

A. L. BOGART.
Electric Gas-Lighting Burner.

No. 203,406.

Patented May 7, 1878.

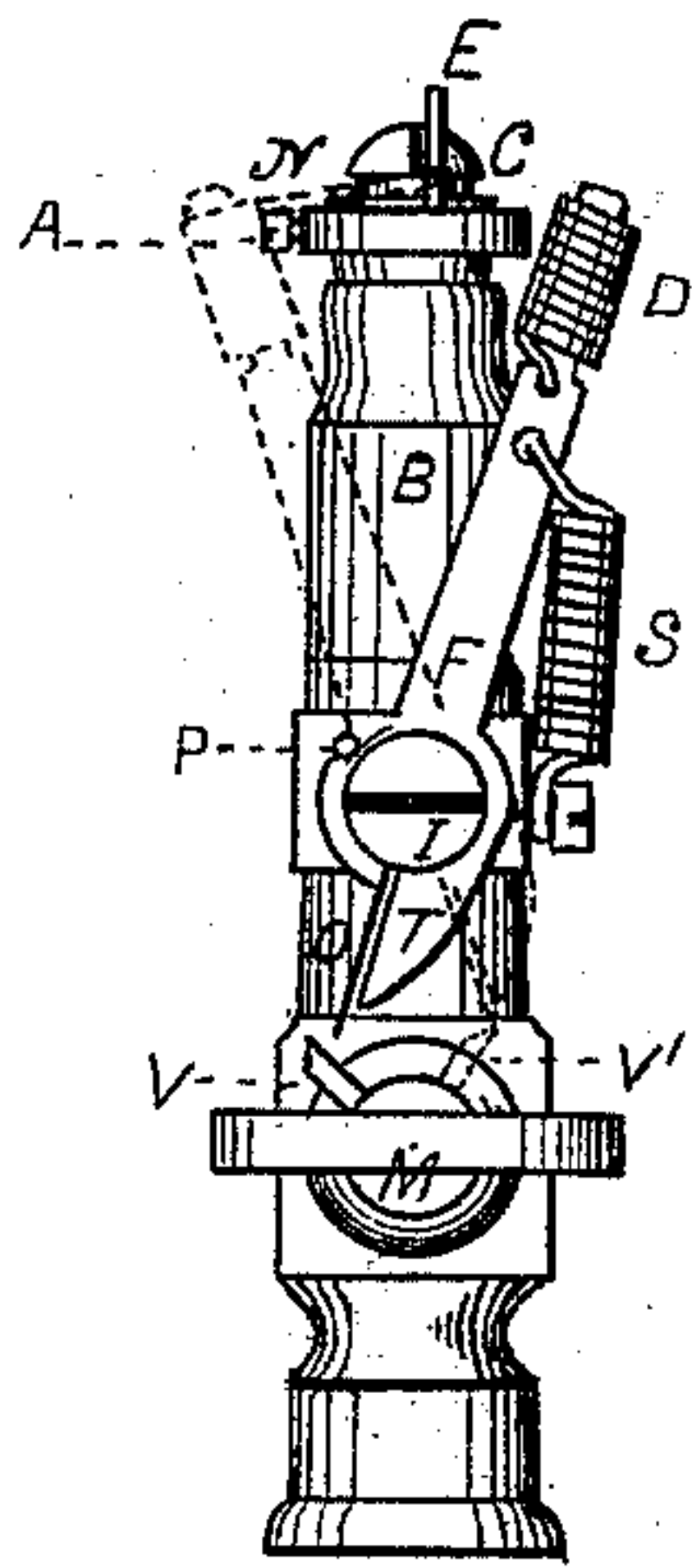
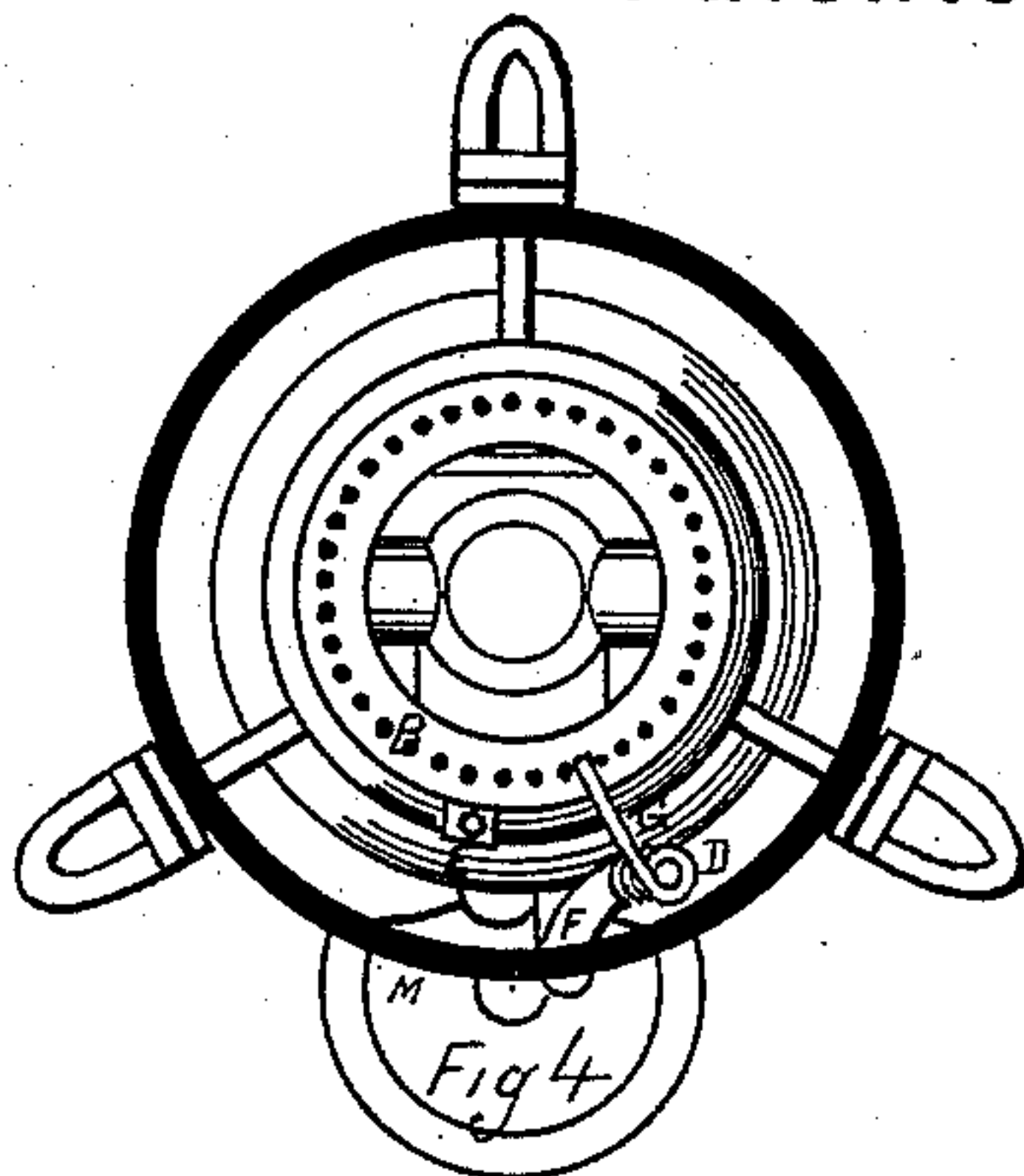


