(No Model.)

C. & J. WHITTINGHAM.

VAPOR BURNER.

No. 270,268. Patented Jan. 9, 1883.

Fig. 1.

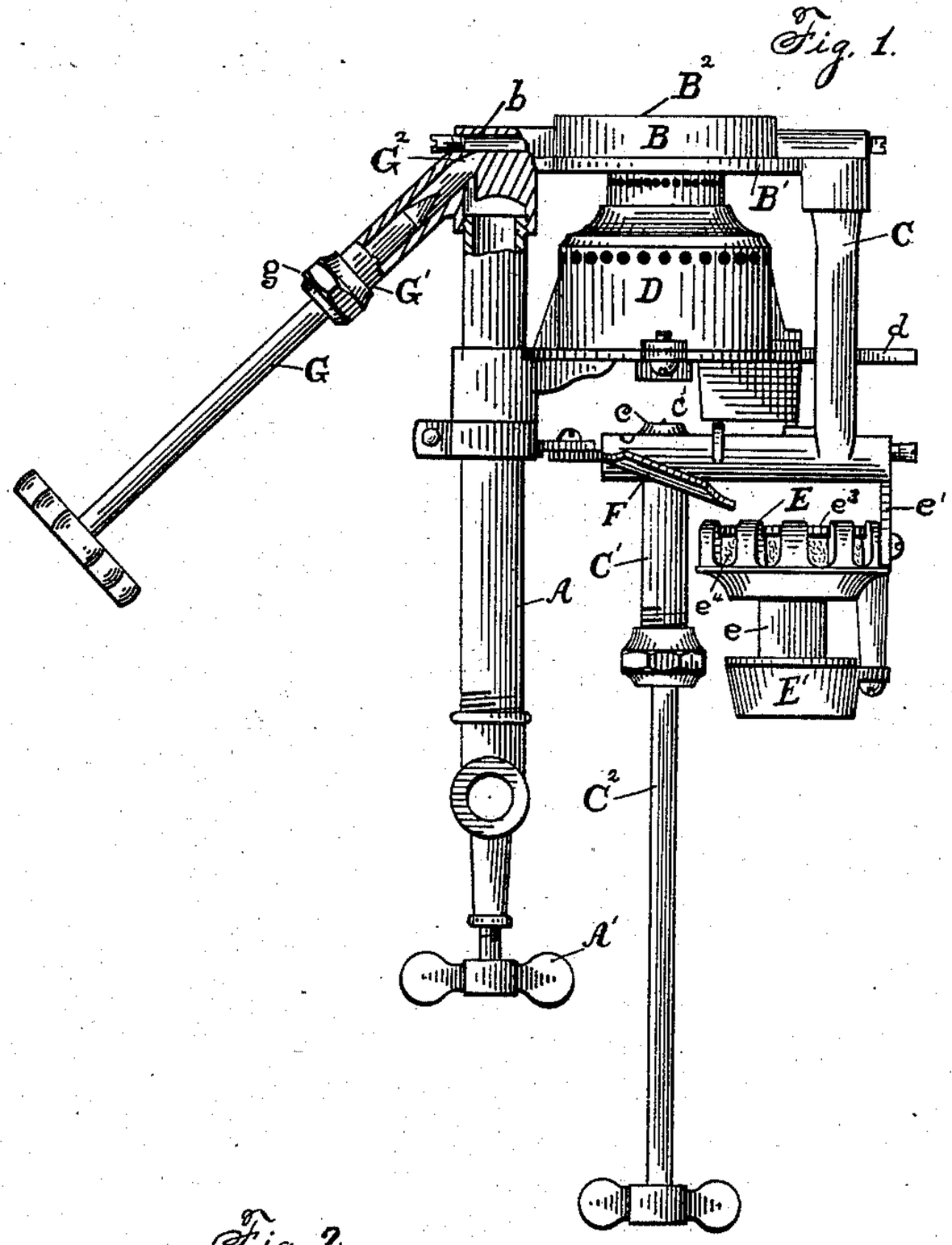


Fig. 2.

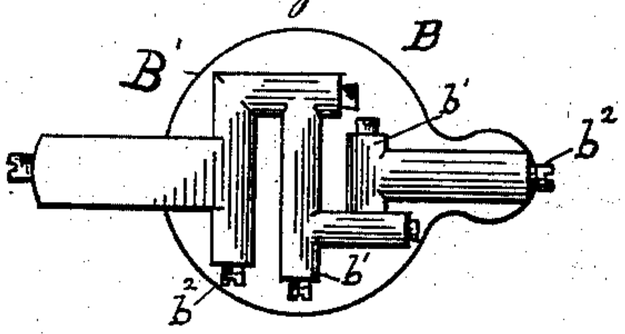
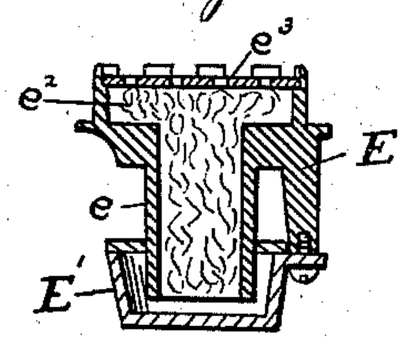


Fig. 3.



WITNESSES

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VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 270,268, dated January 9, 1883.

Application filed August 22, 1882. (No model.)

