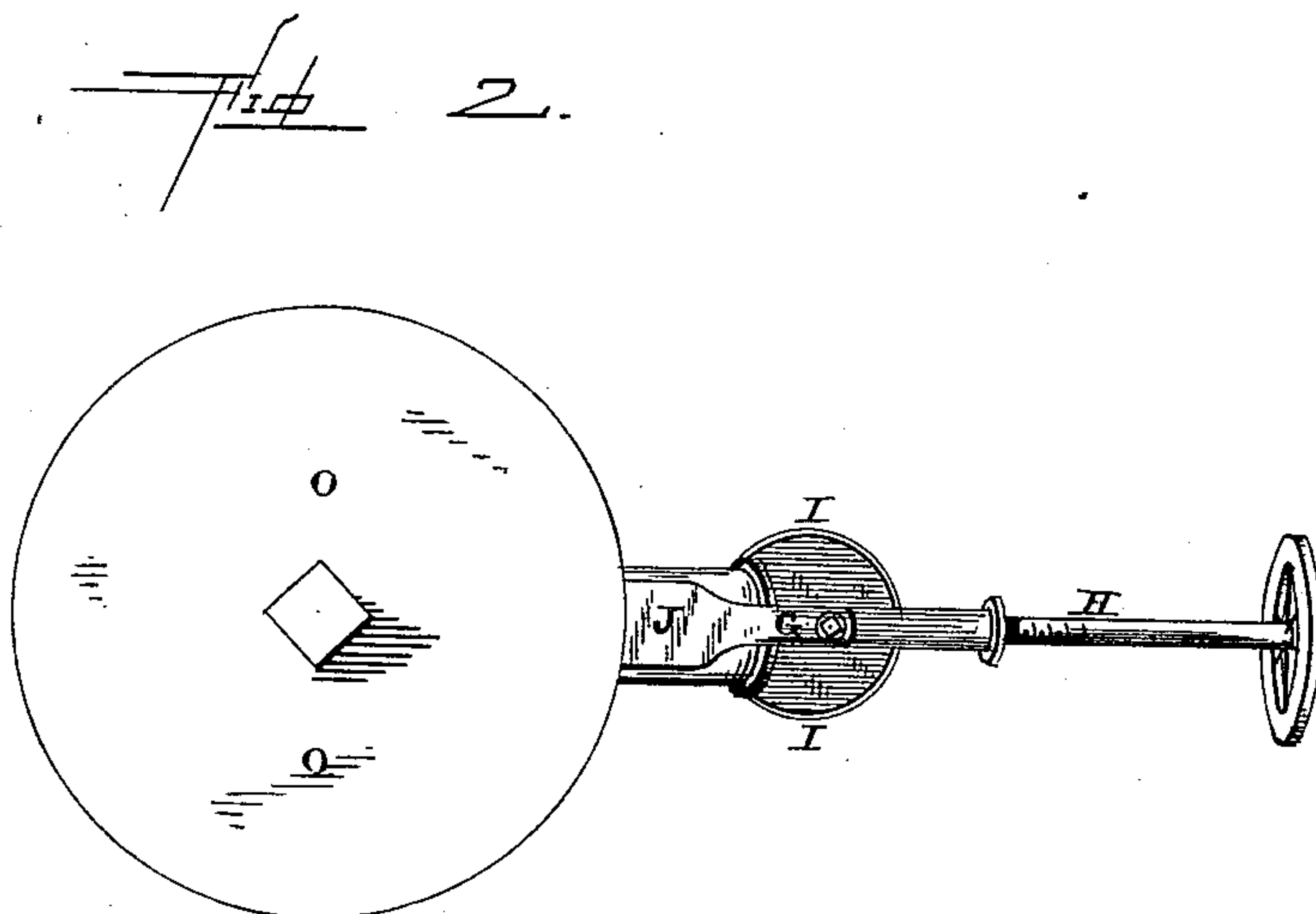
