R. CORNELIUS.

LIGHTING GAS BY ELECTRICITY.

No. 44,708. Patented Oct. 18, 1864.

Fig. 1.

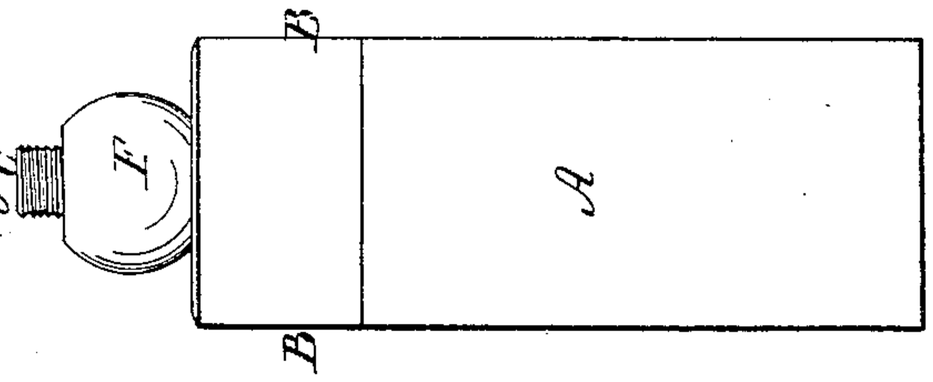
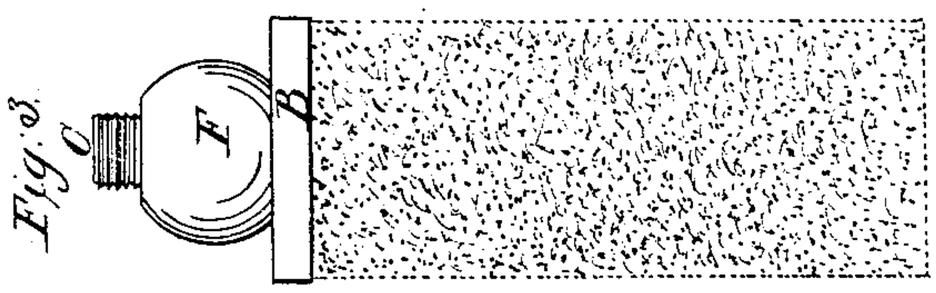


Fig. 5.

Fig. 3.



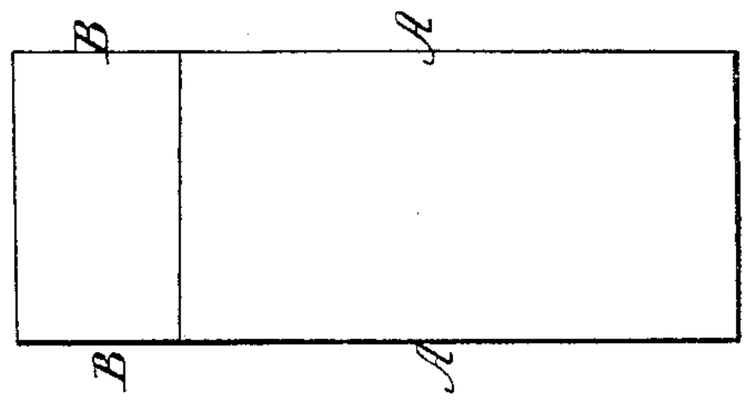


Fig. 4.

