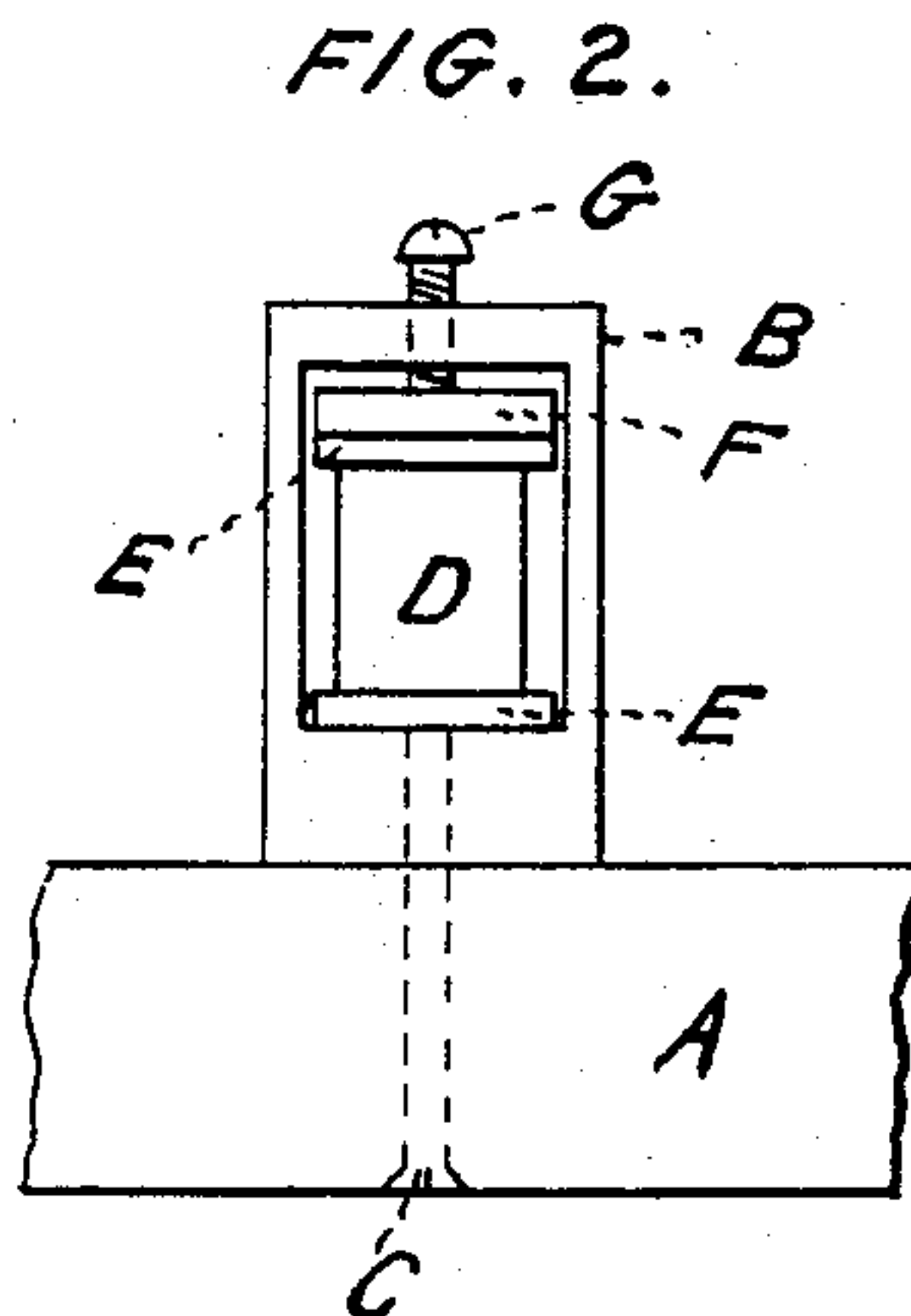
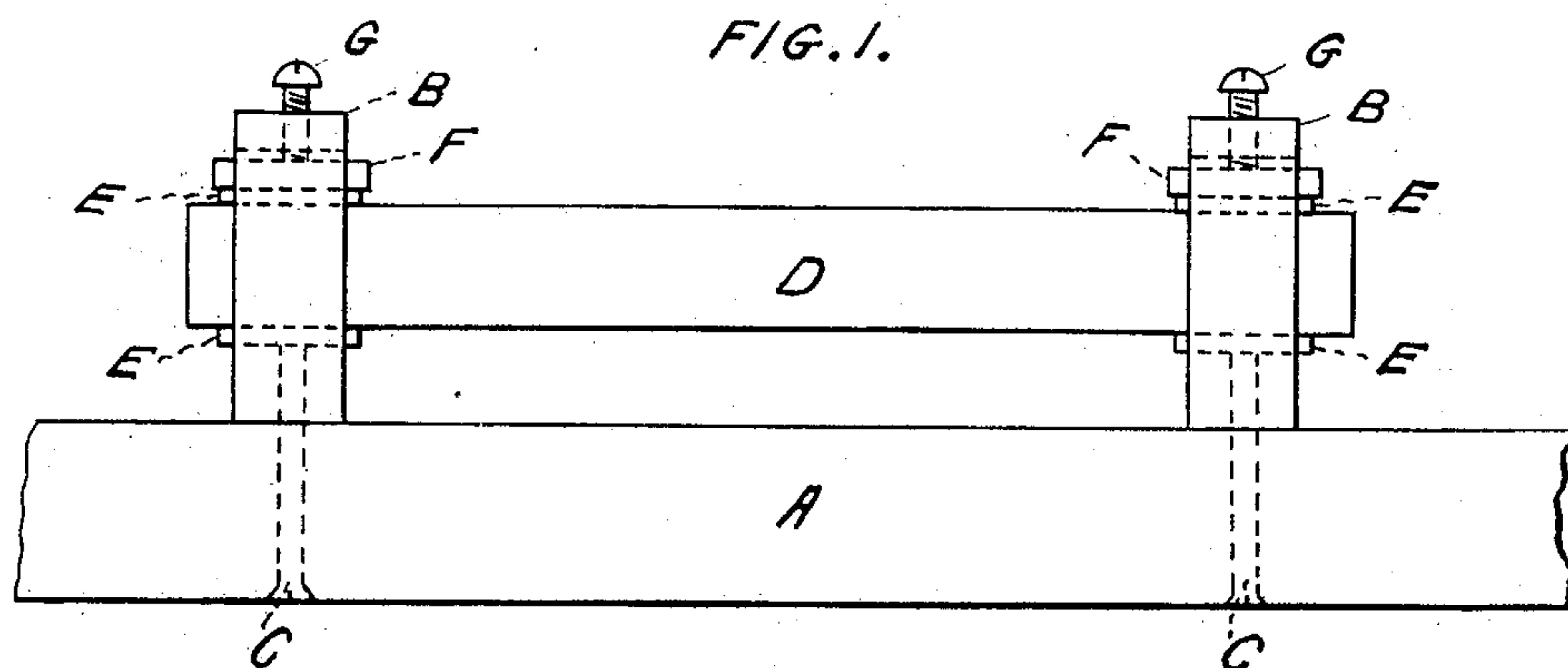


