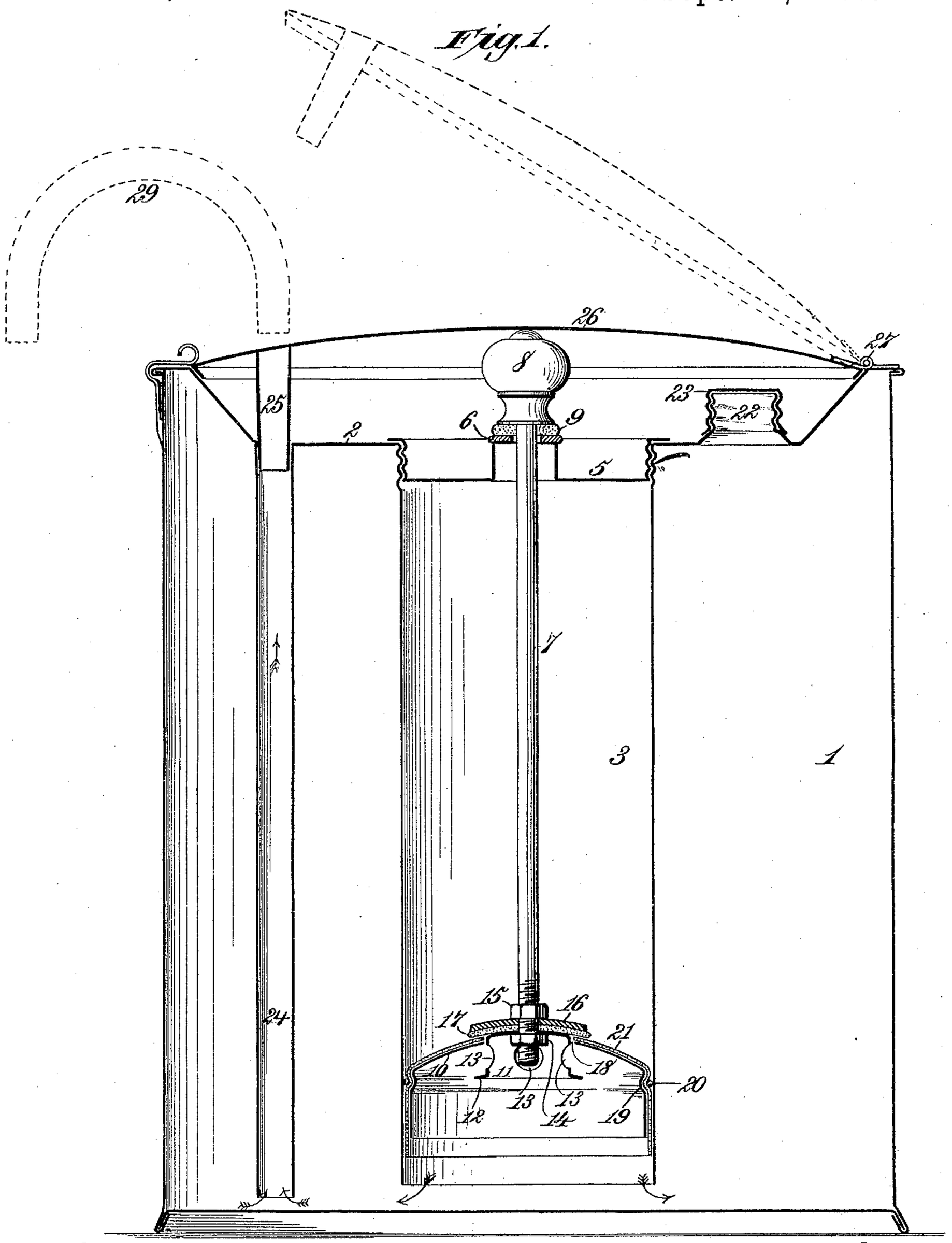
(No Model.) 2 Sheets—Sheet 1.

L. H. BRITTON & H. W. MORROW.

OIL CAN.

