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Patented Apr. 9, 1901.

J. DEVANTERY.
FILLING RECEPTACLE FOR LIQUIDS.

(Application filed Mar. 15, 1900.)

(No Model.)

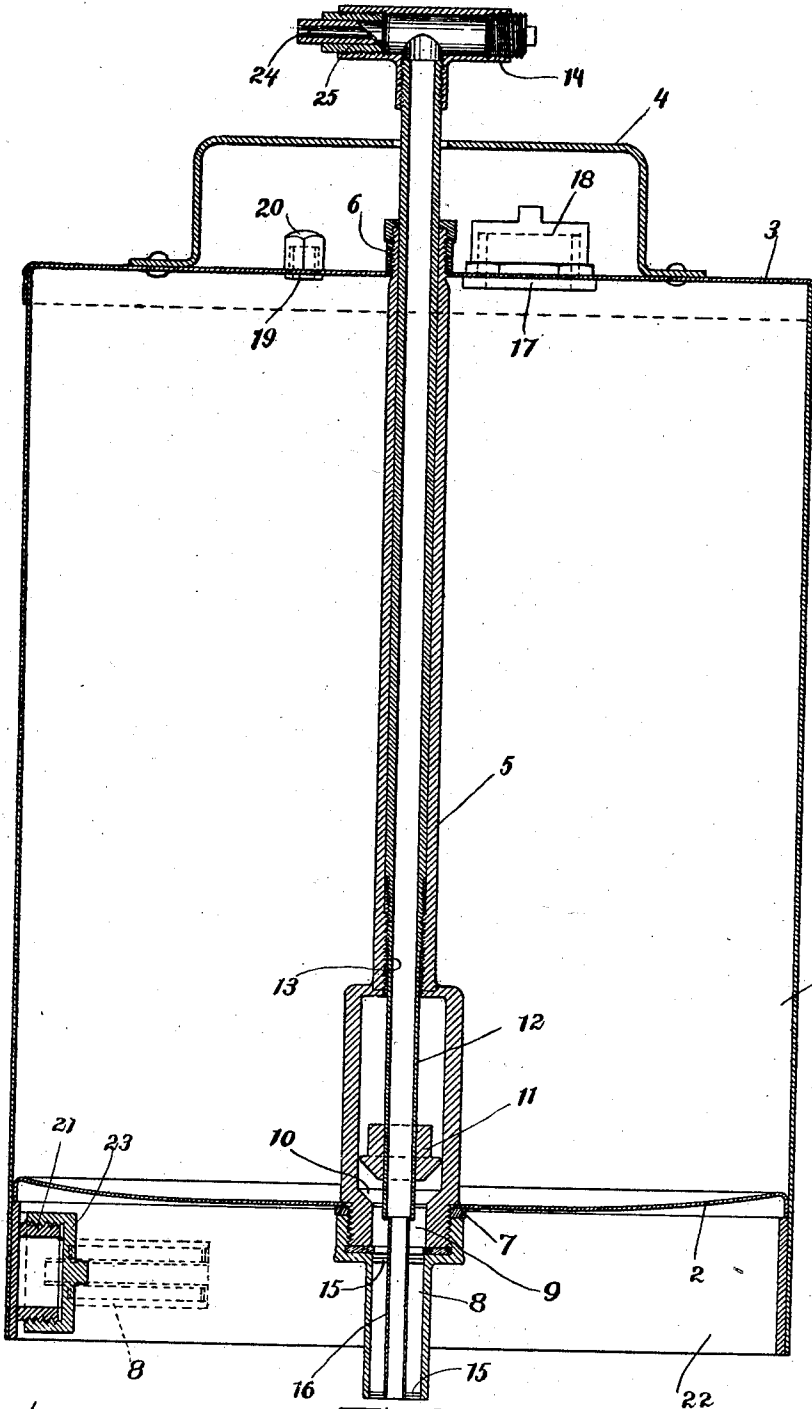


FIG. 1.

