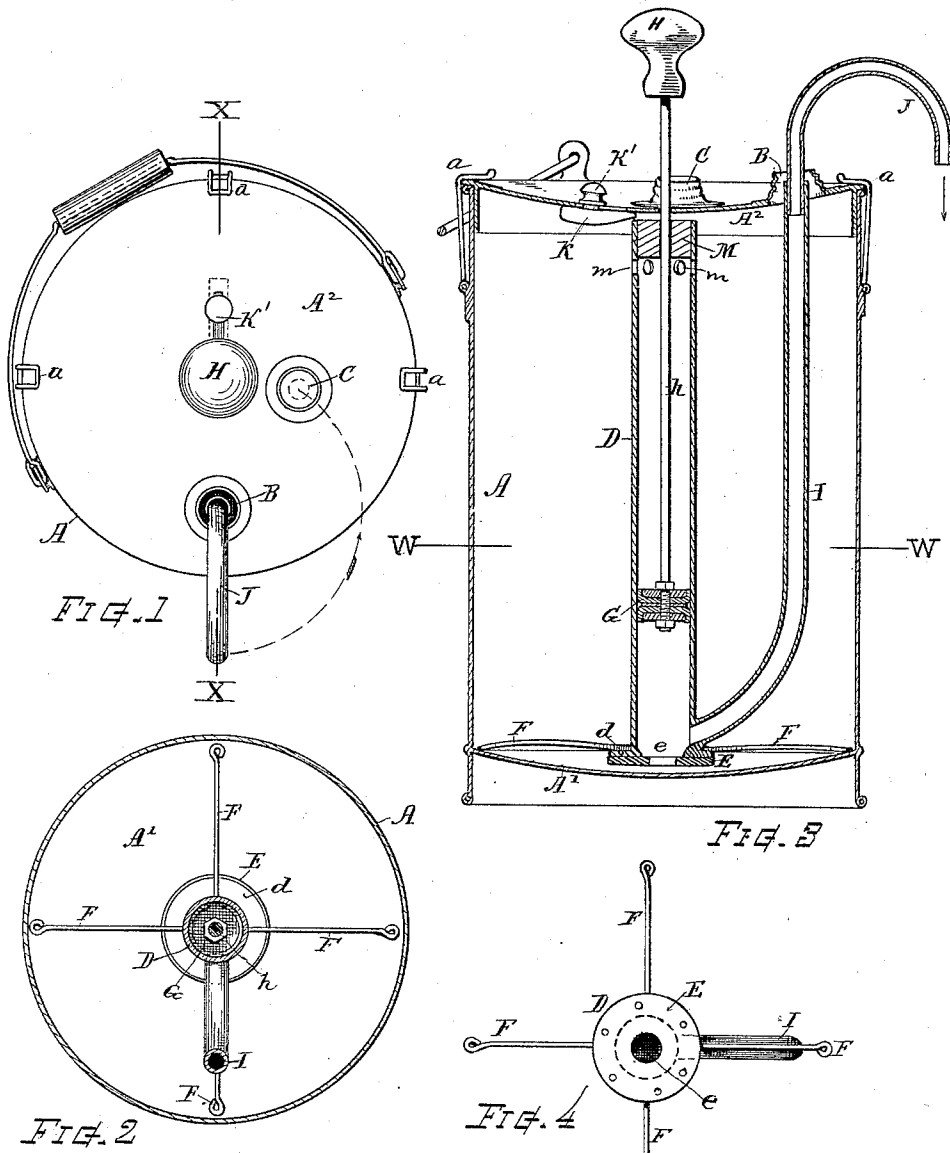


(No Model.)

E. W. BULLARD.
COMBINED CAN AND PUMP.

No. 465,608.

Patented Dec. 22, 1891.



Witnesses

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EZEKIEL W. BULLARD, OF BARRE, MASSACHUSETTS.

COMBINED CAN AND PUMP.

SPECIFICATION forming part of Letters Patent No. 465,608, dated December 22, 1891.

Application filed March 19, 1891. Serial No. 385,571. (No model.)

To all whom it may concern:

Be it known that I, EZEKIEL W. BULLARD, a citizen of the United States, residing at Barre, in the county of Worcester and State of Massachusetts, have invented a new and useful Tank and Pump for Oil and other Liquids, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my present invention is to provide an oil-tank with a simple and efficient pump mechanism adapted for conveniently filling lamps, bottles, oilers, or other receptacles from the tank, and also adapted for withdrawing the oil from the lamp or oiler and returning it to the tank when desired.

Another object is to provide a pump for oil-tanks and similar uses which is simple in construction, not liable to get out of order, and which requires no valves; also, to provide a tank-pump that is disconnected from the bottom or cover of the tank and provided with means for retaining it at central position within a tank, can, or other receptacle.

I attain these objects by the mechanism illustrated in the drawings, in which—

Figure 1 is a top view of an oil can or tank embodying my invention. Fig. 2 is a horizontal section at line W W. Fig. 3 is a vertical section at line X X, and Fig. 4 is a bottom view of the pump.

Referring to parts, A denotes the tank or oil-can, which can be a reservoir of any suitable kind and of required dimensions. For ordinary household purposes a tank of tin or sheet metal of a capacity of, say, five gallons, more or less, is specified, made in the form shown, preferably, with a downwardly-concaved or dished bottom A' and cover A², the latter removable from the tank and retained thereon by fastening devices or hooks *a*, that lock over the edges thereof, as indicated. The cover has two openings B and C, that are provided with suitable screw-caps or stoppers for closing the same.