No. 460,080. Patented Sept. 22, 1891.

Fig. 1.



Witnesses.
Robt Everett.
J. A. Rutherford.

Inventors.
Louis H. Britton
Henry W. Morrow.
By James L. Norris.
Atty.

(No Model.) 2 Sheets—Sheet 2.

L. H. BRITTON & H. W. MORROW.

OIL CAN.

No. 460,080. Patented Sept. 22, 1891.

Fig. 2.

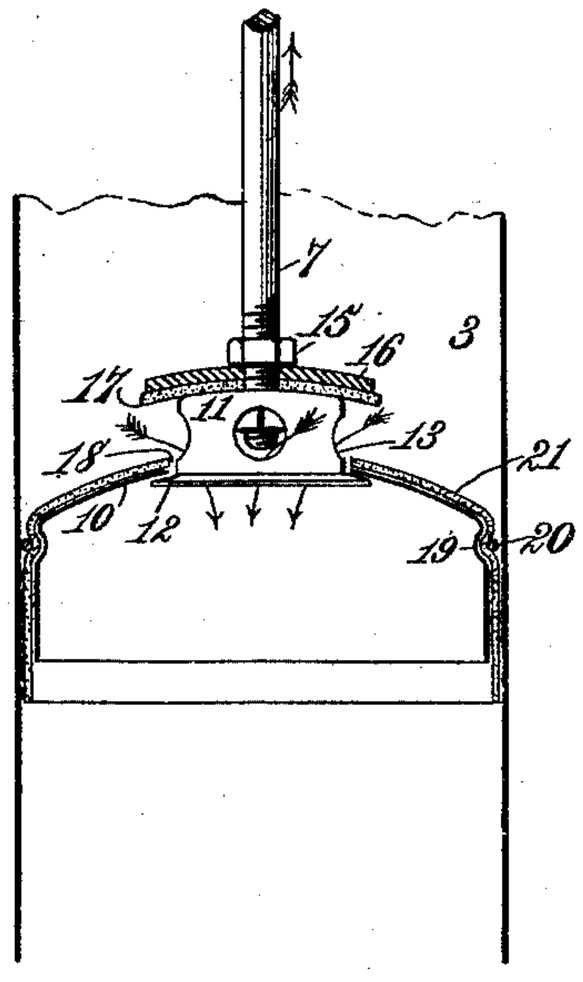


Fig. 3.

