

(No Model.)

O. EWERT.
VAPOR BURNER.

No. 334,166.

Patented Jan. 12, 1886.

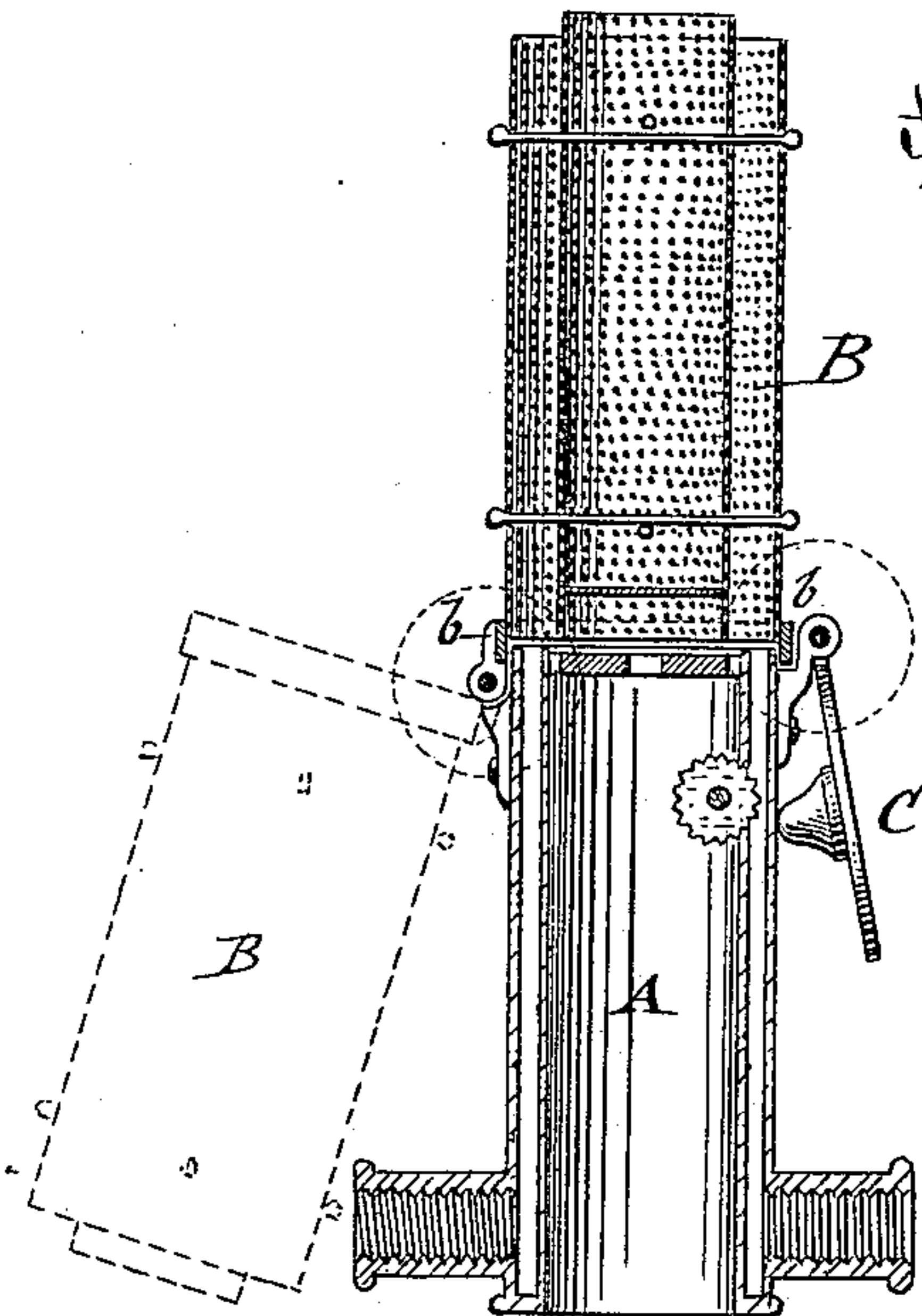


Fig. 1.

