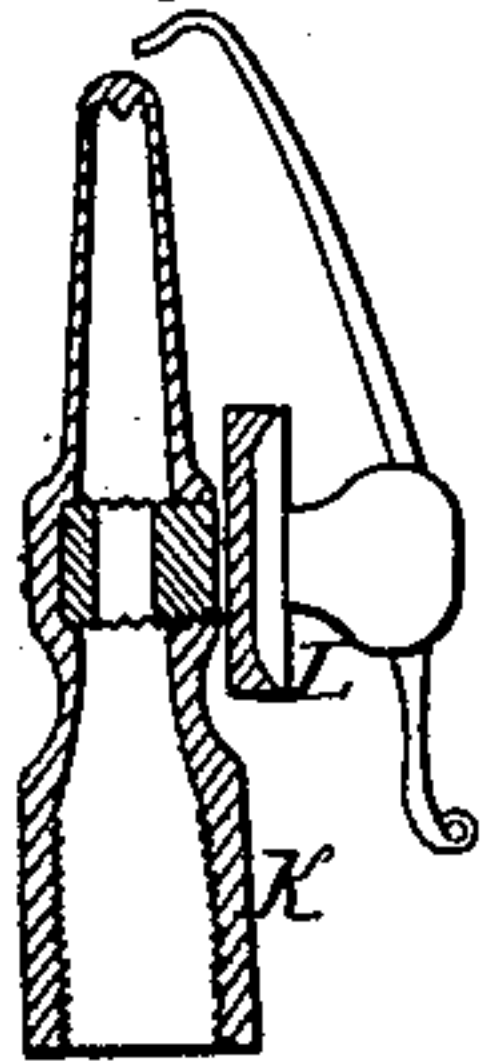


Fig. 3.

