

No. 763,917.

PATENTED JUNE 28, 1904.

J. G. LOWE.
DISPENSING VESSEL.
APPLICATION FILED NOV. 12, 1903.

NO MODEL.

Fig. 1.

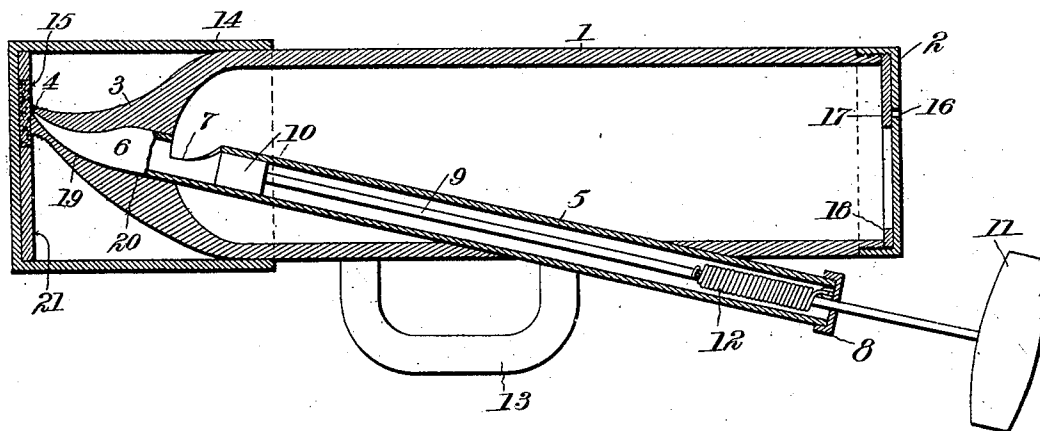
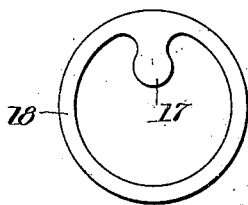


Fig. 2.



Witnesses

C. H. Walker.
T. H. Birchhead.

Inventor

James G. Lowe,
By Howard H. Howard,

Attorneys.

UNITED STATES PATENT OFFICE.

JAMES G. LOWE, OF TAMPA, FLORIDA.

DISPENSING VESSEL.

SPECIFICATION forming part of Letters Patent No. 763,917, dated June 28, 1904.

Application filed November 12, 1903. Serial No. 180,912. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. LOWE, a citizen of the United States, and a resident of Tampa, county of Hillsboro, State of Florida, have invented certain new and useful Improvements in Dispensing Vessels, of which the following is a specification.

My invention relates to dispensing vessels for holding and dispensing liquids or solutions of a volatile nature or of such nature as will deteriorate by a certain exposure to the air, and more especially to such vessels provided with means for ejecting measured quantities of the liquid therefrom without exposing such liquids in the vessel to the air to such an extent as to cause deterioration in the quality or composition of the liquid.

My object is to provide a vessel of the character indicated with an ejecting or delivery tube, so that a measured quantity of the liquid may be delivered at will from the vessel into another receptacle or through a suitable valve connection with another tube or receptacle into which it is desired to inject the liquid or solution.

With this object in view my invention consists in the novel construction and details thereof, as hereinafter described with reference to the accompanying drawings and more particularly pointed out in the claims.

In the drawings, Figure 1 is a longitudinal section of a vessel, with a part in elevation, embodying my invention; and Fig. 2 is a plan view of a detail hereinafter referred to.

Referring to the drawings, in which the same reference characters relate to the same parts in both views, the numeral 1 indicates a suitable containing vessel, preferably in the form of a tube, in which the liquid is adapted to be held sealed against the atmosphere. This containing-tube 1 is closed at one end by a screw-threaded cap 2, which seats against an annular washer 18, of leather or other suitable material, to make a tight joint, from which washer projects a lip 17, constituting a valve which normally closes an air-vent 16 in the body of the cap. The other end of the tube 1 terminates in an irregular cone-shaped portion 3, at the tapered point of which is a discharge nozzle or opening 4, which commu-

nicates with the interior of the tube 1 through a tapered passage 19, terminating in a cylindrical portion 20.

Intersecting and passing through the side of the tube 1 at a convenient angle is a single-acting pump-cylinder 5, the inner end of which is shaped to conform to and is seated in the discharge-opening 19 and 20 of the tube 1. This cylinder is cut away at 7 to constitute an admission-port, through which the liquid may enter the said pump-cylinder from the containing-tube 1. Adapted to operate in the cylinder 5 is a piston or plunger 10, which in its normal position leaves the port 7 open. This piston or plunger is provided with a rod 9, passing through the cap 8 at the outer end of the cylinder and provided with a suitable operating-handle 11. A coil-spring 12, attached to the rod 9 at one end and to the cylinder structure, as the cap 8, at the other end, serves to maintain the plunger 10 in its normal inactive position, as shown in Fig. 1, where the plunger aligns with the edge of the port 7.

