J. B. WALLACE & Z. DAVIS.

Vapor-Burner.

No. 223,966. Patented Jan. 27, 1880.

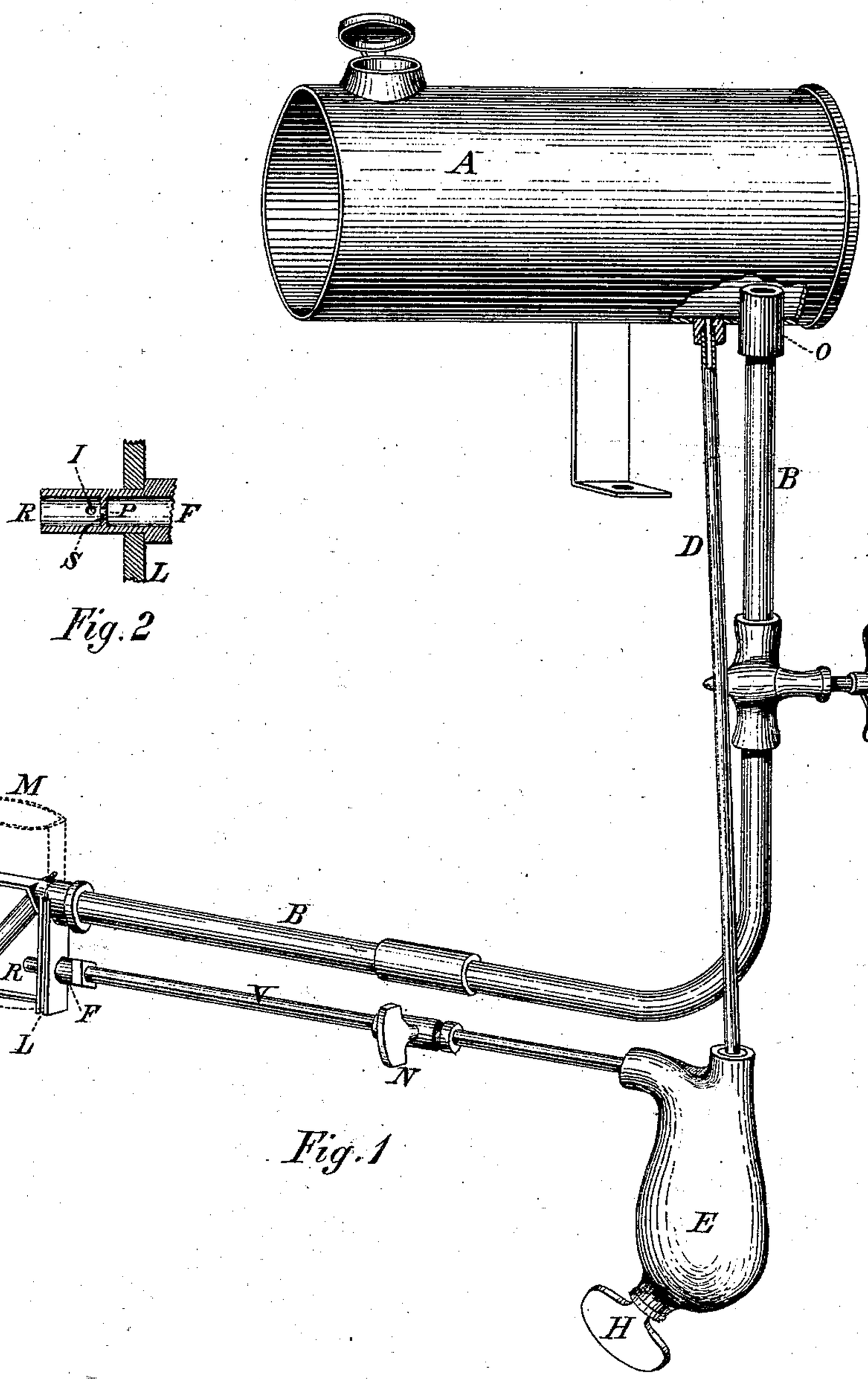

Fig. 1

Fig. 2

Witnesses

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JACOB B. WALLACE AND ZEBULON DAVIS, OF CANTON, OHIO.