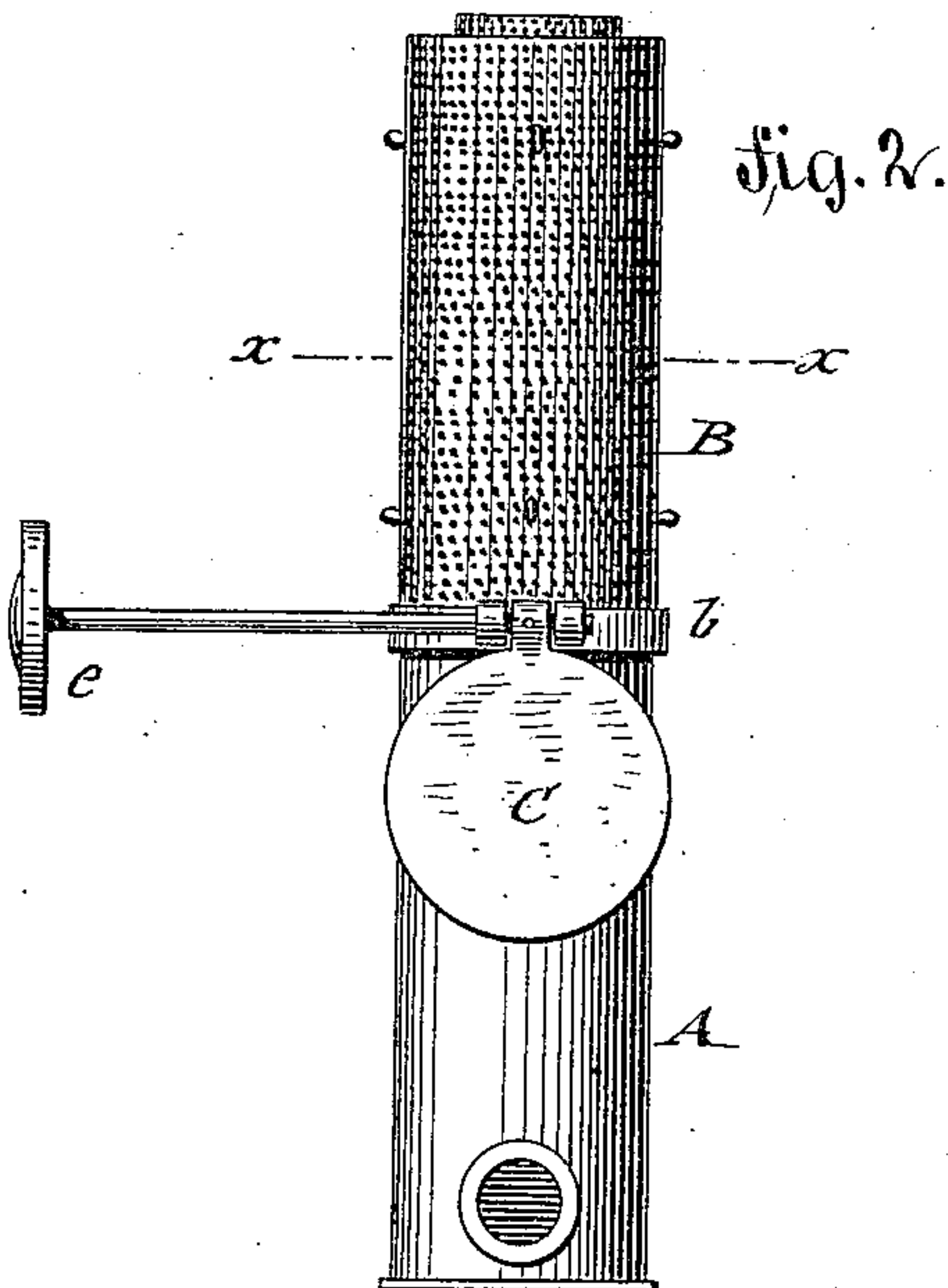


Fig. 2.

