H. & A. T. HATCH.
Lamp-Filler.

No. 199,290. Patented Jan. 15, 1878.

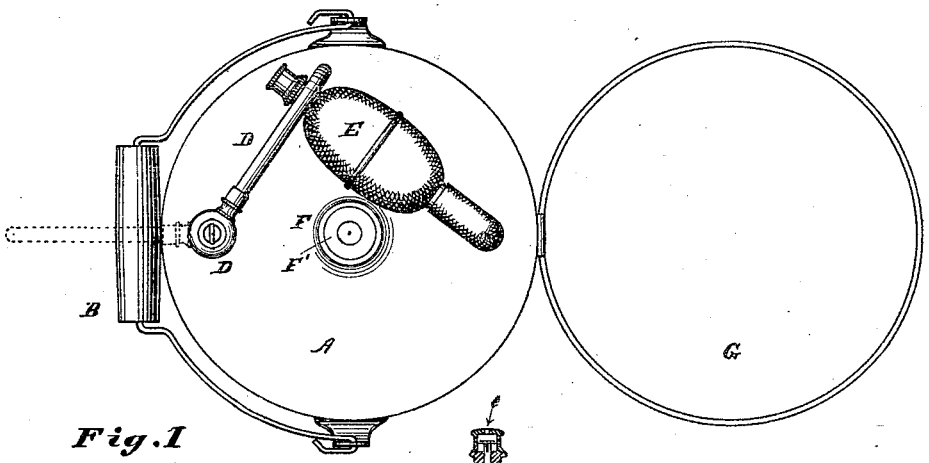

Fig. 1

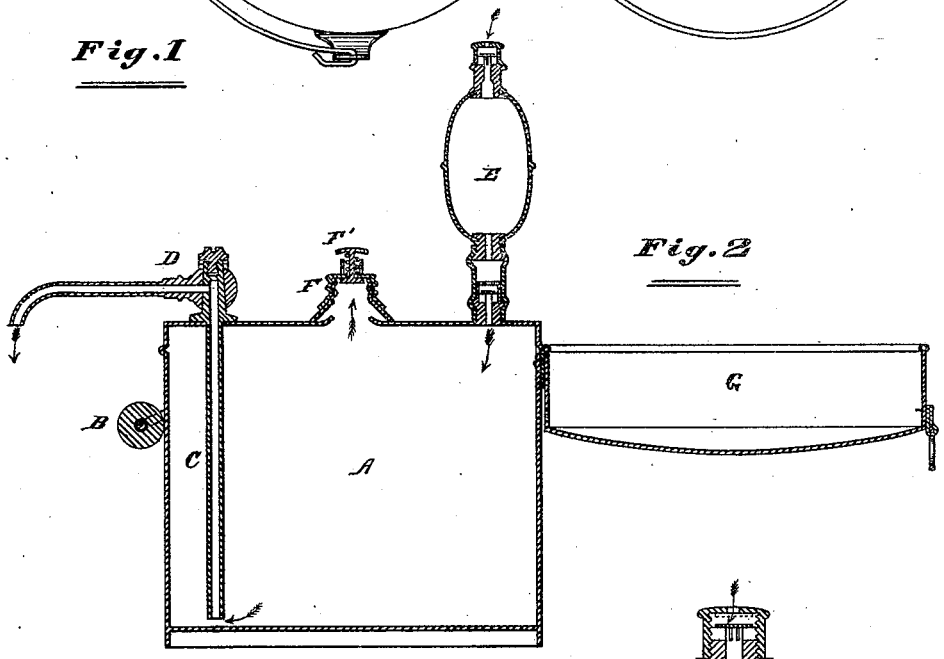

Fig. 2

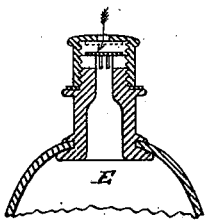

Fig. 3

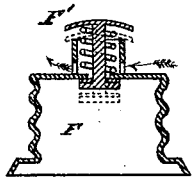

Fig. 4

Attest

G. A. Brady

P. L. Olmstead

INVENTORS.

Hyman Hatch & Albert T. Hatch

By Coyne & Co., their

Attorneys

UNITED STATES PATENT OFFICE.

HYMAN HATCH AND ALBERT T. HATCH, OF SOUTH ELGIN, ILLINOIS, ASSIGNORS OF ONE-FOURTH THEIR RIGHT TO GEORGE B. HUBBARD, OF SAME PLACE.

IMPROVEMENT IN LAMP-FILLERS.

Specification forming part of Letters Patent No. **199,290**, dated January 15, 1878; application filed September 11, 1877.

To all whom it may concern:

Be it known that we, HYMAN HATCH and ALBERT T. HATCH, of South Elgin, in the county of Kane and State of Illinois, have jointly invented a certain new, useful, and Improved Lamp-Filler, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 is a top or plan view of a lamp-filler embodying our invention; Fig. 2, a vertical central section thereof; and Figs. 3 and 4 are like sections, indicating the construction of the induction-valve.