Fig. 1

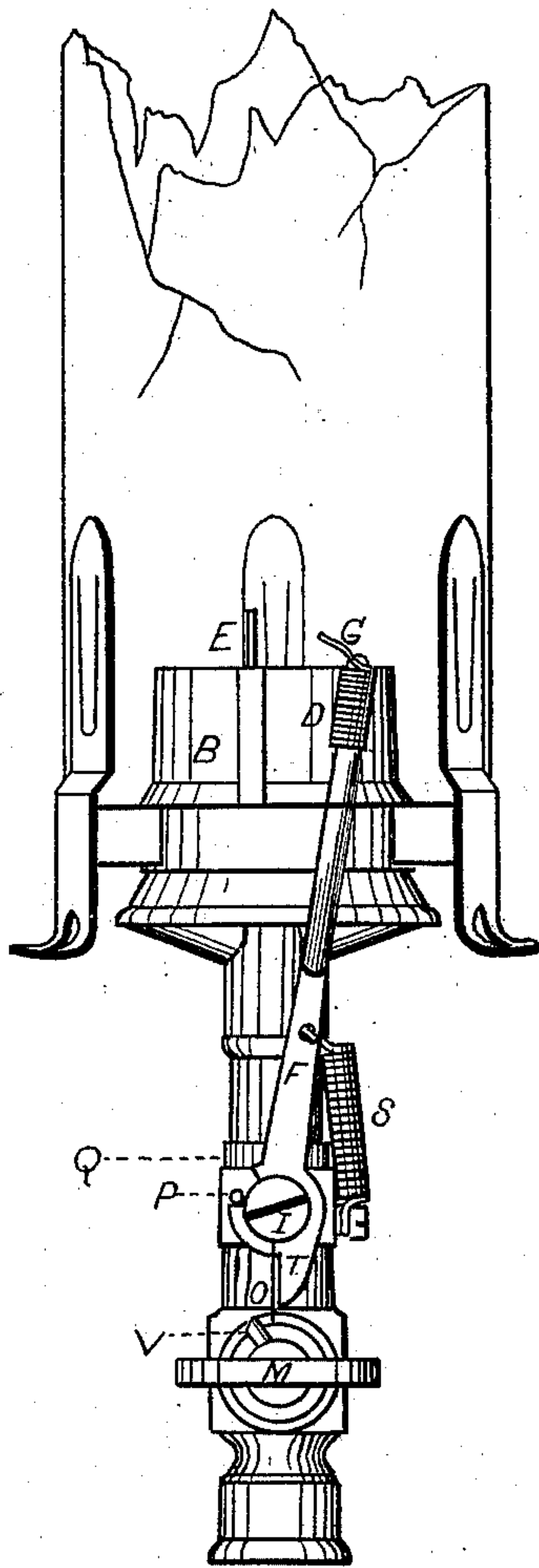


Fig. 3

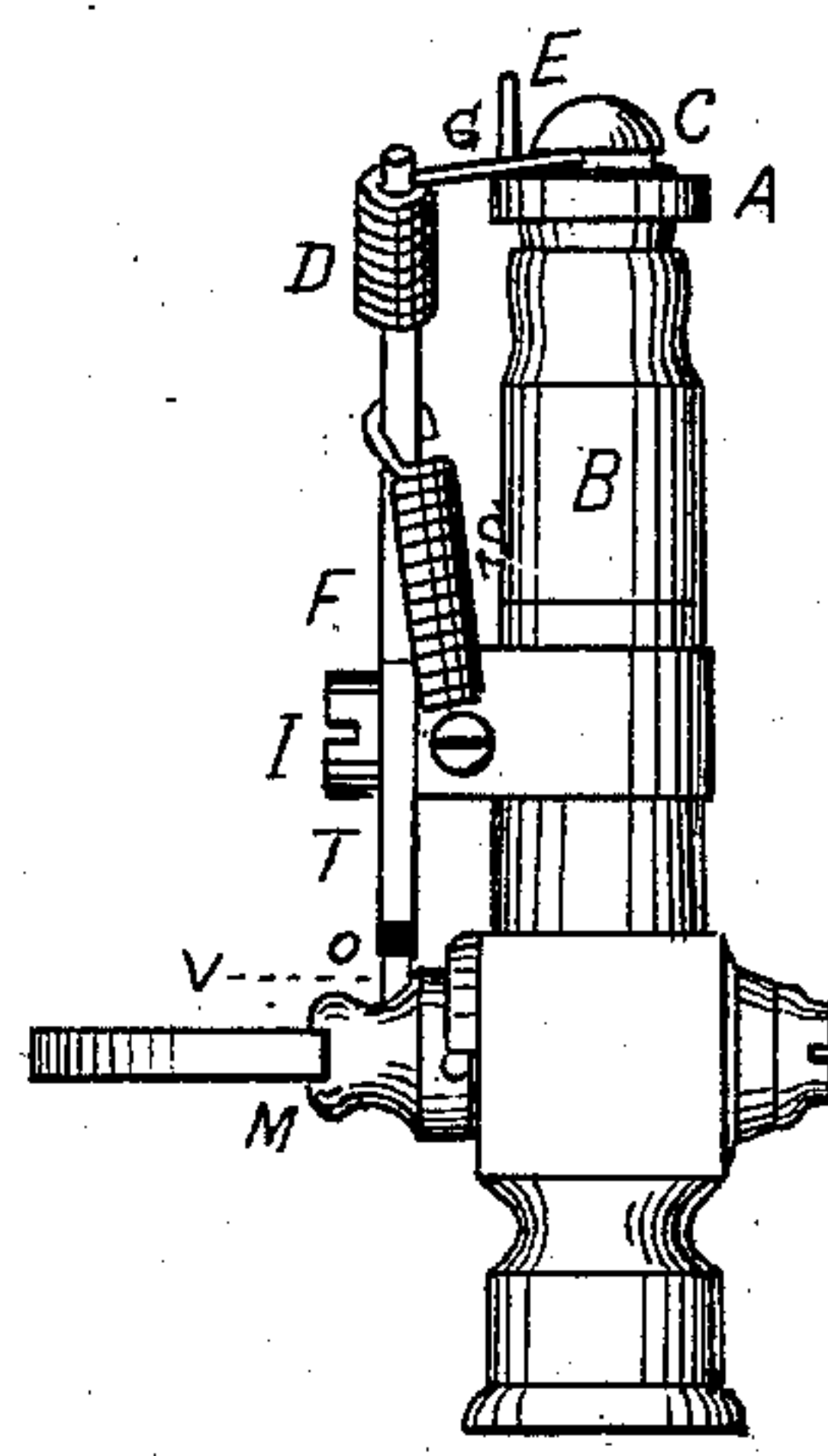


Fig. 2

WITNESSES
A. T. Smith.
A. Livingston Bogart

INVENTOR
Abraham L. Bogart

UNITED STATES PATENT OFFICE.