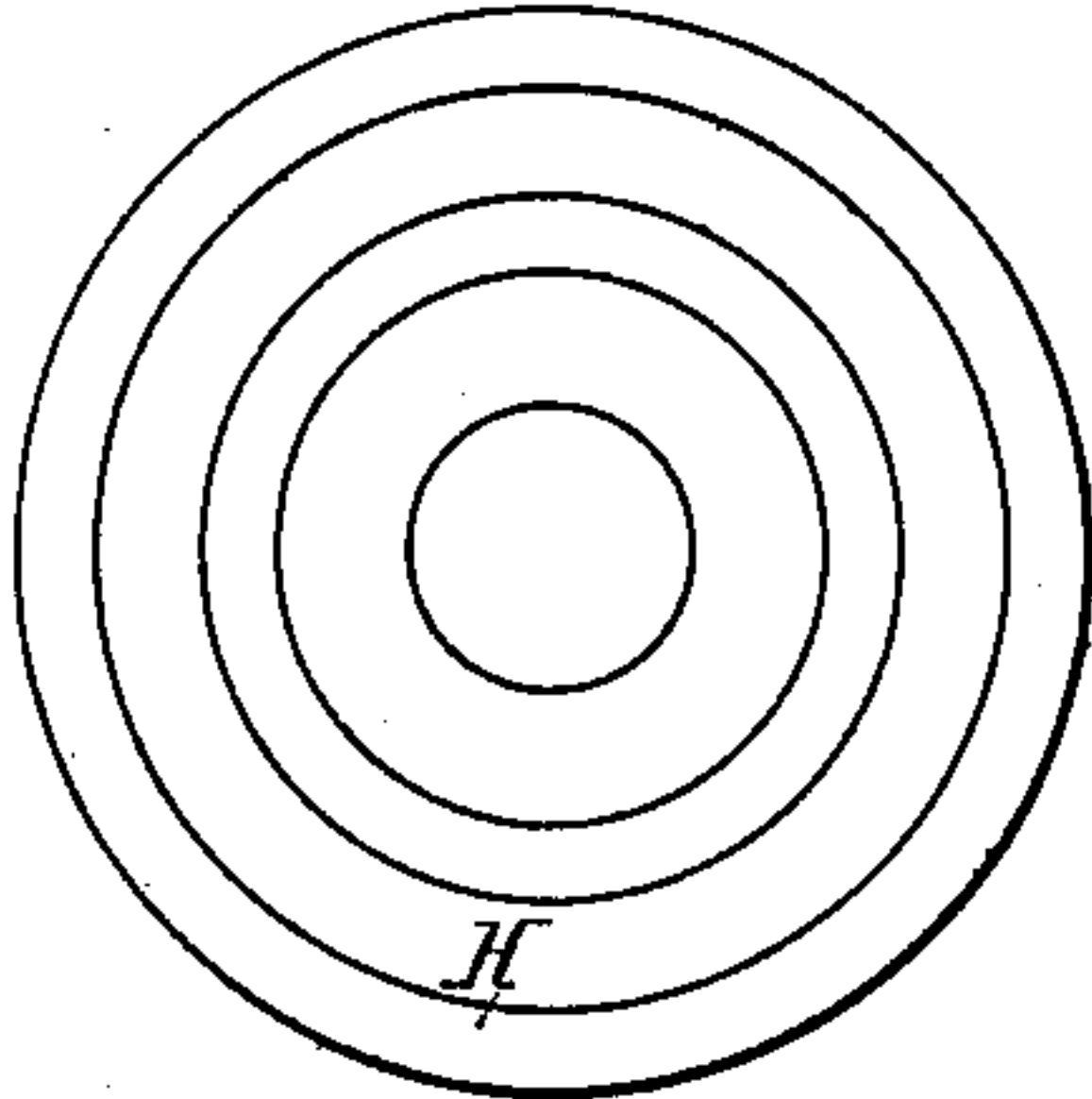


Fig. 5.

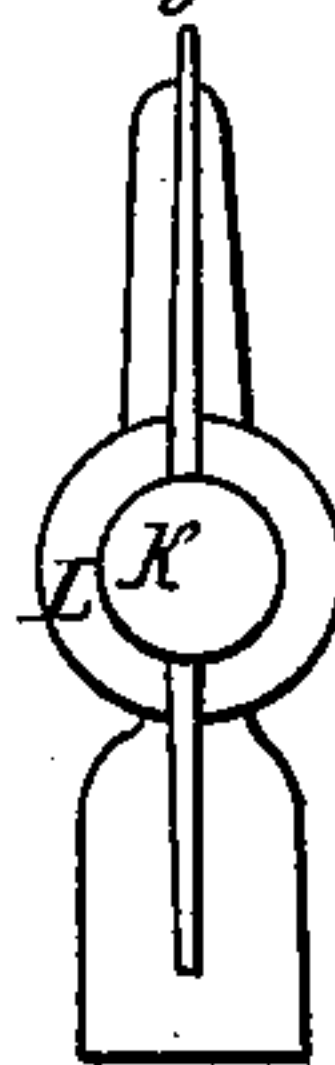


Fig. 1.