To all whom it may concern:

Be it known that we, CHARLES WHITTINGHAM, of Cleveland, Cuyahoga county, Ohio, and JOSEPH WHITTINGHAM, of Detroit city, county of Wayne, State of Michigan, have invented a new and useful Improvement in Vapor-Burners; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

Our invention consists in the combination of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a device embodying my invention, showing parts in section. Fig. 2 is a plan view of the vaporizing-chamber with the cap removed. Fig. 3 represents separate views of the drip-cup and smoke-consumer.

Our invention relates to vapor-burners, and more especially to coal-oil-vapor burners, though it may also be employed with other fluids.

Heretofore much difficulty has been experienced in coal-oil-vapor burners from the fact that when the flame is extinguished more or less oil or its vapor is left in the vaporizing-chamber and other portions of the burner, which after a time thickens into a gummy or hard carbonaceous matter, whereby the burner becomes clogged and its working impeded.

It is the object of our invention, first, to remedy this difficulty, and provide a vapor-burner in which any common oil can be used without danger of the vapor or oil carbonizing therein. We accomplish this result by providing the burner with a shut-off valve.

Our invention also respects, second, the construction of the vaporizing-chamber; third, the construction of the smoke-consumer in connection with the drip-cup; and, fourth, in constructing the burner-cap so that it may be swung out from under the vaporizing-chamber, if desired, so as to heat the vaporizing-chamber more directly.

In carrying out my invention, A is the supply-pipe; A′, the valve regulating the supply of fluid to the supply-pipe.

B is the vaporizing-chamber, communicating with the supply-pipe through the conduit *b*, and consisting of a base-plate, B′, and channels *b*′, formed upon the upper side of the base-plate. We prefer to construct said channels as shown in Fig. 2, but do not wish to confine ourselves to any limited shape or form of the same. b^2 represents suitable plugs in the angles of the channels *b*′.

C is a vapor-conduit communicating with the vaporizing-chamber. It is provided with a suitable valve-seat, *c*, for a needle-valve, and with a jet-orifice, *c*′.

C′ is the case of the valve-stem.

C^2 is the needle-valve, whereby the supply of vapor to the burner may be regulated.

D is a burner-cap of any ordinary construction, preferably pivoted to either the supply-pipe A or to the vapor-conduit C, in such a manner that it may be shifted or turned out from under the vaporizing-chamber, if desired. It is convenient to provide said cap with an arm or latch, *d*, for securing the cap under the vaporizing-chamber, when desired.

E is a vapor-generating burner, preferably a smoke-consuming burner, connected with the drip or starting cup E′ by a tube, *e*, said burner and drip-cup being secured to the vapor-conduit C by means of an arm, *e*′. The burner is moreover provided with an asbestus wick, e^2, and a grating, e^3, which serves to hold the smoke down upon the flame in order that it may be consumed.

e^4 represents air-passages.

F is a spout adapted to lead oil from the jet-orifice *c*′ to the burner E and drip-cup E′, from whence it is soaked up by the wick.

G is a shut-off valve.

G′ is the case provided with a stuffed box, *g*.

G^2 is the valve-seat communicating with the conduit *b* and the supply-pipe A, the construction being such that when the valve G is forced to its seat it will effectually cut off all supply of fluid to the vaporizing-chamber.

For the purpose of a neater finish we prefer to provide the vaporizing-chamber B with a suitable cap, B^2.

The operation of the device will now be understood. When it is desired to shut off the operation of the burner, or to discontinue its

use by simply shutting off the supply of fluid by the valve G, and leaving the regulating-valve C^2 open, whatever vapor remains is wholly consumed, leaving the vaporizing-chamber and vapor-conduits free and clear. By this means nothing remains to carbonize, and thereby clog up the burner.

We would have it understood that we do not confine ourselves to a shut-off valve of the construction described and shown, as it is evident that any suitable valve may be used for this purpose without departing from the principle of our invention.

What we claim is—

1. A vapor-burner combining in its structure the following characteristics, to wit: the upright supply-pipe A, a vaporizing-chamber, B, located directly over a burner-cap, D, an oil-conduit, *b*, connecting the upper end of the supply-pipe to the vaporizing-chamber, a valve, G, for controlling the passage of oil to the oil-conduit, a vapor-conduit, C, extending downward from the vaporizing-chamber, and thence extending to a point centrally or substantially so under the burner-cap, and provided with a valve-seat, *c*, and a needle-valve, C^2, for controlling the supply of vapor to the burner-cap, substantially as described.

2. The combination, in a vapor-burner, of a vaporizing-chamber, B, a burner-cap, D, located directly beneath the said chamber, an oil-supply conduit to the vaporizing-chamber, provided with a valve for controlling the passage of oil to the latter, a vapor-conduit, C, leading downward from the vaporizing-chamber and extending under the burner-cap to deliver the vapor centrally thereto, and a needle-valve, C^2, for controlling the flow of vapor, substantially as described.

3. In a vapor-burner, a movable burner-cap, the construction being such that it may be shifted out from under the vaporizing-chamber, substantially as described.

4. In a vapor-burner, a vapor-generating burner connected with a drip or starting cup by an intervening tube, said burner provided with a suitable wick, a grating adapted to hold the smoke upon the flame, and air-passages leading to said wick, substantially as described.

In testimony whereof we sign this specification in the presence of two witnesses.

CHARLES WHITTINGHAM.
JOSEPH WHITTINGHAM.

Witnesses:
WILLIAM A. MURRAY,
J. EDWARD WARREN.