In the drawing, A represents an air-tight vessel, made, in the example shown, of tin or other suitable metal. It may, however, consist of glass, and, in the latter case, it should be protected by an outer shield made either of metal or wood, and it should, when made of glass, be separated from the outer case or shield either by small webs or braces, or by suitable packing material employed for that purpose.

B is a bail, hooked into ears on the vessel A to admit of the latter being carried with facility. C is a vertical tube entering the top of the vessel A and extending nearly to its bottom, as shown. D is a rotary faucet applied to the upper or external end of the tube C. This faucet is constructed and operates like faucets of its class—that is to say, there is a lateral port in the side of the tube C, and this port lies in the same plane with the tubular part of the faucet, so that the passage through the tube C and the faucet will be continuous when the port in the tube is adjacent to or coincident with the tubular part of the faucet. We so apply the faucet that this coincidence will occur when the faucet is arranged in or nearly in a radial line, as represented in Fig. 2 and by the broken lines in Fig. 1. The faucet, therefore, will be closed by the act of turning the faucet into the position indicated by the full lines in Fig. 1, and opened by turning it into the position indicated by the broken lines. We deem it preferable to curve the free end of the faucet, as shown, for the purpose hereinafter mentioned.

E is an elastic bulb, having two ports therein, one serving as an air-induction port, and the other as an eduction-port. Check-valves operate in connection with each of these ports, so that by alternately pressing and releasing the bulb a current of air will be forced out intermittingly through the induction-port.

The construction and operation of bulbs of this class are well-known, and we will therefore merely state that we employ such a bulb or other air-injector for the purpose of thereby forcing air into the upper part of the vessel A, as indicated in Fig. 2.

F is a removable cap covering the filling-port. We deem it preferable, for the purpose hereinafter mentioned, to provide the cap F with a vent-valve, F′, held to its seat by means of a spring, and so arranged and applied that a downward pressure upon the valve or its stem will open the valve.

G is a lid hinged to the vessel A.

In order to use the apparatus now described for the purpose of filling lamps, the bent end of the faucet D is inserted into or held over the filling-orifice in the lamp, the faucet being first turned into the position indicated by the broken lines in Fig. 1 and by the full lines in Fig. 2, thus opening the faucet, and allowing the lamp to be held with convenience while being filled. The bulb E is then manipulated in the usual manner, and by this means air is forced into the vessel A until a sufficient pressure is exerted upon the fluid to drive it out through the tube C and the faucet. This action can be thus continued until the lamp is filled. The outward flow of the contents can be stopped instantly by depressing the valve F, when the fluid in the tube C will return to the level of that in the vessel, thus preventing any of the contents from being spilled after the lamp is filled and before the faucet can be closed. Without the valve F the elastic force of the air would require great care to be used in preventing an outward flow or drip after the lamp is filled and before the faucet is closed.

When the filler is not in use the bulb E may be bent down so that its neck will be engaged by the faucet, as indicated in Fig. 1. The lid G may then be closed, and all the parts will

be securely covered and protected, besides being compactly arranged. The filler may be carried conveniently by means of the bail.

An ordinary screw-cap may be employed instead of the valved cap F; and neither the bail nor the lid G are essential features of our invention, although we deem it preferable to employ them for the purposes set forth.

It will be perceived that the tube C, by extending nearly to the bottom of the vessel, not only admits of all or nearly all the liquid contents of the vessel being forced out through the tube, but the gas generated in the upper part of the vessel is also prevented from escaping through the tube.

The necessity of making the vessels air-tight, in order that the principle of our invention may be applied, will also tend to diminish the number of accidents caused by explosions during the operation of filling lamps with kerosene and similar oils or fluids.

The apparatus is light, compact, and cheap, and may be conveniently employed for the purpose for which it is intended, as well as for analogous uses, such as filling druggists' bottles.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A pneumatic lamp-filler consisting of the combination of the air-tight vessel A, having a filling-port; a flexible air-injecting bulb, E, having therein two valved air-ports or check-valves, one serving as an air-induction and the other as an air-eduction; a discharge-tube, C, extending nearly to the bottom of the vessel, and terminating at its upper end in the rotary nozzle or faucet D, having therein a port arranged to be opened and closed alternately during the rotation of the nozzle, substantially as and for the purposes set forth.

2. A pneumatic lamp-filler consisting of the combination of the air-tight vessel A, cap F, vent F′, flexible air-injecting bulb E, tube C, and faucet D, all constructed, arranged, and operating together, substantially as and for the purposes specified.

HYMAN HATCH.
ALBERT T. HATCH.

Witnesses:
WILLIAM H. WILCOX,
H. T. PLUMMER.