W. SAWYER.
Artificial Resistance for Electric Light Circuits.
No. 228,123. Patented May 25, 1880.



WITNESSES.
E. R. Knowles.
J. L. Rowland.

INVENTOR.
Wm Sawyer

UNITED STATES PATENT OFFICE.

WILLIAM SAWYER, OF NEW YORK, N. Y.

ARTIFICIAL RESISTANCE FOR ELECTRIC-LIGHT CIRCUITS.

SPECIFICATION forming part of Letters Patent No. 228,123, dated May 25, 1880.

Application filed January 19, 1880.

To all whom it may concern :

Be it known that I, WILLIAM SAWYER, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Electric-Lighting Apparatus; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide for the powerful currents of electricity employed in electric lighting such resistances, when needed, as will be at once cheap and effective, and have sufficient surface for radiation to prevent any damage from their electrical heating.

In the drawings accompanying and constituting a part of this specification, Figure 1 is a side view, and Fig. 2 is an end view, of the apparatus.

Like letters indicate like parts in both drawings.

A is any suitable non-conducting base. I employ slate or soap-stone on account of the heat generated in the resistance by the passage of the current.

B B are two metal holders, to which the wires leading to the resistance are connected in any suitable manner, (not shown,) and these holders are secured to the base by the screws C C. I prefer to make the holders of brass, casting the metal in the shape shown in the drawings; but almost any other metal will answer the requirements.

Through the opening in the holders passes the carbon rod D, perfect connection being made between the rod and the holders by slips of platinum, E.

F F are slips of brass, iron, or copper, and these are pressed firmly down, so as to clamp the carbon rod in place by means of the screws G G.

In another application I have shown and described the operation of my invention, and I have therefore not deemed it necessary in the present application to do more than make clear the mechanical construction of the apparatus. The carbon rod D is intended to equal in electrical resistance the resistance of a lamp in circuit, and when the circuit of a lamp is interrupted to take the place of the lamp, and thus not only preserve the continuity of the circuit, but maintain its resistance the same as before the circuit of the lamp was interrupted. It may obviously as well take the place of more than one lamp, and this form of resistance may be employed whenever it is desired to artificially increase the resistance of a circuit, the current entering by way of one of the metal holders B, through any suitable connection, (not shown,) and leaving by way of the other metal holder B.

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

The combination of a rod of carbon having suitable metallic holders with a plate of soap-stone or other non-conducting and non-combustible material as a resistance in the circuit of an electric-lighting apparatus.

WM. SAWYER.

Witnesses:

LEONARD SAWYER,
JOSEPH GOODRICH, Jr.