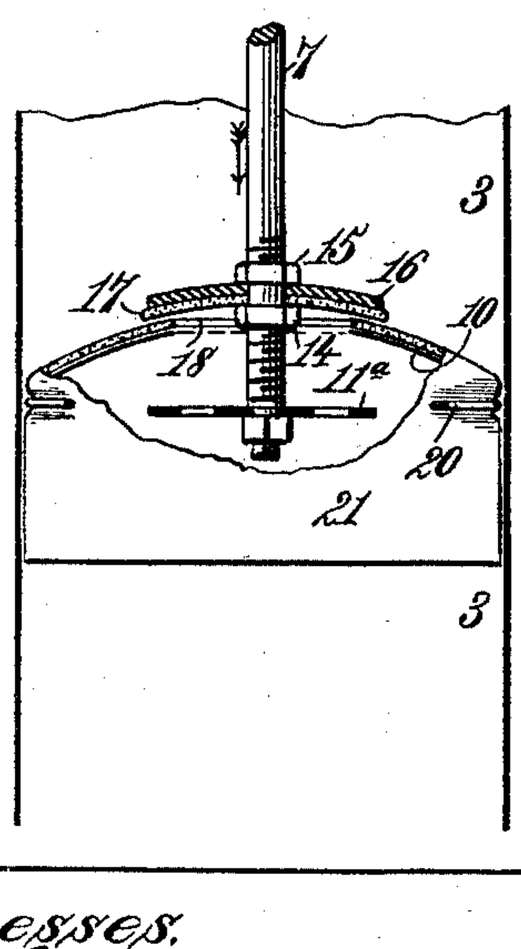
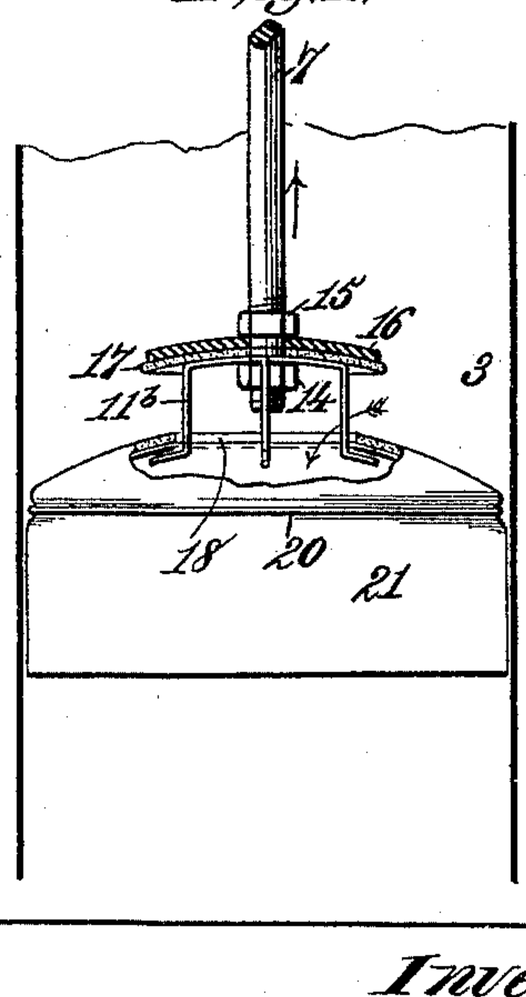


Fig. 4.



Witnesses.
Robert Sweett.
J. A. Rutherford.

Inventors.
Louis H. Britton
Henry W. Morrow.
By James L. Norris.
Atty

UNITED STATES PATENT OFFICE.

LOUIS H. BRITTON AND HENRY W. MORROW, OF NEW LISBON, OHIO, ASSIGNORS OF ONE-THIRD TO CHARLES F. BRIGGS, OF SAME PLACE.

OIL-CAN.

SPECIFICATION forming part of Letters Patent No. 460,080, dated September 22, 1891.

Application filed March 14, 1891. Serial No. 385,067. (No model.)

To all whom it may concern:

Be it known that we, LOUIS HARVEY BRITTON and HENRY WILSON MORROW, citizens of the United States, residing at New Lisbon, in the county of Columbiana and State of Ohio, have invented new and useful Improvements in Oil-Cans or Oilers, of which the following is a specification.

The object of our invention is to provide an improved oil-can or oiler that will be simple and inexpensive in construction, easily operated, cleanly in action, and that can be employed to advantage for filling lamps or other receptacles and for emptying the same by siphoning, and which can also be conveniently employed as an oiler for machinery.

To these ends the invention consists in an oil-can or oiler of that class in which the oil is forced from the can by pneumatic pressure, and in which are embodied the several features of construction and novel combinations of parts hereinafter described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a sectional elevation of our improved oil-can. Fig. 2 is a sectional detail view. Figs. 3 and 4 are detail views illustrating modifications in the construction of the valve.