VAPOR-BURNER.

SPECIFICATION forming part of Letters Patent No. 223,966, dated January 27, 1880.

Application filed September 22, 1879.

To all whom it may concern:

Be it known that we, J. B. WALLACE and ZEBULON DAVIS, of Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Vapor-Burners for Street-Lamps, of which the following is a specification.

Our invention consists in the use of a subsidiary jet-tube, which extends from the bottom of the reservoir to the burner, and which is provided with a trap to catch any water which may get into the reservoir, and by means of which subsidiary jet-tube the burner may be lighted by a match, the same as coal-gas street-lamps are now lighted.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a perspective of our invention complete. Fig. 2 is a detail view of the same.

A represents the oil-reservoir, which is attached to the burner C by means of the usual feed-pipe B, and any one or all three of these parts may be of any construction desired. The upper end of this pipe B is fitted with a nipple, O, which passes up through the bottom of the reservoir and extends a suitable distance above its bottom; or the upper end of the pipe itself may be passed up through the reservoir. The nipple or end of the pipe is thus made to extend up above the bottom of the reservoir, so that the water which may get into the reservoir will sink to the bottom below the top of this pipe, and thus not run into it and extinguish the blaze. Other means may be resorted to for accomplishing this same purpose—such as forming a small funnel-shaped chamber under the bottom of the reservoir to catch the water; but the present plan is preferred, as it requires no alteration in any of the parts and is cheaper. Also extending downward from the bottom of the reservoir is the pipe D, which is preferably made much smaller than the pipe B, and which has its upper end flush with or lower than the bottom of the reservoir, so that the water and sediment, when any exists in the reservoir, may be drawn off, and so that a constant supply of oil may be fed through the pipe D to keep an auxiliary flame burning, so as to vaporize the oil that is fed to the burner C from the pipe B.

At the bottom of the pipe D is placed a trap, E, which is provided with the vent H, and into which trap the water sinks. Extending from the trap is a horizontal pipe, V, which is provided with the stop-cock N, so as to shut off the auxiliary jet whenever desired, just as the flame may be extinguished from the burner by means of the stop-cock in the pipe B. The outer end of this pipe V is provided with the nozzle F, which is bored out at each end, so as to leave a thin wall, S, through which is made the small hole P, and through the side of the nozzle, between this wall and the end R, are made the small holes I. Through these holes I is drawn the air, which, mingling with the vapor or oil, causes the jet to burn without smoking at R, and vaporizes the oil in the inclined part of pipe B just above it. Inclosing this jet is the shield M, which protects it from storms of all kinds and prevents it from being extinguished.

When the trap E is placed in the pipe B the water accumulates in it until it suddenly rises and floods the burner and extinguishes the light. This makes it absolutely necessary that the trap should not be connected with the main pipe if it is desired to have an absolutely sure light at all times.

By placing the trap in the subsidiary jet-pipe, as shown, the water may accumulate in it until it fills the trap and pipe V, so that when an attempt is made to light the jet the water will run out at R. When the lamp-lighter attempts to light the jet and it does not light at once he knows that the water has filled the trap, and he opens the vent H and drains the trap out. In this manner the water always gives notice of its presence without doing any harm, whereas in the other case it only manifests itself by extinguishing the light.

Having thus described our invention, we claim—

1. In a vapor-burner, the combination of a reservoir, a burner, a main supply-pipe, and a separate pipe for supplying a subsidiary jet, the jet-pipe being provided with a trap, E, substantially as shown.

2. The combination of a reservoir, A, main supply-pipe B, having its upper end extending above the bottom of the reservoir, jet-pipe D, having its upper end level with or below the bottom of the reservoir, trap E in the jet-pipe, and burner C, the parts being arranged to operate substantially as shown.

In testimony that we claim the foregoing we have hereunto set our hands in presence of two witnesses.

JACOB B. WALLACE.
ZEBULON DAVIS.

Witnesses:
ABNER MCKINLEY,
ALLEN CARNES.