ABRAHAM L. BOGART, OF NEW YORK, N. Y.

IMPROVEMENT IN ELECTRIC GAS-LIGHTING BURNERS.

Specification forming part of Letters Patent No. **203,406**, dated May 7, 1878; application filed May 17, 1877.

To all whom it may concern:

Be it known that I, ABRAHAM L. BOGART, of the city of New York, State of New York, have invented an Improvement in Electric Gas-Lighting Burners, of which the following is a specification:

This improvement relates to that class of gas-lighting apparatus in which a spark is produced over a gas-burner by the making and breaking contact of two electrodes connected by proper conductors with a galvanic battery.

The object of my invention is to produce an increased size of spark to that hitherto obtained in such apparatus without increasing the size of battery usually employed, thus making the lighting surer, rendering the operating mechanism simpler and less liable to get out of order, and at the same time preventing the electrodes from being left in contact except at such time as the gas is being ignited.

In the accompanying drawing, Figure 1 is a front, and Fig. 2 a side, elevation of my improvement, in which similar letters represent corresponding parts.

A is a metal ring, which is electrically insulated from the metallic pillar B by means of the non-conducting gas-tip C, to which it is secured by means of the set-screw N, to which the wire leading to the battery is attached.

E is a metallic electrode (preferably platinum) fixed in the ring A. F is a vibrating arm, pivoted at I, and whose motion is limited by the stationary stop-pin P, and which is ordinarily retained at rest by the spring S.

At the upper end of the arm F is a spiral-spring helix, D, of platinum or other suitable metal, whose lower portion is made fast to the arm F, but whose upper termination G (which, for convenience, I term a "wiper") is prolonged backward parallel to the axis of the pivot I, so that on the forward movement of the arm F the wiper G will be brought in contact with the fixed electrode E.

I do not in this application claim the construction of this wiper or elastic electrode, as the same is described and claimed in a prior application for patent, which is on file in the Patent Office at the date of this application.

Other forms of movable or vibrating elec-

trodes besides the one just described may be employed for producing a frictional contact between the two electrodes, the object being to produce a spark for lighting the burner, induced through the making and breaking the galvanic current between the said electrodes, and such spark being greatly increased in size when a frictional contact (for closing the circuit) is employed, as the contact-surfaces are thereby rendered free from dust and oxidation.

To impart motion to the arm F, I find the following construction the simplest and best, although I would not be considered as confining myself to this device only.

T is a prolongation of the arm F, forming a lever. O is a thin flat spring, whose upper end is made permanently fast to T, but whose lower and free end projects about the one-sixteenth of an inch below the lever T. M is the plug of the stop-cock, provided with a short arm, V, which makes, with it, the quarter-revolution necessary to turn on the gas.

The operation of the burner is as follows: When the plug of the cock M is rotated to turn on the gas the short arm V encounters the flat spring O, which, abutting against the lever T, moves the arm F forward, carrying with it at the same time the wiper G, which strikes against and drags across the surface of the fixed electrode E until the short arm V assumes the position V', when the wiper G suddenly breaks the electric connection with E, producing a spark, which ignites the gas now issuing from the slot of the gas-tip C, and immediately afterward, O disengaging from the short arm V, the spring S restores the arm F and lever T to the former position.

On turning off the gas, by revolving M backward after the gas has been extinguished the short arm V again encounters the spring O, but at its opposite side and at the projecting portion, which, through its elasticity and on account of the stop-pin P preventing motion of the lever T in this direction, rises and permits V to pass under it and assume its original position.

Fig. 3 shows the adaptation of the same devices to Argand burners, the only difference being that the fixed electrode E is insulated by a non-conducting nipple, Q. Fig. 4 is a plan of the same.

I claim as my invention—

1. The combination of a metallic pillar, B, a metallic ring, A, secured upon a non-conducting gas-tip, C, and carrying the fixed electrode E, and a vibrating electrode, arranged to alternately close and break the galvanic current with the said electrode E, as and for the purposes set forth.

2. In an electric gas-lighting burner, the mechanical device for the purpose of operating the arm F, consisting of the lever T, flat spring O, rotating short arm V, stop-pin P, and spring S or its equivalent, when combined

with the stop-cock M and gas-burner, substantially as and for the purpose specified.

3. In an electric gas-lighting burner, the combination of the non-conducting gas-tip C, ring A, with its set-screw, electrode E, movable arm F, which carries the second electrode, spring S, stop-pin P, lever T, spring O, stop-cock N, short arm V, and pillar B, substantially as and for the purpose specified.

ABM. L. BOGART.

Witnesses:

JOHN S. THORNTON,
GEO. R. CARRINGTON.