Referring to the drawings, the numeral 1 designates the body of the can, which may be of cylindrical or other suitable form. In the upper part of the can is an inner top 2, that is preferably somewhat depressed and provided with a central opening, from which depends a tube or plunger-cylinder 3, which is extended very nearly to the bottom of the can. The upper end of the tube or cylinder 3 is provided with screw-threads 4 and is closed by a cap 5, that is correspondingly screw-threaded. The lower end of the cylinder 3, instead of being wholly open, as shown, may be closed or extended entirely to the bottom of the can, but would then require to be provided with lateral perforations for the passage of oil. The cap 5 is provided with a centrally-perforated bearing 6 for passage of a piston-rod 7, having on its upper end a handle 8, beneath which and closely surrounding the rod 7 is an elastic washer 9, that closes the opening in the cap 5, through which the piston-rod passes, and thus prevents loss of oil from evaporation. On the lower end of the piston-rod 7 are a plunger or piston-head 10 and a valve 11, which may be held in place by suitable nuts and washers. The valve 11 may be in the form of an inverted cup having an annular flange 12 on its lower end and provided above said flange with a series of lateral slots or openings 13 for the passage of air and oil or other fluid. This valve 11 may be rigidly secured to the lower screw-threaded end of the piston-rod 7 by means of a nut 14 below and a nut 15 and washers 16 and 17 above, the upper washer 16 being preferably of metal, while the washer 17 may be made of some soft elastic material. The plunger or piston-head 10 is also preferably in the form of an inverted cup having a diameter that is very nearly the same as that of the interior of the cylinder 3 and provided at the top with a central opening 18, that is controlled by the valve. On the outside of the inverted-cup-shaped plunger or piston-head 10 is an annular groove 19, which, together with an encircling wire band 20, secures to the outside of the plunger a packing 21, or covering of leather, rubber, or other suitable material, that extends from the edge of the central opening 18 to some distance below the piston or plunger, so as to be capable of expanding under the pressure of air and fluid and form a close joint with very little friction.

Instead of making the valve 11 in the form of an inverted cup, as shown in Figs. 1 and 2, it may consist of a disk 11^a, secured to the lower end of the piston-rod, as shown in Fig. 3, or it may be a wire frame or spider 11^b, as shown in Fig. 4, or be constructed in any other suitable manner, so as to be capable of permitting the passage of air at the proper time.

The inner can-top 2 is preferably provided with a filling-nozzle 22, having a screw-cap 23 or other stopper. Attached to and depending from the under side of the inner can-top 2 is a vertical oil-exit tube 24, which is extended nearly to the bottom of the can. If desired, this tube 24 may also be employed, instead of the inlet-nozzle 22, for filling the can. When the tube 24 is not in use, it is closed by a plug or stopper 25, that is attached to and carried by the hinged lid or outer top 26 of the can.

This lid 26 is attached to the can by a hinge 27, and when closed is secured by a spring-catch 28 or other suitable fastening on the can-body. It will be observed that when the hinged lid 26 is closed it presses down onto the handle 8 of the piston, thereby compressing the washer 9 onto the bearing 6 of the cap 5 and effectually closing the opening in said bearing, through which the piston-rod passes, thereby avoiding any evaporation or liability of leakage at that point, while at the same time the plug or stopper 25 is forced into and effectually seals the tube 24.

When the can is to be used for filling a lamp or for other purposes, the hinged lid 26 is unfastened and raised, thereby releasing the piston and unsealing the tube 24, to which a detachable bent tube 29 should then be attached. On now raising the piston-rod by means of its handle 8 the air and liquid in the cylinder 3 above the piston-head 10 will pass below the same by way of the valve 11, thus preventing any overflow or escape through the cap 5, and when the piston-rod is again pushed down the washer 17, coming in contact with the packing 21, forms a close joint, so that as the plunger or piston-head 10 is forced down and the valve 11 closed, the air and fluid being unable to escape above, the plunger will be forced through the lower end of the cylinder 3 into the body of the can and the oil will be raised and ejected through the tubes 24 and 29 and discharge into the lamp or other receptacle. It will be seen that in a can of this construction the plunger acts as a combined air and force pump. When the plunger is pushed down the atmosphere and liquid are forced down ahead of it, the air in the cylinder under the plunger forming by compression an air-cushion, and the liquid being driven out of the cylinder 3 it compresses the air in the upper part of the can-body, which combined action forces the liquid through and out of the tube 24 in a smooth steady flow with one stroke of the piston. It will also be observed that if it is desired to empty a lamp or other vessel by siphoning the tube 29 can be inserted therein and a slight stroke given to the piston, so as to drive the oil or fluid in the can up through the tubes 24 and 29, which by reaction will siphon the contents of the lamp or other vessel into the can.

