No. 627,522. Patented June 27, 1899.

R. PATTERSON.

OIL CAN.

(Application filed Oct. 21, 1898.)

(No Model.)

Fig. 3.

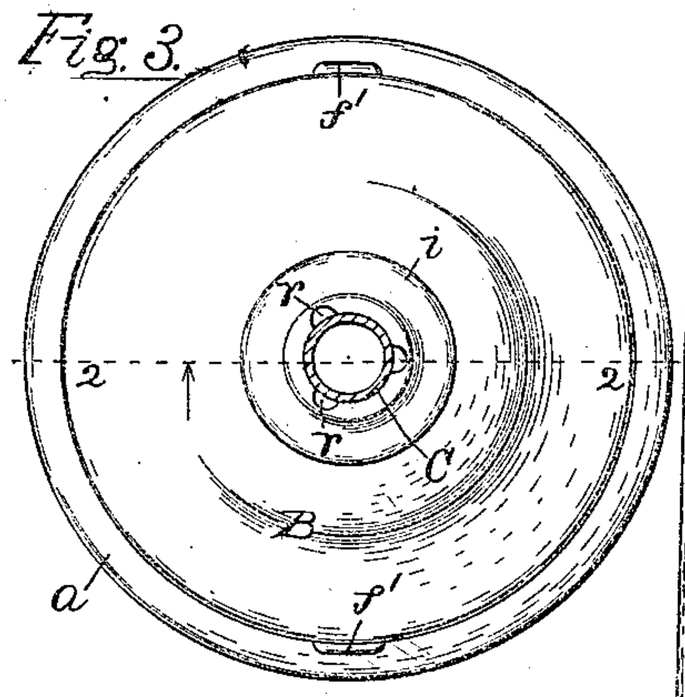


Fig. 4

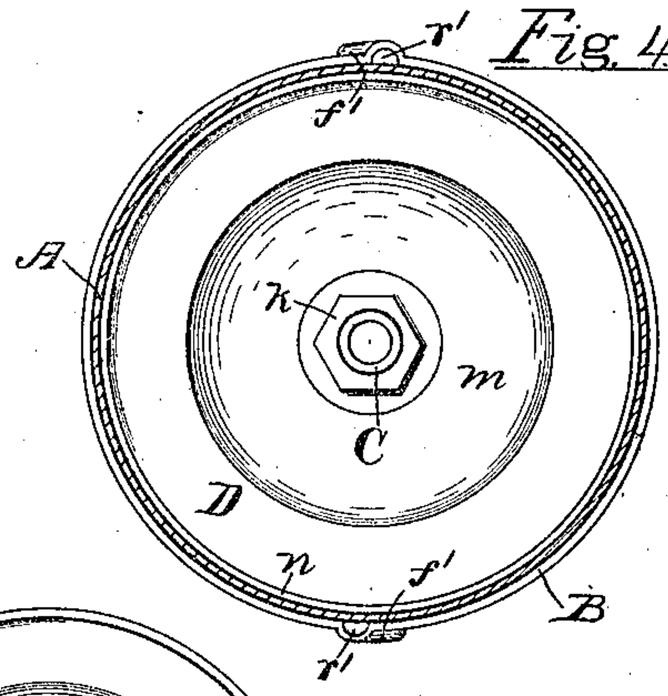
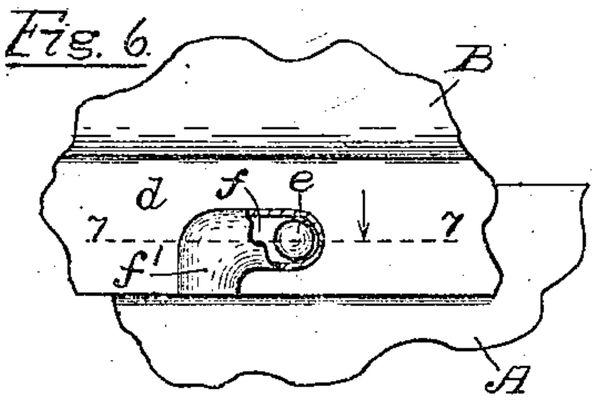


Fig. 6.