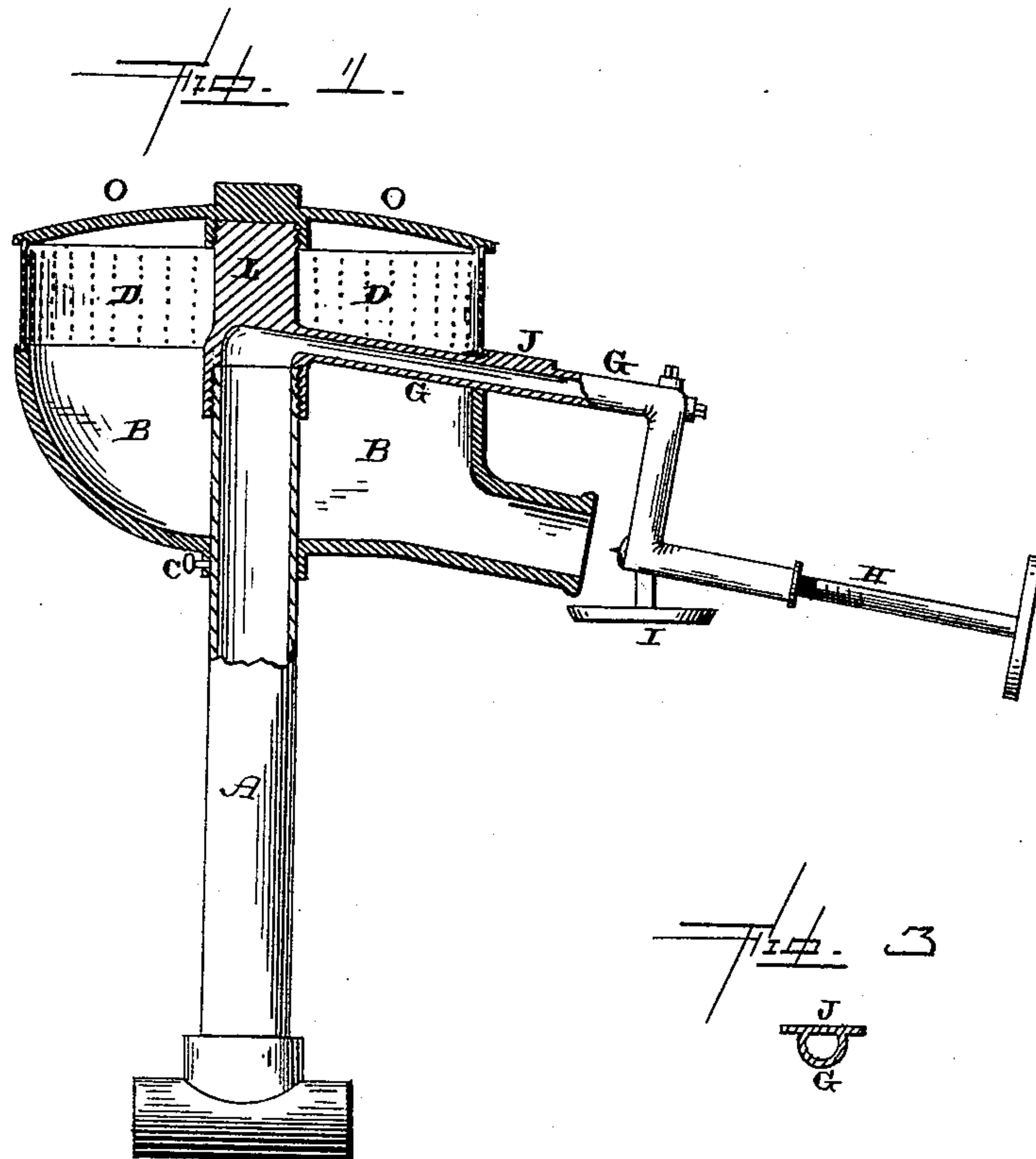


