

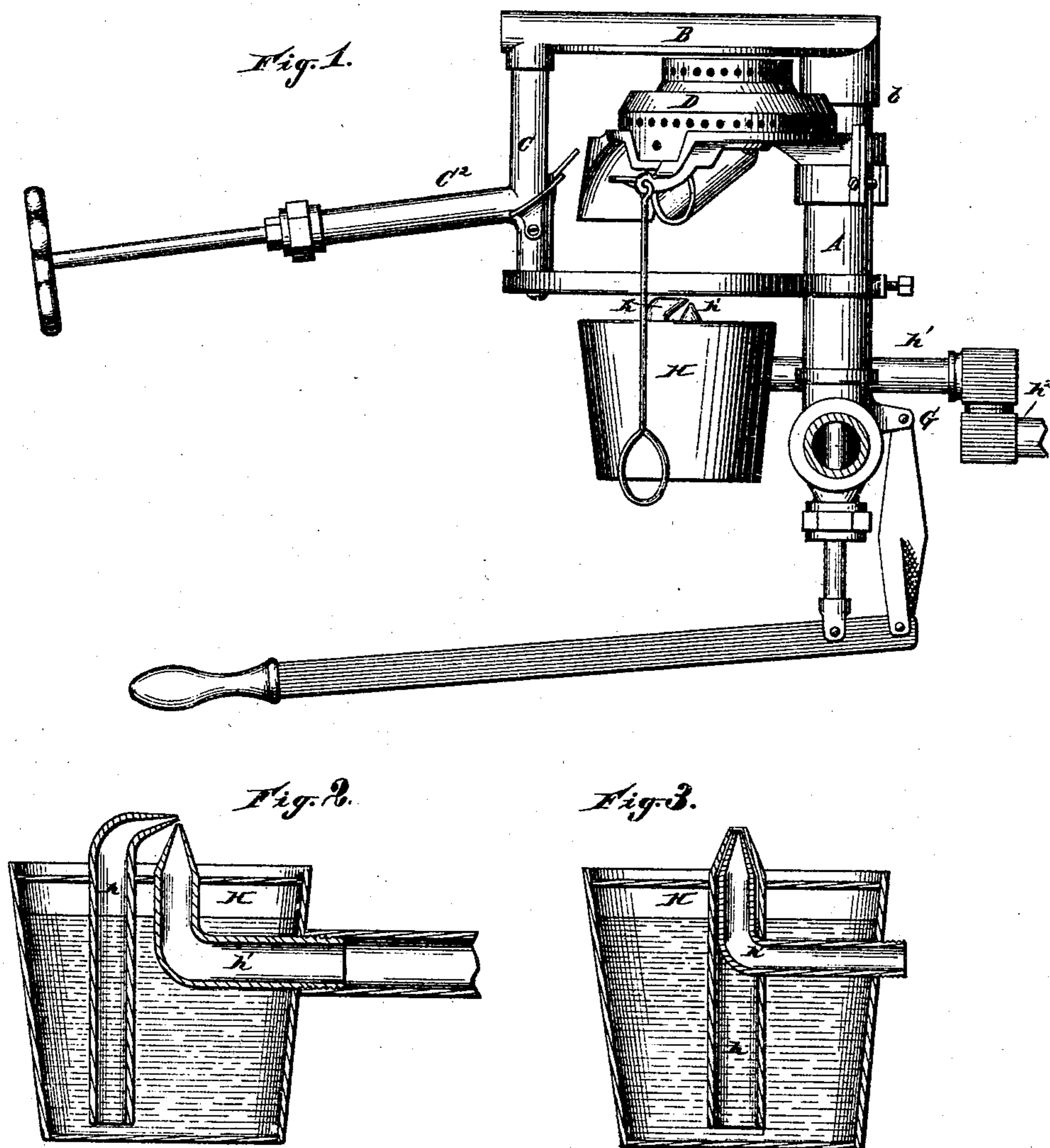
(No Model.)

C. & J. WHITTINGHAM & R. A. JONES.

VAPOR BURNER.

No. 321,872.

Patented July 7, 1885.



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

CHARLES WHITTINGHAM, JOSEPH WHITTINGHAM, AND RALPH A. JONES,
OF DETROIT, MICHIGAN, ASSIGNORS TO THE HOME GAS AND OIL STOVE
COMPANY, OF SAME PLACE.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 321,872, dated July 7, 1885.

Application filed August 7, 1884. (No model.)