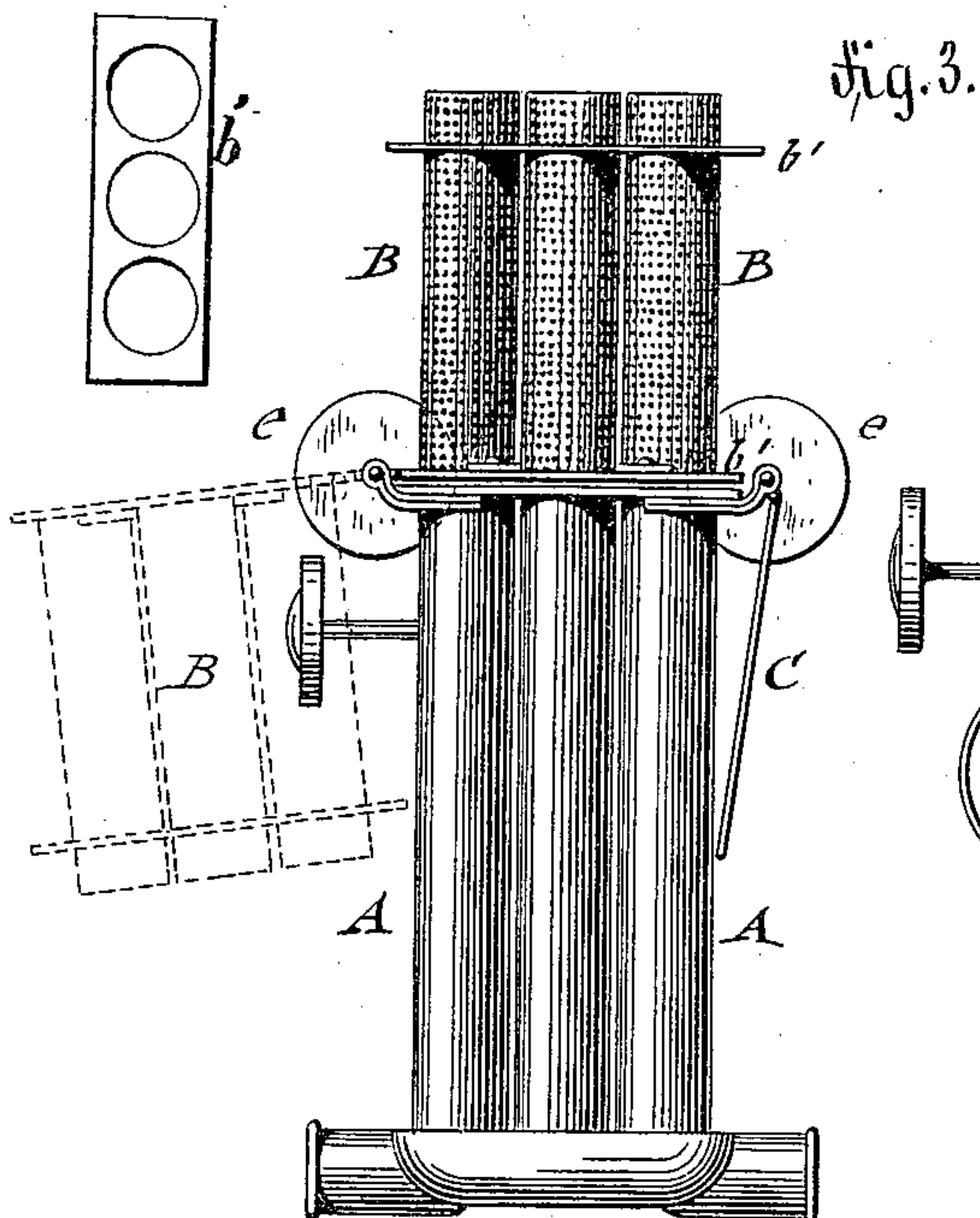


Fig. 3.