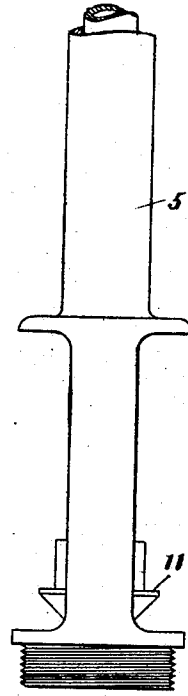


FIG. 2.

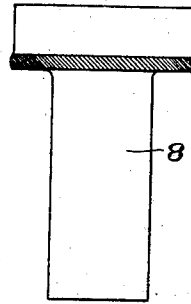


FIG. 3.

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FILLING-RECEPTACLE FOR LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 671,857, dated April 9, 1901.

Application filed March 15, 1900. Serial No. 8,751. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DEVANTERY, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Filling-Receptacles for Liquids, of which the following is a specification.

This invention relates to a device or receptacle for applying a charge of liquid to another receptacle.

The principal objects of the invention are to prevent and give warning of overflow of the liquid.

A further object of the invention is to provide a receptacle having an outlet and a removable nozzle applied to said outlet, with a closure for the outlet and means for conveniently supporting the nozzle or the outlet-closure.

Of the accompanying drawings, Figure 1 represents a vertical sectional view of a filling-receptacle constructed in accordance with my invention. Fig. 2 represents a side elevation, on an enlarged scale, of the parts surrounding the valve. Fig. 3 represents a side elevation of the outlet-nozzle.

The same reference characters indicate the same parts in all the figures.

Referring to the drawings, 1 designates a portable receptacle or chamber adapted to contain a liquid and having a bottom 2, top 3, and a handle 4 for lifting and transporting it.

5 is a tubular valve-stem guide projecting through the top and bottom walls of the receptacle and externally screw-threaded at both ends and attached to said walls by means of nuts 6 7, screwing on the said threaded ends. The part of the guide 5 projecting below the bottom wall 2 constitutes a nipple, to which is applied an internally-threaded outlet or discharge nozzle 8. The lower part of the guide 5 within the receptacle is open to permit the outflow of liquid from the interior of the receptacle through an outlet 9 in the lower end of the guide and into the discharge-nozzle 8. Surrounding said outlet is a valve-seat 10.

11 is a valve adapted to cooperate with the seat 10 to open or close the outlet 9 and soldered or otherwise attached to the lower end

of a tubular valve-stem 12, which operates within the guide 5 and is externally screw-threaded at 13 to engage an internally-threaded portion of said guide. The upper end of the stem 12 projects beyond the guide and is provided above the top of the receptacle with a cross-piece 14, which constitutes a handle.

Attached within the nozzle 8 by means of cross-arms 15 15 is a tube 16, concentric with said nozzle and telescoping within the lower end of the tubular stem 12.

17 is a filling-nipple in the top wall of the receptacle and having a closure 18, and 19 is a vent-nipple in said top wall, having a closure 20.

21 is a blind nipple soldered or otherwise secured within the lower projecting flange 22 of the receptacle and having a screw-thread similar to the thread on the outlet-nipple.

23 is a closing-piece supported by the blind nipple 21 and adapted to replace the nozzle 8.

The handle 14 has a hollow interior connecting with the duct through the valve-stem 12 and an orifice 24, partly covered by a thin reed or vibrator 25, which is set in rapid vibration by an out passage of air through the valve-stem duct and caused to emit an audible alarm. Any other suitable signal may be substituted for the vibrator 25.

In applying my invention to practical use the method of procedure is to seat the valve 11 and from a source of supply fill the receptacle 1 with the liquid to be handled through its filling-nipple 17. The nozzle 8 being applied to the outlet-nipple, the receptacle 1 is then placed over the vessel or reservoir which is to be filled, and nozzle 8 is inserted in the filling aperture or neck of said vessel, the fit being preferably a close one to prevent the escape of air from the vessel around the nozzle 8, and said vessel preferably having no other vent than through the tube 16 and the valve-stem duct. A vent is provided to the receptacle 1, as by loosening or removing the cap 20 from the vent-nipple 19, so as to maintain atmospheric pressure on the surface of the liquid in the receptacle 1 as the level of said liquid falls. The valve 11 is then unseated by turning the handle 14, and the liquid in the receptacle 1 flows out

into the receiving vessel. As the liquid-level in the latter rises the displaced air finds a vent through the valve-stem duct, and in escaping it operates the signal in the handle 14.

