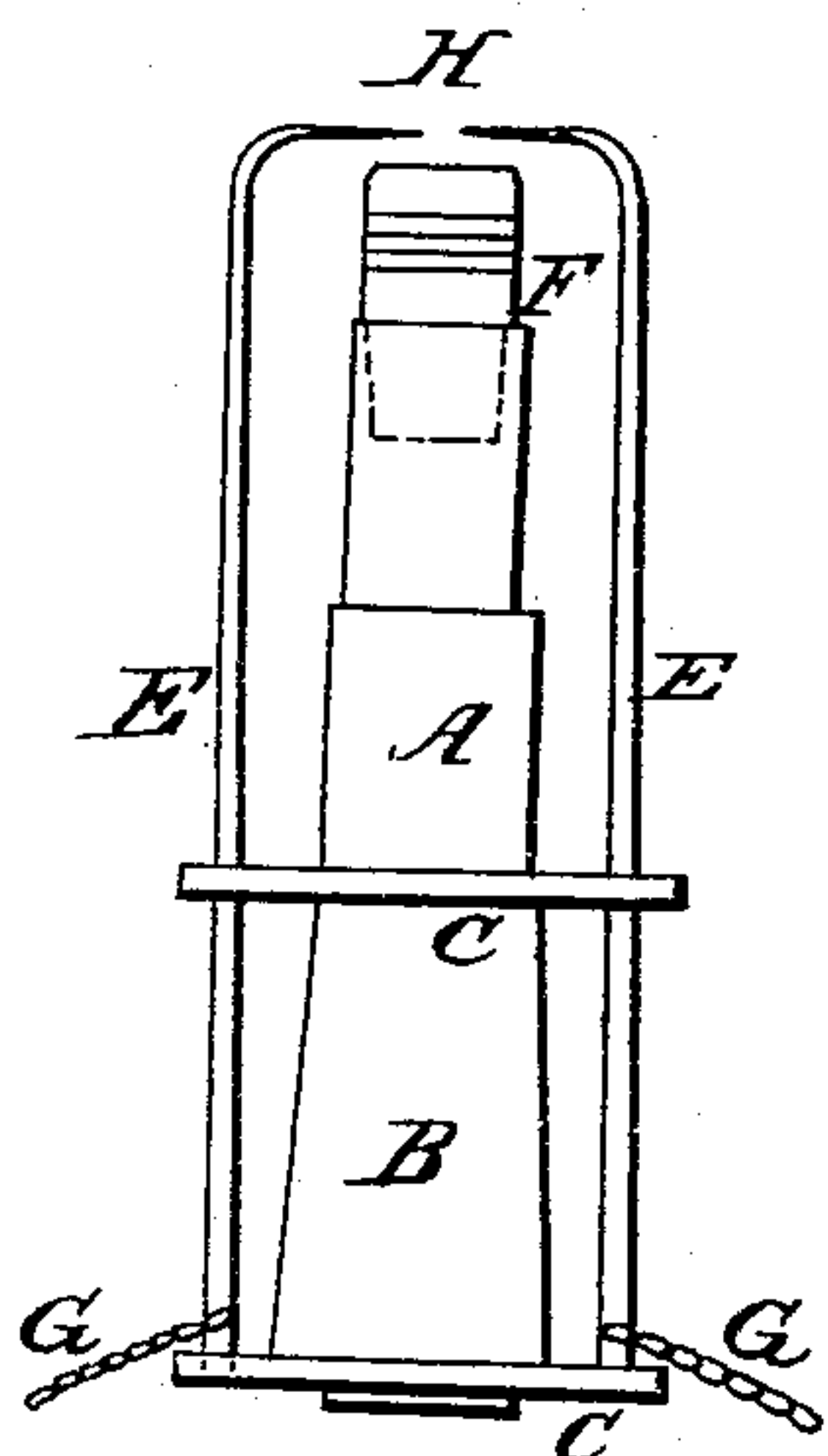
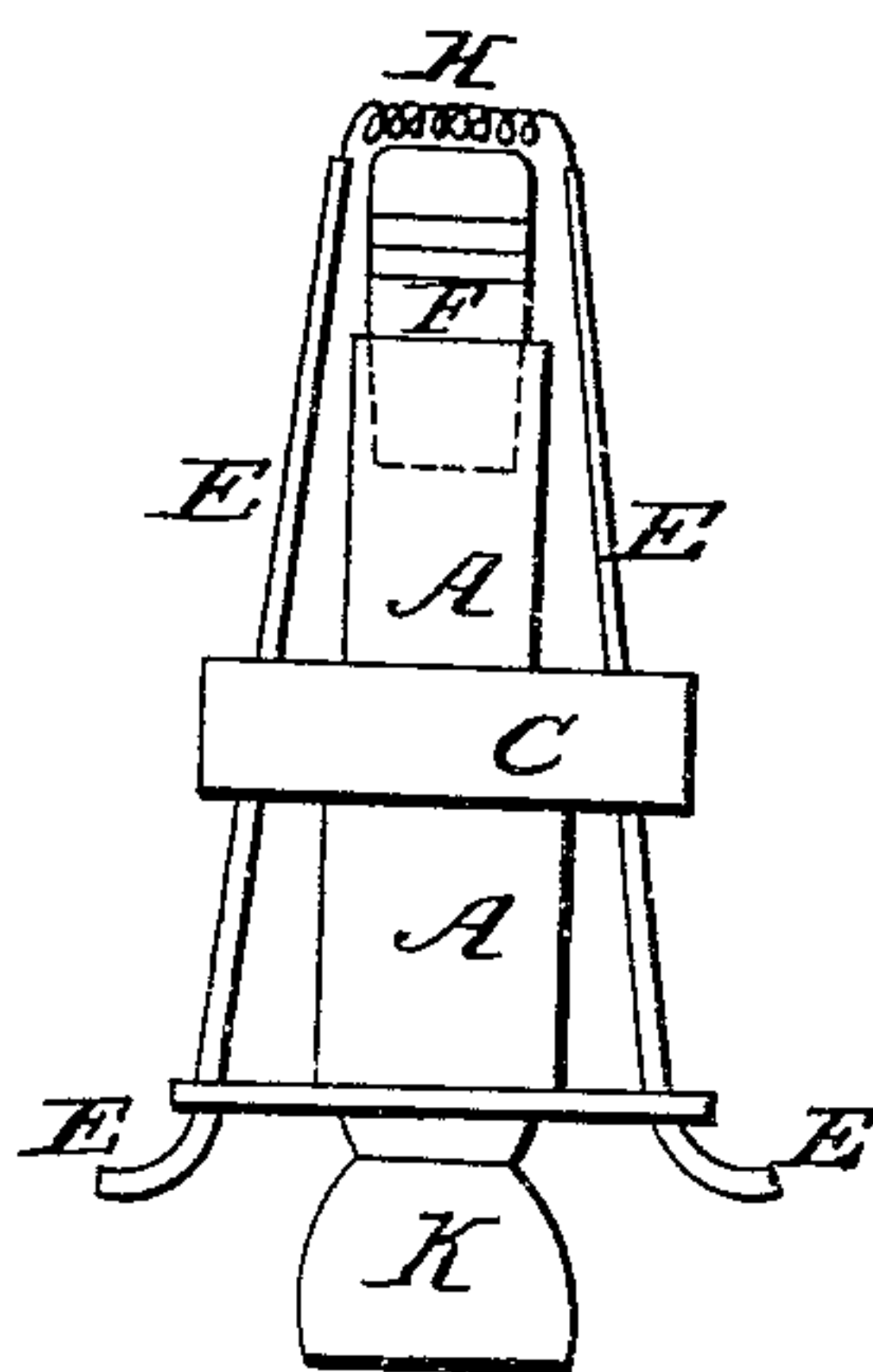