(No Model.)

Z. DAVIS.
VAPOR BURNER.

No. 353,927.

Patented Dec. 7, 1886.



WITNESSES.

K. F. Gardner
A. S. Pattison

INVENTOR.

Z. Davis,
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Att'y.

UNITED STATES PATENT OFFICE.

ZEBULON DAVIS, OF CLEVELAND, OHIO.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 353,927, dated December 7, 1886.

Application filed May 6, 1886. Serial No. 201,317. (No model.)

To all whom it may concern:

Be it known that I, ZEBULON DAVIS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Vapor-Burners; and I do hereby 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 it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in vapor-burners; and it consists in, first, the combination of a stand or supply pipe which has its upper end to extend into the mixing-chamber, a conducting-pipe which is screwed directly upon the top of this chamber, and which projects through one side of the chamber and forms the support for the needle-valve and lighting-cup; second, the combination of the stand or supply pipe, the mixing-chamber which surrounds its upper end, the conducting-pipe which carries away the vapor and which is provided with a support or standard, the cap which screws directly upon this standard, and a perforated plate which is secured in position between the body of the mixing-chamber and the plate, as will be more fully described hereinafter.

The object of my invention is to provide a vapor-burner in which the perforated plate or gauze is held in position by means of a cap which can be removed without breaking any vapor-joints, and in which the parts are few and simple.

Figure 1 is a vertical section of a vapor-burner embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a vertical section of the conducting-tube, taken just outside of the mixing-chamber.

A represents the stand or supply pipe, which has its upper end entirely surrounded by the mixing-chamber B. This mixing-chamber B may either be of the form here shown or any other that may be preferred, and which is secured upon the stand-pipe by means of a set-screw, C, or other similar device. The upper edge of this mixing-chamber B is grooved, so as to receive the perforated metal plate D, as shown. Screwed upon the top of this stand or supply pipe A is the pipe G, through which

the vapor is conducted to the needle-valve H. This pipe G projects outward through the side of the mixing-chamber B, as shown, and forms the support for both the needle-valve H and the lighting-cup I. A suitable notch is made in the top of the mixing-chamber B where the pipe G passes through, and after the pipe is screwed in position upon the stand-pipe A the chamber B, which has been previously slipped down over the top of the stand-pipe, is raised in position, and fastened by means of the set-screw C. The pipe G, just outside of the chamber B, is flattened out upon its top, as shown at J, and upon this flattened surface the flame impinges for the purpose of heating the pipe, and thus causing a perfect vaporizing of the fluid. Of course the more the top of the pipe is flattened out the greater the amount of heat will be received from the flame.

Formed upon or with the inner end of the pipe G is a standard or head, L, which is screw-threaded at its upper end, and upon which the cap O is screwed. This cap is grooved on its under side at its outer edge, so as to catch over the top of the perforated plate D, and thus clamp it tightly in position upon the top of the mixing-chamber B. As the joint between the head L and the cap O is not a vapor-joint, the cap can be removed and replaced at will without endangering any leakage of the burner. Whenever the plate becomes injured it is only necessary to remove this cap O to replace it with a new one.

It will be seen that the parts of this burner are few, simple, and effective.

Having thus described my invention, I claim—

1. The combination of the stand or supply pipe, the mixing-chamber B, which entirely surrounds the upper end of the said pipe, the removable perforated ring, and a cover, O, with the pipe G, which extends outward through the side of the mixing-chamber, the needle-valve, and the lighting-cup, the pipe G being made to pass under the perforated ring, substantially as shown and described.

2. The combination of the stand or supply pipe, the mixing-chamber, conducting-pipe, provided with a head, the support, the perforated plate, the removable cap detachably connected to the head or support, the needle-

valve, and the lighting-cup, substantially as set forth.

3. The combination of the stand or supply pipe, the mixing-chamber, a conducting-pipe
5 which is connected to the top of the stand or supply pipe and extends through the side of the chamber, and which is flattened out to receive the flame, the valve, the perforated plate, and the cap which is removably attached to

the head upon the inner end of the pipe, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ZEBULON DAVIS.

Witnesses:

A. S. PATTISON,
L. L. BURKET.