The discharge end of the container is preferably closed by a cap 14, which is adapted to slip over the end of said container and tightly fit the same, the closed end of said cap being preferably provided with a cork or other suitable washer 15, carried by a plate 21 and adapted to engage and tightly close the discharge-opening 4. The tapered end surrounding the discharge-opening 4 is preferably screw-threaded, as shown, so that when the cap 14 is removed the said end may be readily attached, if desired, to any suitable screw-threaded valve connection through which it is desired to inject the liquid from the vessel or chamber. The air-vent valve 17 normally closes the vent 16, but is adapted to open sufficiently to facilitate the flow of liquid from the tube or chamber 1 into the pump-cylinder when the piston 10 is operated. A suitable handle 13 is preferably provided at a convenient point on the containing-tube 1, by which the device may be readily held in proper position for delivery of the liquid therefrom.

In operation the handle 13 is grasped with one hand, and the plunger or piston 10 is then forced forward by the other hand, the cap 14

having been removed, the discharge-nozzle or cylinder and the tube being directed to the desired point or being attached to the valve connection, and measured quantities, determined by the volume of the chamber between the port 7 and the piston 10, can readily be delivered by reciprocation of said plunger. The coil-spring 12 retracts the plunger or piston to its normal inactive position after each discharge.

While my invention is especially applicable to dispensing heavy solutions through valve connections in motor cycles or bicycles, it is to be understood that it is not limited to this specific application, but may be used wherever it is desirable to dispense liquids which must be protected in their containing vessel as much as possible from the air.

What I claim, and desire to secure by Letters Patent, is—

1. A liquid-dispensing device comprising a containing vessel or chamber closed at one end and having a discharge-nozzle at the other end, the passage of which is tapered, a single-acting pump consisting of a cylinder intersecting the said container and terminating in a tapered discharge-nozzle seated in and whose outer surface is tapered to conform to the contour of the discharge-passage in the discharge end of the vessel and provided with a port communicating with the interior of the vessel, a single-acting plunger and an operating-rod attached thereto, substantially as described.

2. A liquid-dispensing device comprising a containing vessel or chamber closed at one end and terminating in a tapered discharge-nozzle at the other end, the passage of which is tapered, a single-acting pump consisting of a cylinder intersecting the said container and terminating in a tapered discharge-nozzle seated in and whose outer surface conforms to the contour of the tapered discharge-passage in the discharge end of the vessel and provided with a port communicating with the interior of the vessel, a single-acting plunger and an operating-rod attached thereto, substantially as described.

3. A liquid-dispensing device comprising a containing vessel or chamber closed at one end and having a discharge-nozzle at the other end, the passage of which is tapered, a single-acting pump consisting of a cylinder intersecting the said container and terminating in a tapered

discharge-nozzle seated in and conforming to the contour of the tapered discharge-passage in the discharge end of the vessel and provided with a port communicating with the interior of the vessel, a single-acting spring-pressed plunger and an operating-rod attached thereto, substantially as described.

4. A liquid container and delivery device comprising a containing vessel closed at one end and terminating in a tapered discharge-nozzle at the other end, the passage of which is tapered, a single-acting pump consisting of a cylinder intersecting the said container and terminating in a tapered discharge-nozzle seated in and conforming to the contour of the tapered discharge-passage in the end of the container and provided with an opening communicating with the interior of the vessel or container, a single-acting plunger and an operating-rod attached thereto, and a spring attached to said operating-rod and to the cylinder structure and adapted to normally hold the plunger in position to close the admission-port from the pump-cylinder into the container, substantially as described.

5. A liquid-dispensing device comprising a containing vessel closed at one end and having a tapered discharge-passage at the other end, a cap provided with a sealing-washer for closing the said discharge end of the vessel, and a pump intersecting said vessel and having a tapered discharge end seated in and conforming to the contour of the discharge end of the vessel and provided with a port communicating with the interior of the vessel, substantially as described.

6. A liquid-dispensing device comprising a containing vessel, a cap provided with an opening closing the one end of said vessel, a washer interposed between the cap and the vessel and having a projecting lip forming a valve normally closing said opening, a discharge-opening at the other end of the vessel, and a pump intersecting said vessel and adapted to force liquid therefrom through said discharge-opening, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES G. LOWE.

Witnesses:

J. A. MOON,

A. J. THOMPSON.