D indicates a detached upright pump-cylinder having an annular foot *d* at its lower end and on the under surface thereof a disk or annular pad of leather E or equivalent

packing material, through which a simple hole (or holes) *e* opens to the interior of the cylinder. Springs or radial wires F, attached to the foot of the cylinder, extend to the wall of the tank and retain the cylinder at central position therein. Said spring-wires rest at their ends upon the bottom A', and thus support the cylinder with its foot-pad a short distance up from the tank-bottom, but by their springing action permit the foot-pad to rest upon the bottom A' when the cylinder is pressed downward by any means.

G indicates the pump-piston arranged within the cylinder and having a rod *h*, that extends through and is guided in an opening in the top or cover of the tank, and is provided with a suitable knob or handle H, by means of which the piston can be operated. The handle or knob H can be removed from the piston-rod to permit the removal of the cover and the detachment of the pump from the tank when desired. This can readily be done by swinging back the fastening-catches *a*, removing the cover, and then lifting the pump out of the tank. A hard-wood block M is fitted in the top end of the cylinder that serves as a guide for the piston-rod *h*, and holes *m* are formed through the cylinder just beneath said stopper, to allow any oil that may be in the pump above the piston to flow out into the tank when the piston is raised.

I indicates the uptake-pipe leading from the lower part of the pump-cylinder up to the opening B in the tank-cover, and J indicates a removable arched delivery-pipe that fits into and serves as an extension of the pipe I for entering the feed-orifice of the lamp, oiler, or other receptacle into which oil or liquid is to be delivered. When not in use, the pipe J can be detached and the cap or stopper put on over the end of pipe I for closing the opening B.

K indicates a wedge or inclined dog connected with a slide-knob that works in a slot in the cover A², and which serves to depress the cylinder, so that its bottom pad will rest against the tank-bottom A', when said dog is moved inward, so that its incline passes over and engages the top end of said cylinder, as will be understood by an inspection of Fig. 3.

In the operation the lamp, oiler, or vessel to be filled is held under the end of the tube J.

The piston G then being drawn up by the handle H, oil is drawn into the cylinder D through the hole e. Then by pressing downward on the handle H the lifting strength of the springs F is overcome and the foot of the cylinder is pressed against the tank-bottom A', the leather pad E making a tight joint therewith to prevent the reverse flow of the oil, and farther downward movement causes the piston to descend within the cylinder, forcing the contents thereof up the pipe I and into the lamp through the delivery-pipe J. When upward force is again applied to the handle for lifting the piston, the foot of the cylinder is again raised from the bottom and the oil flows into the cylinder from the tank, and the operation can be repeated, the simple movement of the handle causing the foot-pad E to act in conjunction with the tank-bottom for controlling the flow and effecting pumping action without the employment of valves in the passages. If it is desired to withdraw oil or liquid from a lamp or oiler and return it to the tank, the slide K is moved forward by means of the knob K', so that its inclined edge runs onto and depresses the pump-cylinder, thereby seating the leather E firmly upon the bottom of the tank. Then the drawing up of the piston sucks the oil in through the pipes I and J to supply the interior of the pump-cylinder. The arched pipe J is then swung around horizontally to bring its end over the opening C, after which a downstroke of the piston discharges the contents of the cylinder through said opening into the interior of the tank. The pipe J can then again be swung around to its outward position and the operation repeated. The holes below the head of the cylinder permit the escape of oil therefrom into the interior of the tank and prevent liability of the oil being forced to the exterior around the piston-rod.

This invention is adapted for household use and for the use of shops for distributing lubricating-oil or for other liquids, and makes a neat and desirable apparatus that avoids spilling the oil when filling the lamps or when taking the oil back into the tank.

Among other advantages may be mentioned its durability, convenience of operation, fa-

cility of manufacture, and avoidance of movable valves that are liable to become clogged and deranged.

I claim as my invention herein to be secured by Letters Patent—

1. The combination, with the oil tank or reservoir can, of the longitudinally-reciprocating pump-cylinder having the open bottom fitted with the perforated face-pad or leather packing material which works against the bottom of the tank, the piston and piston-rod, and the uptake-pipe connected with said pump-cylinder near the bottom thereof, as set forth.

2. The combination of the tank or reservoir can having the downwardly-concaved bottom, the longitudinally-reciprocating pump-cylinder having the foot with perforated face-pad E, the piston and piston-rod, and a spring or wires F at the foot of the pump-cylinder acting against the bottom of the tank for lifting said pump when the piston is drawn upward and permitting its depression when the piston is forced downward, substantially as and for the purpose set forth.

3. The combination of the pump having on the cylinder the foot-plate or leather pad with an inlet opening therein, the spring-bars attached to the pump-cylinder and resting upon the bottom of the tank for normally supporting the pump-cylinder foot elevated from the tank-bottom, and the dog or inclined slide on the cover or top of the tank, adapted for depressing and holding upon the bottom of the tank the pump-cylinder, substantially as and for the purpose set forth.

4. The valveless pump, consisting of the longitudinally-reciprocating cylinder D, having the foot d, with the perforated leather face-pad E, the spring-support therefor, the piston G, and the piston-rod H, the head-block M, the uptake-pipe I, attached to the side of the cylinder near the foot, and the delivery-pipe J, all arranged substantially as set forth.

Witness my hand this 17th day of March, A. D. 1891.

EZEKIEL W. BULLARD.

Witnesses:

CHAS. H. BURLEIGH,
ELLA P. BLENUS.