I. STEAD.

Air-Vent for Street-Lamp Reservoirs.

No. 209,935. Patented Nov. 12, 1878.

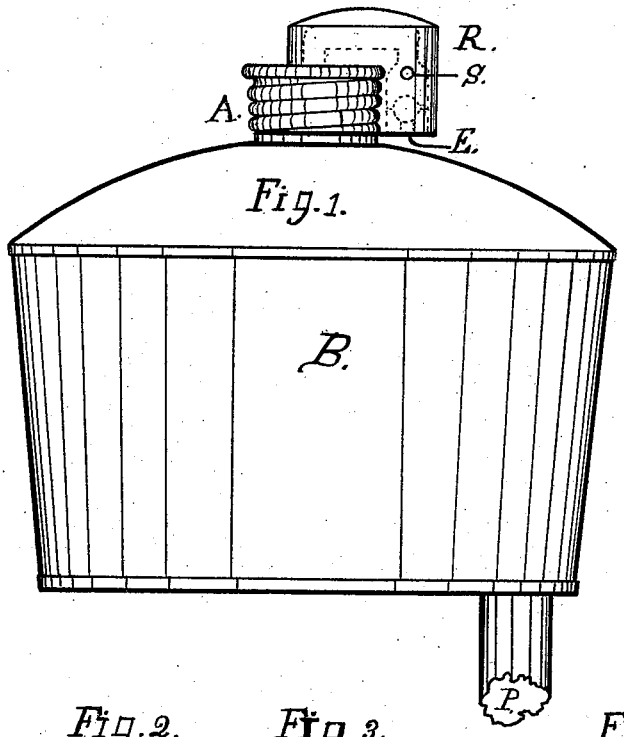

Fig. 1.

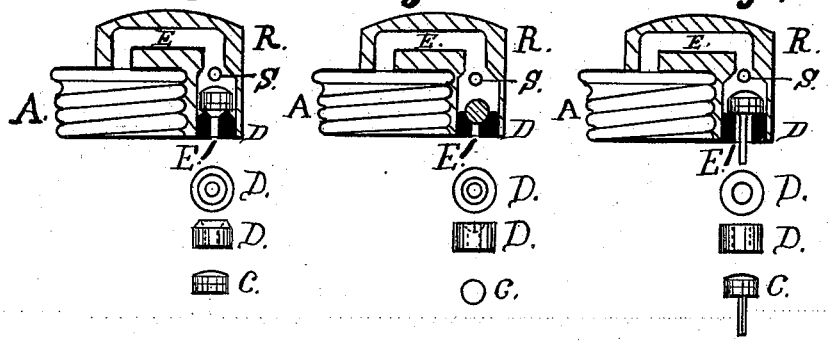

Fig. 2. Fig. 3. Fig. 4.

WITNESSES.

James P. Traz

Christopher Wilson

INVENTOR.

Isaac Stead,

By Johnshinn, Attorney.

UNITED STATES PATENT OFFICE.

ISAAC STEAD, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN AIR-VENTS FOR STREET-LAMP RESERVOIRS.

Specification forming part of Letters Patent No. **209,935,** dated November 12, 1878; application filed October 28, 1878.

To all whom it may concern:

Be it known that I, ISAAC STEAD, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Combined Automatic Pressure-Valve and Air-Vent, which improvement is fully set forth in the following specification and accompanying drawing.

The invention relates to automatic opening and closing air-vents for hydrocarbon-oil reservoirs, which reservoirs are connected with and supply oil to self-generating gas-burners; and my improvement is designed to be used on such burners when they are employed for illuminating streets, parks, and such places as require the lamp and reservoir to be exposed to the rays of the sun.

The object of my invention is to prevent the escape of vapor generated by the heat of the sun when so exposed.

The invention consists in the combination and arrangement of an automatic pressure-valve and air-vent with a reservoir for holding and supplying oil to self-generating gas-burners, as will be hereinafter described, referring to the accompanying drawings, in which—

Figure 1 is a view of an oil-reservoir with my improvement attached. Figs. 2, 3, and 4 are vertical longitudinal sections of my improvement.

Similar letters of reference in the drawings indicate like parts.

The construction of my improvement is as follows: B represents the reservoir, which is provided with a metal screw-stopper, A. In the top of this screw-stopper I punch a hole. R is a small brass casting, in which is cast an open passage, E. This passage is enlarged at that part holding the valve C and seat D. The seat D may be made of brass and in form as shown in Figs. 2, 3, and 4. The valve C may be made of leather in form of a ball, as shown in Fig. 3, or a leaden shot may be used. If desired, the valve may be made flat, as shown in Figs. 2 and 4. In such cases it may be preferable to fasten the leather to a piece of metal, and the valve may have a metal stem, as shown in Fig. 4.

When the valve is used without a stem, I prefer to use a seat, as shown in Fig. 2.

S is a small wire pin driven tight in the casting R. The casting R is soldered fast to the metal cap or stopper A. The valve C is placed in the opening E, and the seat D is driven into the casting tight, and the improvement is ready for use.

The operation is as follows: The tank or reservoir B is supposed to be applied to a street-lamp, which is exposed to the rays of the sun. The reservoir B is filled with oil, and the cap A is screwed on air-tight, (it being provided with packing.) The heat of the sun will cause the oil to vaporize, and as the vapor rises in the passage the valve C will be closed and prevent the escape of vapor; and when the sun has gone down the tank will cool and the vapor be condensed to oil. When the oil is turned on, to flow through the pipe P to the burner, the air will rush in at the vent E, raise the valve C, and supply air, that the oil may flow to the burner. The pin S prevents the valve from rising too high.

My improvement is shown as soldered to the cap of the stopper; but it is obvious that it may be soldered fast to the top of the reservoir.

I claim—

The combination of a reservoir, B, for holding and supplying oil to a self-generating gas-burner, with the automatic self opening and closing air-vent, composed of a valve, C, seat D, and air vent or passage E, as shown and described, and for the purpose specified.

ISAAC STEAD.

Witnesses:
JOHN SHINN,
GEO. W. STEAD.