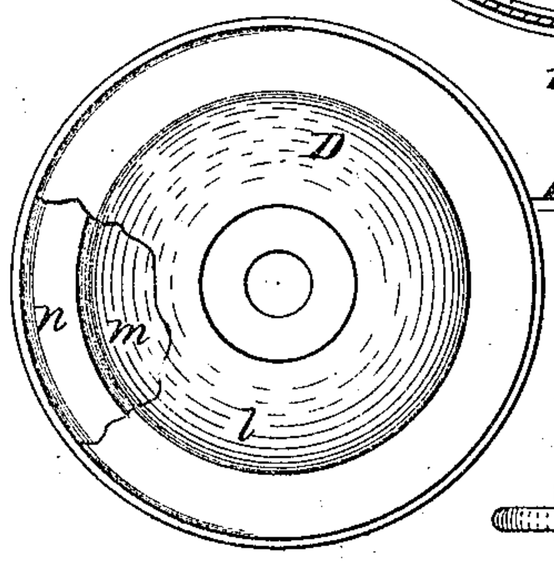
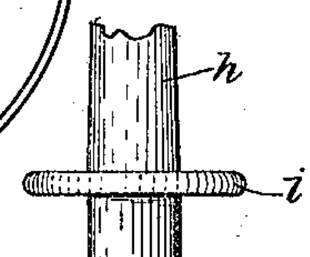


Fig. 5.



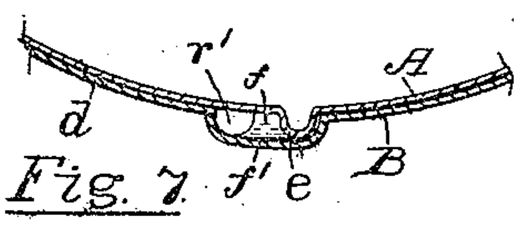


Fig. 7.

Fig. 1.

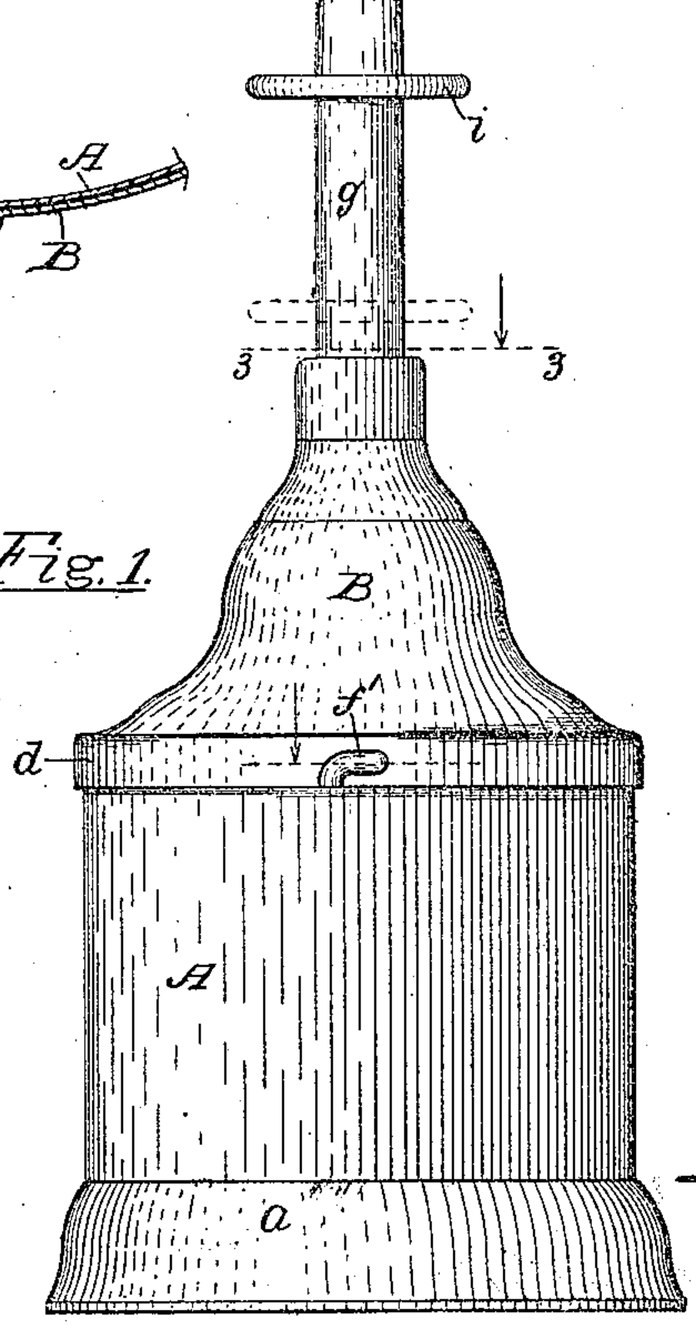
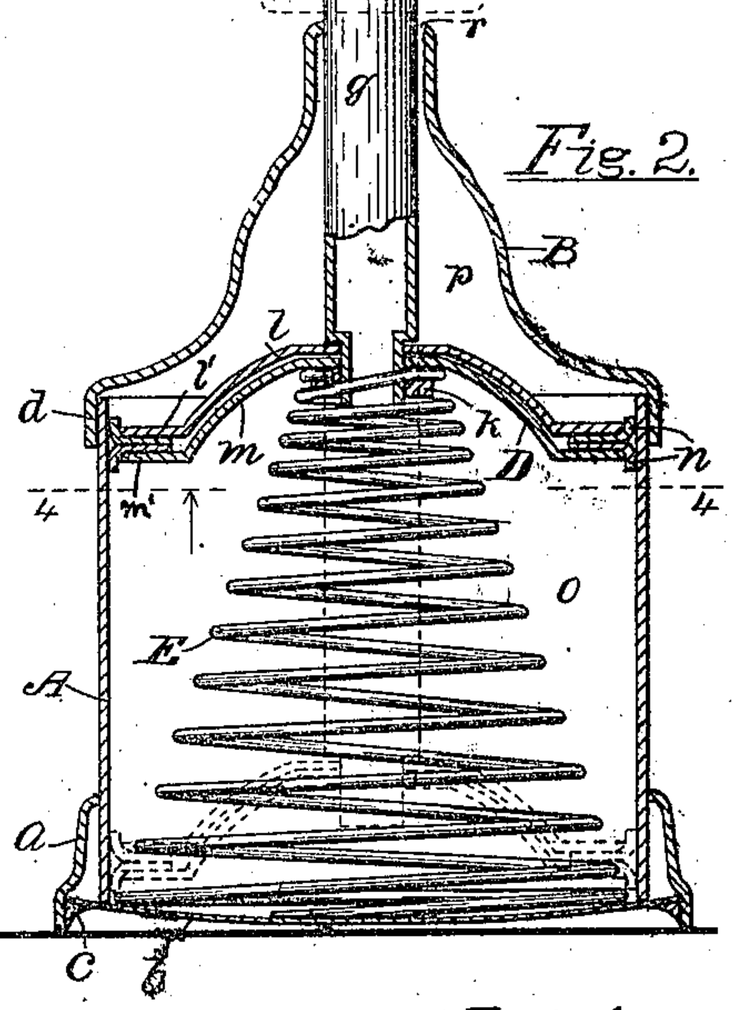