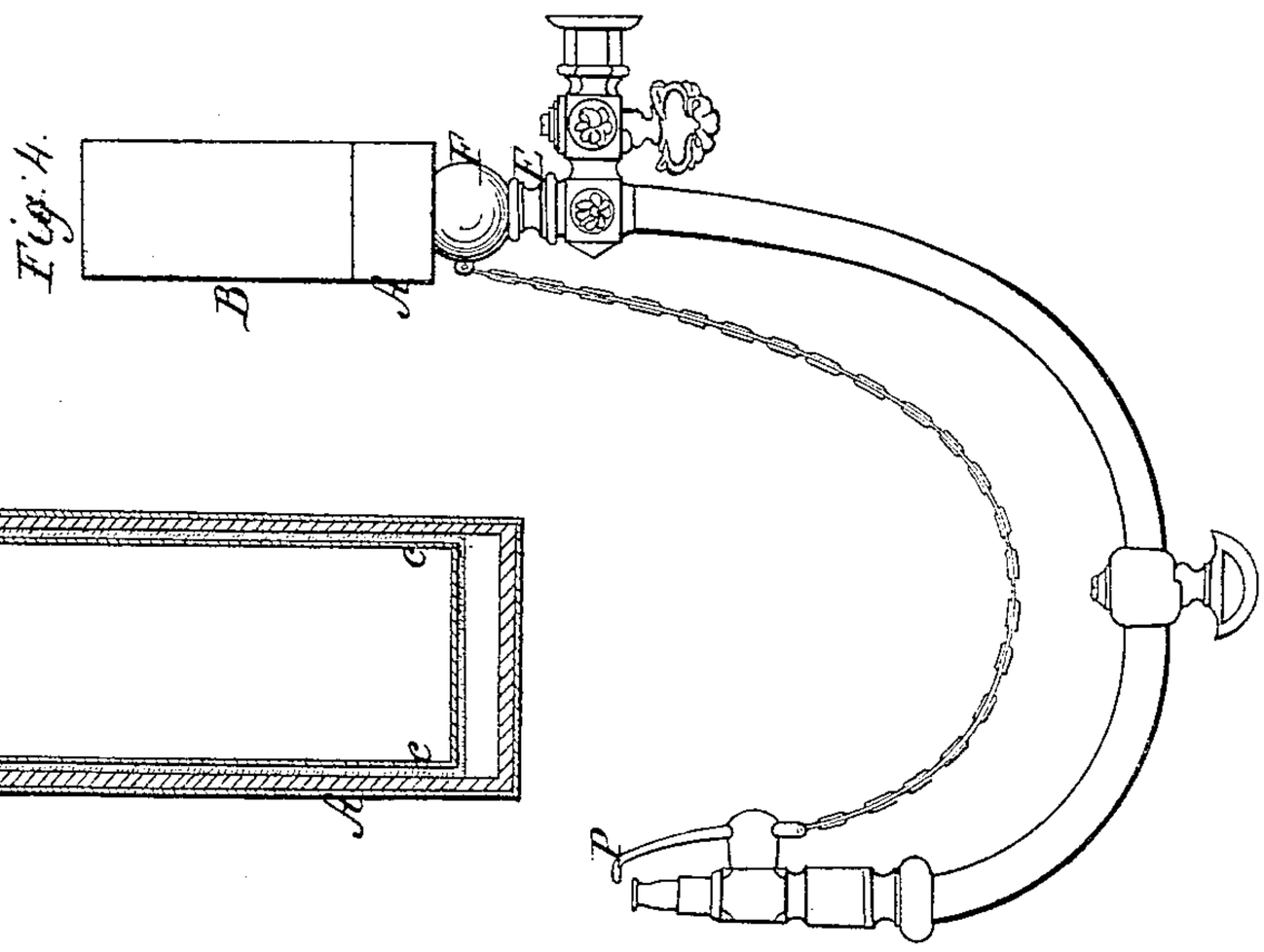


Fig. 2.

Witnesses;

James McCahan

Inventor;

Robert Cornelius

UNITED STATES PATENT OFFICE.

ROBERT CORNELIUS, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN INSTRUMENTS FOR LIGHTING GAS BY ELECTRICITY.

Specification forming part of Letters Patent No. **44,708**, dated October 18, 1864; antedated August 20, 1863.

To all whom it may concern:

Be it known that I, ROBERT CORNELIUS, of Philadelphia, in the State of Pennsylvania, have made certain new and useful Improvements in the Construction of the Leyden Jar and Electrophorus for Lighting Gas and other Inflammable Materials, &c.; 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, in which—

Figure 1 represents an outside view. Fig. 2 represents a section. Fig. 3 represents Fig. 1 with the inner jar drawn out. Fig. 4 is a view of the improvement (invented) attached to a bracket.

A is a brass cylinder-jar. B is a hard-rubber jar which fits closely inside of the brass jar A. C is a metallic cylinder or jar which fits inside of the hard-rubber jar B, the three thus forming a non-conducting jar with a metallic lining inside and a metallic surrounding outside. This is the precise arrangement of the Leyden jar. In order to make this generative of electricity, or in the nature of an electrophorus, I surround the inner brass jar, C, with a coating of lamb's-skin or other fine wool or fur. The whole apparatus is then placed permanently on a bracket of a gas-burner, as shown in Fig. 4, with its non-conducting neck E, a chain passing from the metallic ball F to the small insulated point *p*, over the gas-burner. The inner cylinder is at all times, except in the act of lighting, to be slid down into the hard-rubber cylinder B.

The operation is as follows: The gas is turned on and the cylinders A and B drawn or raised up slightly. This causes a spark to be developed, which passes through the chain and ignites the gas. It can also be used as a portable lighter by screwing the handle D on the screw C.

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

The combination of the Leyden jar and electrophorus, substantially as above described, so as to generate electricity for the purpose of igniting gas or other inflammable materials, and for other purposes.

ROBERT CORNELIUS.

Witnesses:

I. G. MINI CHILD,

JAMES MCCAHEN.