S. GARDINER, Jr.  
BURNER FOR LIGHTING GAS BY ELECTRICITY.  
No. 45,241.  
Patented Nov. 29, 1864.

*Fig. 1.*



*Fig. 2.*



Witnesses  
C. D. Smith.  
C. Purboys.

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# UNITED STATES PATENT OFFICE.

SAMUEL GARDINER, JR., OF NEW YORK, N. Y.

## IMPROVEMENT IN LIGHTING GAS BY ELECTRICITY.

Specification forming part of Letters Patent No. 45,241, dated November 29, 1861.

*To all whom it may concern:*

Be it known that I, SAMUEL GARDINER, JR., of the city, county, and State of New York, have invented a new and useful Improvement in a Gas-Burner to be used in Lighting Gas by Electricity; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

The object of this invention is to light illuminating-gas with more certainty than by passing the current of electricity across an ordinary metal gas-burner, either by a platina coil or by arranging wires with a break, passing the spark of electricity into the flame of gas.

In order to light the gas, great care has to be used to keep the platina coil from coming too near the metal burner, as the least touch to the gas-burner would destroy the circuit and prevent the igniting of the gas; also, the same or more care has to be taken when a current of electricity is passed across a break over the gas-burner, as a spark will take the nearest and best conductor to the earth; therefore, it has become important to arrange a gas-burner so that when once properly adjusted, and having a perfect isolator at the orifice or tip of the gas-burner, that it will at all times light the gas with certainty. After trying many experiments I find the lava tip to be the best and safest insulator. The platina coil or the points of the wire may rest firm upon the lava tip, and when once adjusted will light the gas with certainty.

The accompanying drawings serve to illustrate the application of my invention.

To enable others skilled in the art to make

and use my invention, I will proceed to describe the construction and operation of the same.

Figure 1 shows a gas-burner, which is lighted by the electric spark. B is an isolated section of the gas-burner, made of hard rubber. A is the iron pillar of the gas-burner. F is the lava tip, which is also a perfect isolator. Isolators c c support the conducting-wires up the side of the gas-burner. E E are the conducting-wires, and when over the lava tip the two points are brought near together, leaving a small break over and near the orifice of the gas-burner. The two points at H should be placed so that the spark will pass through the flat portion of the flame of gas. The lava tip prevents the spark from returning into the gas-burner, therefore making it certain to light several burners by one discharge of electricity.

Fig. 2 shows a gas-burner made wholly of metal except the tip, which is made of lava. The isolators, marked c c, support the conducting-wires, which are connected by a platina coil, which rests on the top of the lava tip and near the orifice of the gas-burner, and when once adjusted it will light the gas with a certainty.

Having thus described the construction and operation of my invention, I claim, broadly—

A tip of lava or other non-conducting material, in the described combination with an apparatus for lighting gas by electricity.

In testimony of which invention I hereunto set my hand.

SAML. GARDINER, JR.

Witnesses:

OCTAVIUS KNIGHT,  
EDM. F. BROWN.