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT PATTERSON, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO JOSEPH MEHAN, OF SAME PLACE.

OIL-CAN.

SPECIFICATION forming part of Letters Patent No. 627,522, dated June 27, 1899.

Application filed October 21, 1898. Serial No. 694,225. (No model.)

To all whom it may concern:

Be it known that I, ROBERT PATTERSON, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Oil-Cans, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

My invention is a can to be used in the hand for oiling machinery or delivering small quantities of oil or other liquid for other purposes, as may be required. This is a self-filling can or so constructed as to fill itself by suction, the delivery-orifice of the can being immersed for the purpose.

An object of the invention is also to construct the can so that the whole contents, if need be, may be at any time forced out by a continuous pressure of the hand upon the parts.

The invention consists in various novel parts and their combination and operation, all hereinafter fully described and more particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of the can, the delivery-tube being shown in two positions by full and dotted lines. Fig. 2 is an axial section of the body of the can and associated parts, taken on the dotted line 2 2 in Fig. 3, parts being shown in two positions by full and dotted lines. Fig. 3 is a top view of the can, the delivery-tube being transversely sectioned on the dotted line 3 3 in Fig. 1. Fig. 4 is a view of the under side of the piston, the can being sectioned as on the dotted line 4 4 in Fig. 2. Fig. 5 is a top view of the piston, partly broken out to better show the packing-rings. Fig. 6 is a detached view showing the lock for the top or cover of the can, a part being vertically sectioned and broken away. Fig. 7 is a horizontal section of a lock, taken on the dotted line 7 7 in Fig. 6. Figs. 6 and 7 are drawn to a scale twice that of the other figures.

In the drawings, A is the body of the can, cylindrical in form, B being the cover and C the delivery-tube. The body is made of stout sheet metal, sections of brass pipe being most commonly employed. The body is formed at its lower end with an enlarged metal ring or foot *a*, extending some distance below the lower edge of the body and lapping upon the exterior of the body, as shown in Fig. 2. A thin curved plate *b*, constituting a spring-bottom for the can, is secured to the lower end of the body A, extending outward therefrom all around and occupying an enlarged part or chamber at the base of the foot *a*. This plate *b* rests at its periphery up against a shoulder of the foot *a* and is held rigidly to place, as with a ring of solder *c*.