To all whom it may concern:

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

Our invention relates to vapor-burners; and it consists of the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

Figure 1 of the drawings is a side elevation of a burner embodying our invention. Fig. 2 is a separate view of the atomizer. Fig. 3 is a modification.

Our invention has reference more particularly to the combination with a vapor-burner of an atomizer.

It is a well-known fact that heretofore in starting vapor-burners it has been necessary to ignite a certain quantity of the gasoline or other material used in the cup, in order to vaporize said material in the vaporizing-chamber.

It is the object of our invention to dispense with this feature by providing vapor-burners with an atomizer so constructed and arranged that the spray emitted therefrom may be ignited to vaporize the material in the vaporizing-chamber.

We have shown our invention as applied to a vapor-burner invented by Charles Whittingham and Joseph Whittingham, for which Letters Patent have been granted by the United States, dated January 9, 1883, No. 270,268; but we do not confine ourselves to the use of our improvement with this vapor-burner only, as it may apply to the various styles of vapor-burners.

We accomplish our object as follows: In Fig. 1, A is the supply-pipe. B is the vaporizing-chamber. *b* is a conduit through which the supply-pipe communicates with the vaporizing-chamber.

C is a vapor-conduit through which the vaporizing-chamber communicates with the burner-cap D. This conduit is provided with a valve, C², whereby the supply of vapor to the burner may be regulated.

G is a shut-off valve for controlling the passage of the oil to the vaporizing-chamber.

These letters conform to the various parts, as shown and described in said patent.

We prefer also to provide the burner with a movable burner-cap adapted to be shifted out from under the vaporizing-chamber, as described and claimed in said patent.

We would have it understood, however, that we do not confine ourselves to a burner constructed and arranged as shown.

H is a reservoir for the fluid used. Said reservoir is provided with a tube, *h*, communicating with the oil, and an air-tube, *h'*. Said tubes may be arranged in any suitable manner for atomizing the contents of the reservoir. These parts constitute the atomizer.

We prefer that the air-tube *h'* should be provided with a joint, *h'*², the arrangement being such that the reservoir may be moved in place adjacent to the vaporizing-chamber and removed, as desired.

The operation of the device is evident. When it is desired to start the burner, the atomizer is moved under the vaporizing-chamber and set in operation. The spray emitted therefrom is ignited and kept burning until the fluid in the vaporizing-chamber is suitably vaporized. During this stage we prefer to remove the burner-cap, as described in said patent, and when the vapor in the vaporizing-chamber is suitably generated to move said cap into place under said chamber and emit the vapor from said chamber to said burner, which then becomes ignited. The atomizer may then be removed and its flame extinguished.

We do not limit ourselves to any specific construction of the atomizer. We are aware, of course, that atomizers of various constructions have been made; but we are not aware that any atomizer has heretofore been employed in connection with a vapor or gas burner; and it is therefore this combination

that we desire to claim broadly, not limiting ourselves either to the style of the burner or the atomizer.

We are well aware that furnaces have been devised in which liquid hydrocarbons are used as a fuel by causing a jet of steam or air to atomize a jet of the said liquid and to inject the spray or vapor combined with steam or air into the combustion chamber of the furnace. In contradistinction thereto our invention involves the combination with vapor-burners and lamps, such as are used for giving light and heat, of means for spraying or vaporizing liquid hydrocarbons, and burning the same beneath or in proximity to the chamber, in which a liquid hydrocarbon is converted into a vapor by the heat or flame produced by the burning of such atomized spray of hydrocarbon.

What we claim is—

1. In combination with a vapor-burner or lamp having a chamber in which a liquid hydrocarbon or fuel is vaporized by heat applied to such chamber, an atomizer for spraying or vaporizing a liquid fluid, such atomizer con-

stituting a burner for producing a flame from said spray or atomized fuel to heat the vapor-generating chamber, substantially as described.

2. In combination with a vapor-burner or lamp having a chamber in which a liquid hydrocarbon or fuel is vaporized by heat applied to such chamber, an atomizer for spraying or vaporizing a liquid fuel, such atomizer constituting a burner for producing a flame from said spray or atomized fuel to heat the vapor-generating chamber, and a movable or shiftable support for said atomizer, whereby the latter can be moved beneath or brought in line with the burner or be turned or moved away from the latter, substantially as described.

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

CHARLES WHITTINGHAM.

JOSEPH WHITTINGHAM.

RALPH A. JONES.

Witnesses:

WILLIAM H. SEXTON,

J. E. GOODMAN.