A can of this construction is cleanly in its action and not liable to get out of order, it can be easily and quickly operated in such a manner as to discharge all its liquid contents, one stroke of the piston will ordinarily be sufficient to fill a lamp, thus avoiding danger of overflow, and when the lid is closed the can is automatically sealed and all danger of leakage and waste is avoided. The construction of the can is also such that by means of a suitable tube attached to the exit-tube 24 the device can be readily and conveniently used as an oiler for machinery. With this can lamps or other receptacles located at a distance, or at a considerable elevation, can be readily filled or emptied, as may be required, without risk of overflow or waste. As the interior of the plunger 3 communicates freely with the body of the can, it affords therewith ample space for holding a considerable quantity of oil, so that the can need not be often filled.

What we claim as our invention is—

1. The combination, with a can having an exit-tube and a depending plunger-cylinder, of a piston-rod, an inverted-cup-shaped piston-head or plunger carried loosely by said rod within the plunger-cylinder and having a valve-opening, and a vertically-reciprocating valve carried on the lower end of the piston-rod and adapted to control said valve-opening, substantially as described.

2. The combination, with a can having an inner depressed top, an exit-tube, and a plunger-cylinder depending from said top, a cap at the upper end of the plunger-cylinder, and a piston-rod mounted in said cap, of an inverted-cup-shaped piston-head or plunger carried loosely by said rod within the plunger-cylinder and having a central valve-opening, and a vertically-reciprocating valve carried by the piston-rod and adapted to control said valve-opening, substantially as described.

3. The combination, with a can having an inner depressed top and an exit-tube, and a plunger-cylinder depending from said top, of a centrally-perforated cap or top for the plunger-cylinder, a piston-rod mounted in said top and provided on its upper end with a handle and a washer adapted to have a bearing on said cap, a valved piston-head or plunger, and a hinged can-lid adapted when closed to bear on the handle of the piston-rod and provided with a plug or stopper to seal the exit-tube, substantially as described.

4. The combination, with a can having an exit-tube depending in the can-body, of a hinged lid provided with a plug or stopper for said tube, substantially as described.

5. The combination, with a can having an exit-tube and a depending plunger-cylinder, of a piston-rod, an inverted-cup-shaped plunger or piston-head carried loosely by the piston-rod within said cylinder and provided with a central valve-opening, and an inverted-cup-shaped valve carried by the piston-rod and adapted to control the opening in the plunger, substantially as described.

6. The combination, with the can 1, having exit-tube 24, and plunger-cylinder 3, provided with cap 5, of the piston-rod 7, the inverted-cup-shaped plunger or piston-head 10, carried loosely by said rod and provided with central opening 18, the valve 11, the washers 16 and 17, and the packing 21, substantially as described.

7. The combination, with the can 1, having exit-tube 24, and plunger-cylinder 3, of the piston-rod 7, the inverted-cup-shaped plunger or piston-head 10, having central opening 18,

the packing 21, secured to and extended below said plunger, and the valve 11, substantially as described.

8. The combination of the can 1, having depressed inner top 5, the exit-tube 24, and the plunger-cylinder 3, depending from said inner top, the piston-rod 7, having handle 8 and washer 9, the inverted-cup-shaped plunger or piston-head 10, provided with central opening 18 and carried loosely on the piston-rod, the valve 11, the washers 16 and 17, and the packing 21, substantially as described.

9. The combination of the can 1, having inner depressed top 5, the exit-tube 24, and plunger-cylinder 3, depending from said inner top, the piston-rod 7, having handle 8, the plunger or piston-head 10, the valve 11, and the hinged lid 26, provided with a plug or stopper 25 for the exit-tube, substantially as described.

In testimony whereof we have hereunto set our hands and affixed our seals in presence of two subscribing witnesses.

LOUIS H. BRITTON. [L. S.]
HENRY W. MORROW. [L. S.]

Witnesses:
C. F. BRIGGS,
L. H. GREER.