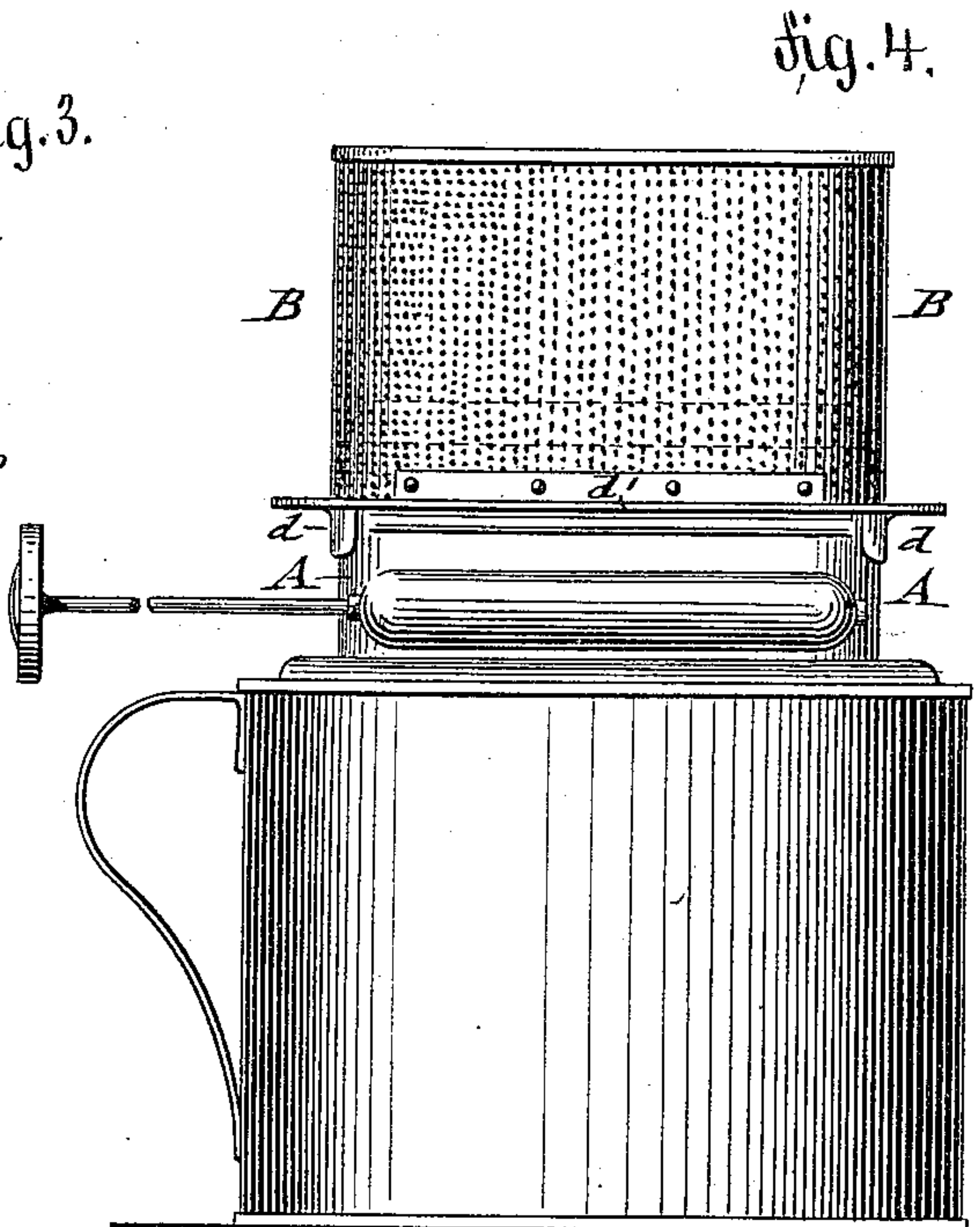
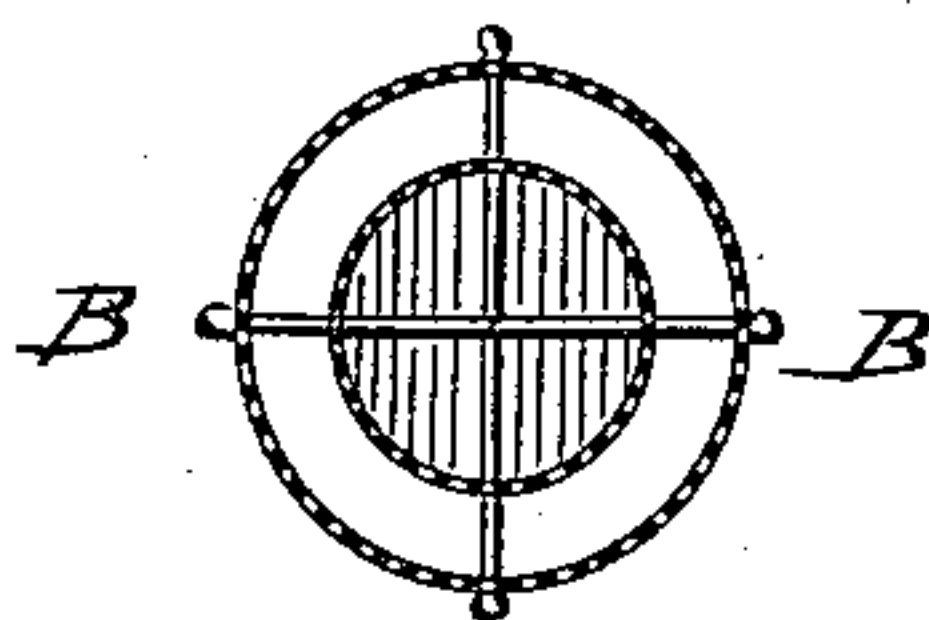


Fig. 4.