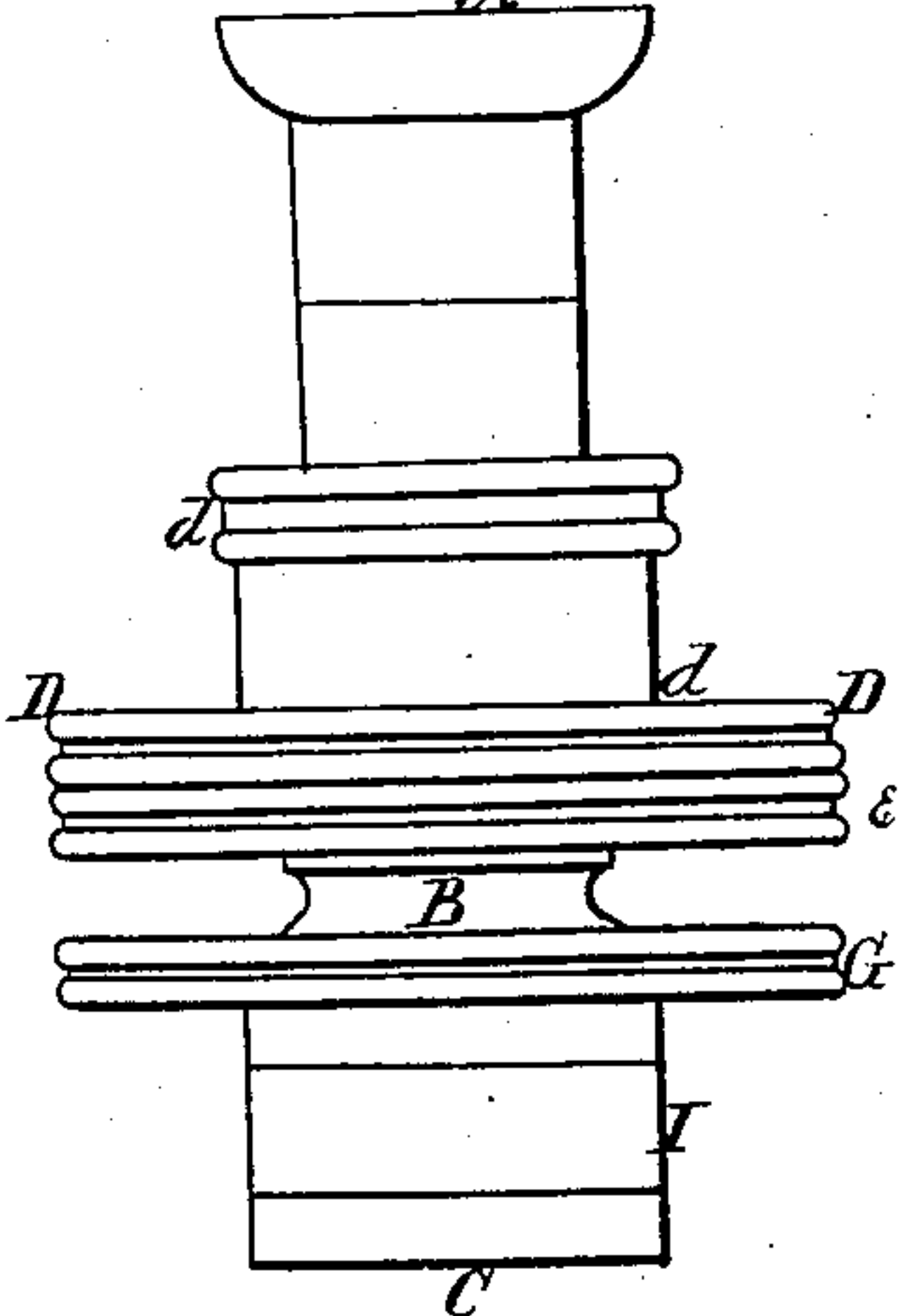
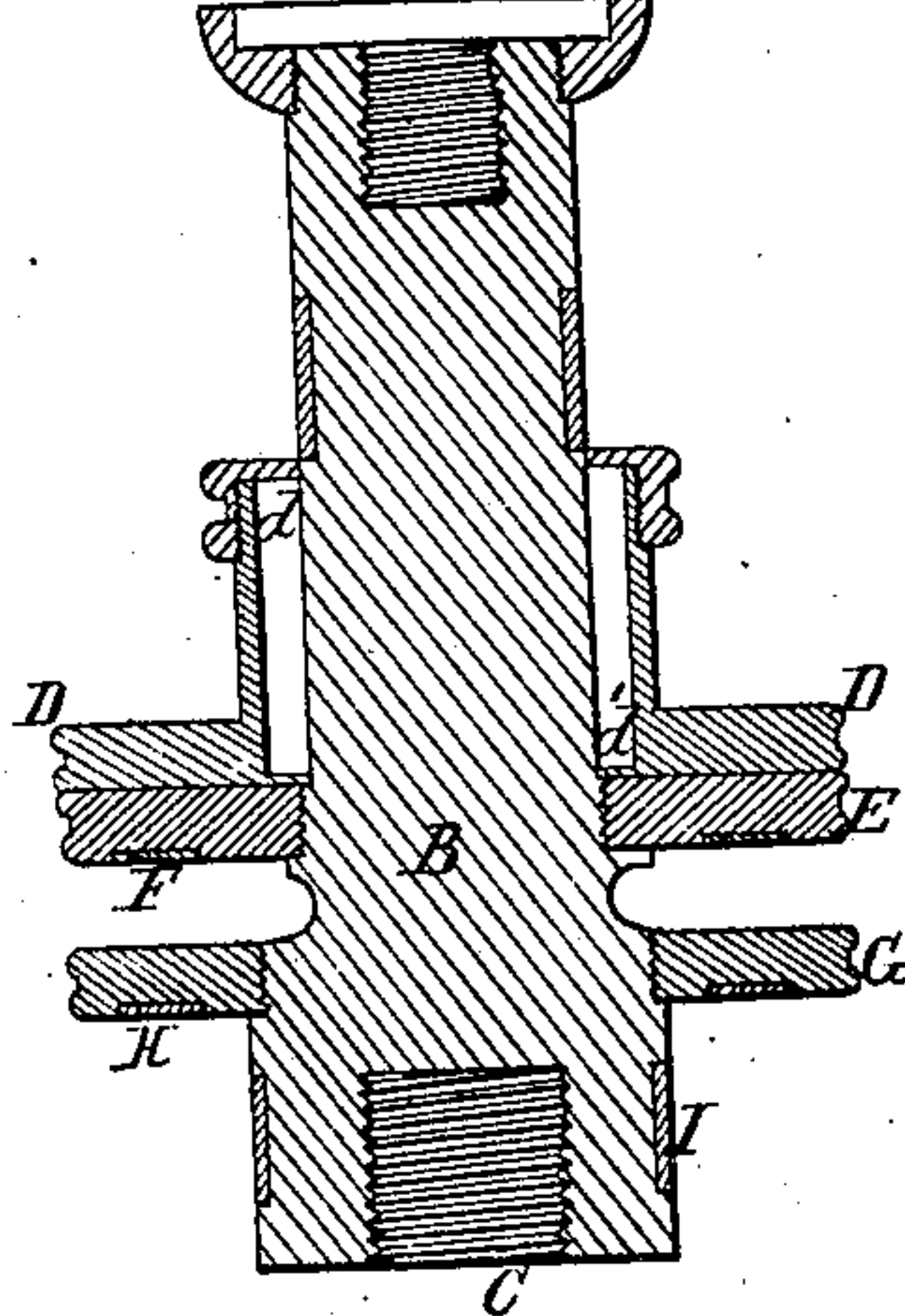