5 Said signal therefore gives an audible indication of the rise of liquid-level in the receiving vessel and the fall of level in the filling-receptacle 1. Outflow of liquid from said receptacle continues so long as a supply of liquid remains in said receptacle and a vent exists through the valve-stem duct. If, however, the receiving vessel fills to the level of the lower end of nozzle 8, it is obvious that the end of tube 16 will become covered by the liquid in the receiving vessel and all further vent through said tube will be shut off. Further rise of the liquid-level in the receiving vessel soon compresses the air above the surface of the liquid in said vessel to an extent which overcomes the liquid-head remaining in the receptacle 1, and the outflow from said receptacle then automatically ceases. The signal 25 ceases to operate as soon as the vent-passage becomes closed, and thereby affords an indication that the receiving vessel has filled to the predetermined limit. When the cessation of the signal is noted, the person in charge closes the valve 11 and removes the receptacle from connection with the receiving vessel. When the liquid in the receiving vessel covers the lower end of the vent-tube, a small column will, on account of the head remaining in the filling-receptacle, be forced up the vent-tube, reaching therein the level of the remaining body of liquid in the filling-receptacle. After the valve has been closed this small quantity of liquid stays in the vent-tube and a further small quantity remains in the outlet-nozzle below the valve.

40 As soon, however, as the filling-receptacle begins to be withdrawn these small quantities of liquid flow into the receiving vessel.

It will be seen from the foregoing that by the use of my invention all overflow and spilling of the liquid to be handled may easily be avoided. When the receptacle is not in use, the cap 23 is applied to the outlet-nipple and the nozzle 8 is supported horizontally upon the base or blind nipple 21, as indicated in dotted lines in Fig. 1, the outlet being the more effectively closed and the projecting nozzle removed, so as to allow the receptacle to stand upon its base-flange 22.

My invention is particularly adapted for

filling the fuel-reservoirs of automobile vehicles employing liquid fuel. 55

I claim—

1. A liquid-containing receptacle for filling purposes, having a liquid-outlet leading from its lower portion, a valve controlling said outlet, a valve-stem for operating said valve, extending to the top of the receptacle and having a transverse handle at its upper end, and an extraneous vent carried through said stem and handle and having an outlet to the atmosphere at the extremity of said handle. 60

2. A liquid-containing receptacle for filling purposes, having a liquid-outlet leading from its lower portion, a valve controlling said outlet, a valve-stem for operating said valve, extending to the top of the receptacle and having a transverse handle at its upper end, an extraneous vent carried through said stem and handle and having an outlet to the atmosphere at the extremity of said handle, and an air-operated audible signal carried by the handle and located at the end of the vent. 65 70 75

3. A liquid-containing receptacle for filling purposes, having a liquid-outlet, an extraneous vent, a removable outlet-nozzle having a portion of said vent, a valve for said outlet, and a valve-stem having another portion of said vent. 80

4. A liquid-containing receptacle for filling purposes, having a liquid-outlet, a removable outlet-nozzle, a vent-tube fixed within said nozzle, a valve for said outlet, and a tubular valve-stem telescoping on said vent-tube. 85

5. A liquid-containing receptacle for filling purposes, having a liquid-outlet, a removable outlet-nozzle, a base formed to engage and support said nozzle, and a closing-piece fitted to said base and formed to replace the nozzle. 90

6. A liquid-containing receptacle for filling purposes, having a liquid-outlet formed in a threaded nipple, a threaded outlet-nozzle screwed upon said nipple, a blind nipple threaded similarly to the outlet-nipple, and a closing-piece threaded similarly to and adapted to replace the nozzle, and screwed upon the blind nipple. 95 100

In testimony whereof I have affixed my signature in presence of two witnesses.

JOSEPH DEVANTERY.

Witnesses:

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N. C. LYON.