Fig. 5.



WITNESSES

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OTTO EWERT, OF CLEVELAND, OHIO.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 334,166, dated January 12, 1886.

Application filed April 30, 1885. Serial No. 163,909. (No model.)

To all whom it may concern:

Be it known that I, OTTO EWERT, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful
5 Improvements in Vapor-Burners, of which the following is a specification.

This invention has reference to an improved vapor-burner for heating and cooking stoves, by means of which a more perfect combustion of the hydrocarbon oils fed to the burner
10 is obtained than with the vapor-burners generally used.

In the accompanying drawings, Figure 1 represents a vertical central section of my improved vapor-burner, made of round shape.
15 Fig. 2 is a side elevation of the same. Fig. 3 is a side elevation of a modified form of the same. Fig. 4 is a side view showing a vapor-burner adapted to a flat wick; and Fig. 5 is a
20 horizontal section on line *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a wick-tube of round, flat, or other shape, which
25 is provided with the usual lifting devices for raising the wick. The burner is supplied with petroleum, gasoline, or other liquid hydrocarbon from a suitable receptacle. To the upper part of the wick-tube A is applied a
30 perforated combustion-tube, B, which is supported in line with the wick-tube and made equal in diameter or width and length therewith.

In case of a round burner, on the Argand
35 system, the combustion-tube B is formed of two concentric tubes; of which the inner perforated tube is supported by radial wire arms in the outer tube. The lower edge of the outer perforated tube is re-enforced by a sheet-metal
40 edge-strip, *b*.

In case several wick-tubes A are used, as in Fig. 3, separate combustion-tubes B B are used, which are connected by diaphragms *b'*, so that they may be swung out together and retain
45 their relative positions. In case of flat wick-tubes, the combustion-tube B is attached by suitable guides, *d d*, to the upper part of the wick-tube, as shown in Fig. 4, and re-enforced at the lower end by a metallic flange, *d'*, riveted to the tube B.
50

I prefer to connect the combustion-tube B by means of a hinge to the wick-tube, so that the former can be readily thrown into a position sidewise of the wick-tube, as shown in dotted lines in Fig. 1. To the opposite side
55 of the wick-tube is hinged a weighted cap, C, which serves to extinguish the flame whenever the vapor-burner is to be extinguished. The pintles of the hinges of the combustion-tube and cap are extended in forward direction and provided with milled disks *e e*, by
60 which the combustion-tube and cap may be readily moved into a position vertically above the wick-tube, or sidewise from the same, as required. The combustion-tube B is open at
65 both ends, and made of wire-gauze, reticulated sheet metal, or other suitable material. It serves to confine the yellow flame formed at the end of the wick, and to change the same by the abundant supply of oxygen into a blue
70 heating-flame, as thereby a more complete combustion of the unconsumed carbon particles contained in the wick-flame is produced.

The perforated combustion-tube has the effect of forming a flame that extends continuously from the wick-tube to the upper end of the combustion-tube without any break or gap near the wick-tube. This is caused by the upward draft exerted on the flame by the constant access of fresh air to the flame at all parts
80 of the combustion-tube.

The combustion-tube must be made of sufficient height to produce the perfect combustion of the carbon particles contained in the
85 vapors generated by the wick-flame. For gasoline the height of the combustion-tube has to be greater than for petroleum, as the vapors of the former have to be confined for a greater distance, so as to be thoroughly mixed
90 with atmospheric air, than the vapors of petroleum.

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

1. The combination, with a wick-tube, of a
95 perforated combustion-tube open at both ends and hinged at one side to the wick-tube, and of an extinguishing-cap hinged to the opposite side of the wick-tube, substantially as set forth.
100

2. The combination of a wick-tube, a perforated combustion chamber open at both ends and hinged at one side to said wick-tube, and an extinguishing-cap hinged to the opposite
5 side of said wick-tube, the pintles of said cap and chamber extending outwardly and provided with heads, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

OTTO EWERT.

Witnesses:

PAUL GOEPEL,
SIDNEY MANN.