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBT. CORNELIUS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN ELECTRICAL APPARATUS FOR LIGHTING GAS.

Specification forming part of Letters Patent No. 42,840, dated May 24, 1864.

To all whom it may concern:

Be it known that I, ROBERT CORNELIUS, of the city of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Hard-Rubber Electrical Apparatus for Lighting Gas; and I do hereby declare the following to be a full and exact description thereof.

I have found that when hard rubber is exposed to the action of light and moisture for a length of time it undergoes a superficial change, and instead of remaining a non-conductor it becomes an imperfect conductor; and my improvement consists in applying a sliding collar to protect it from moisture, and also in applying gum-shellac in the following manner.

Figure 1 represents a side view of the neck or stem which supports the electrophorus heretofore patented by me, May 19, 1863. Fig. 2 is a vertical section of the same. Fig. 3 is a view of the under side of the disk or plate G of Figs. 1 and 2. Figs. 4 and 5 represent the mode of applying my improvement to the burner.

A B C, Figs. 1 and 2, represent the non-conducting stem which supports the electrophorus patented to me. The upper part of this stem, A B, has a smooth cylindrical surface of hard rubber. I surround this cylindrical surface A B with a collar, D, having a small packing-box, *d d'*, attached to it. This packing-box is stuffed with silk, so as to form a close rubber against this cylindrical surface A B. When the packing-box *d d'* and collar D is slid up and down upon the cylinder A B it dries and cleanses the surface of the cylinder, and restores its non-conducting power, and preserves the efficiency of the electrophorus in very damp weather.

I have also found that by turning a recess in the hard-rubber stem or neck of the electrophorus—say about one-sixteenth of an inch deep and about one-eighth of an inch or more in width—and filling it with melted shellac, the ring of shellac thus inserted preserves its non-conductibility, and thus forms a certain and permanent break or non-conducting space in the support or neck of the electrophorus.

A similar auxiliary permanent non-conducting space may be made by forming a recess of the same size at F in the plate E and inserting melted shellac; so also by inserting on the plate G a similar section or annulus of shellac, H; and in like manner, at J, one or more of these recesses, so filled with shellac, may be employed, or all of them may be used in conjunction.

A recess may be formed also in the non-conducting support K, Figs. 1 and 5, of the wire attached to the burner. This non-conducting support K may have a recess formed at L, and filled with melted shellac in like manner as above described.

Having thus described my improvement, I desire to secure by Letters Patent—

1. The sliding packing-box *d d'*, arranged and operating substantially as described.
2. The use of one or more rings or recesses filled with shellac, combined with the hard-rubber neck of the electrophorus, or the hard-rubber support of the wire at the burner, substantially as above described.

ROBERT CORNELIUS.

Witnesses:

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