The cover B for the body is of metal, as sheet-copper, made towering, as shown, open at its upper end, and detachable from the body. It is formed with a cylindrical flange or band *d* to telescope over the upper end of the body and may hold to place by friction; but I prefer to provide simple locking devices to more securely hold it to place. For this purpose the body is formed with two simple projecting parts or protuberances *e e* on opposite sides near its upper end, the cover being likewise formed with protuberances *f' f'* upon the band *d* in positions to receive within the hollows or cavities *f* thereof the projections *e* when the cover is pressed down to place upon the can-body. These cavities *f* each consist of a short vertical part and a horizontal part combined, the vertical parts opening out at *r' r'* at the lower edge of the cover. When the cover is put onto the body, it is so placed that the vertical parts of the cavities pass down over the projections *e*, and then by slightly turning the cover upon its axis these projections are carried into the horizontal parts of the cavities, which serves to hold the cover and body firmly together. The protuberances *e* and *f'* are formed by pressing the yielding metal outward from the inside of the body and the band *d*, respectively. Thus formed a smooth exterior is given to the cover not objectionable to the sight or in handling the can.

The delivery-tube C of the can is made up of a cylindrical base part *g* and a tapered upper part *h* joined, a circular finger-rest or button *i* being secured to the tube at the junction of its two parts. The cylindrical part of the tube enters the opening in the upper part

of the cover B and is made longitudinally movable therein, the button *i* being normally some distance above the cover, but in the smaller cans in convenient reach of the fingers of the hand holding the can. At its inner or lower end the tube is reduced in diameter, forming a shoulder and connected with a piston D for the body A, as shown in Fig. 2. The lower end of the tube is threaded and provided with a screw-nut *k* (see Fig. 4) by means of which to hold the piston firmly against the shoulder of the tube, making the latter and the piston rigid, as if a single body. The piston D is formed of two circular dome-shaped or conical plates *l m*, one above the other, both being pierced by the tube and formed, respectively, with flat peripheral flanges *l'* and *m'*. Between the opposing plates *l m* are placed, one above the other, two similar rings *n n*, of packing material, as leather, which engage and snugly fit the inner surface of the body of the can. It will be noted that my device embodies two separate fluid-ejecting devices, the piston and delivery-tube constituting the main ejector and the flexible bottom plate *b* constituting the other or auxiliary ejector. As these devices move in opposite directions, however, when operated to force the oil or other fluid through the tube, they may be operated simultaneously by opposing pressures exerted upon the finger-rest *i* and bottom *b*, respectively. The plates *l m* of the piston are made smaller in diameter than the internal diameter of the can, the outer edges of the packing-rings being turned one upward and one downward, as shown, their turned parts being pressed between the respective edges of the plates *l m* and the inner surface of the can. This piston or diaphragm thus serves to divide the interior of the can into two apartments, the lower one *o* for containing the oil or other liquid and the upper one *p* being an air-chamber, into which the liquid does not enter. The piston and the tube are adapted to move longitudinally in the can, and the tube opening into the apartment *o* communicates between said apartment and the exterior of the can. The joint between the tube and the diaphragm or piston D is air-tight, and openings *r*, Figs. 2 and 3, are provided in the top of the cover B to admit an inflow or outflow of air in the apartment *p* when the piston is moved one way or the other in the can-body.

A spring E, Fig. 2, is inserted in the lower chamber *o* of the can in position to press the piston and keep it normally at the upper end of the body A. As the function of the spring is to keep the piston normally away from the bottom of the can, it may be of any convenient form or kind. There may be, for example, one spring or several springs distributed within the can in positions to bear advantageously against the under surface of the piston; but I prefer a single conical spring, as shown, with its broad or expanded base resting against the flexible or diaphragmatic bottom *b* of the can adjacent to the circular wall of the body A, its apex bearing against the middle of the piston just outside of the nut *k*. Normally the bottom plate *b* of the can bends outward, as shown in Fig. 2, but by being pressed by the thumb will bend correspondingly inward, and as the bottom coil of the spring E is out practically against the circular wall of the can-body and clear from the middle of the bottom *b* the spring does not interfere with the free inward bending of the bottom plate, which when forced inward bends unopposed within said bottom coil of the spring.

In using the can and for the purpose of filling it the piston is forced to the bottom by pressing downward on the button *i*, and the upper open end of the tube D is then immersed in a vessel of oil or other liquid with which it is wished to fill the can. The spring acting to press the piston back to its normal place will cause the oil to flow rapidly inward through the tube and so fill the space *o*. When it is wished to deliver oil in small quantites from the discharge-opening of the tube, the spring-bottom *b* is pressed inwardly by the thumb; but should a larger quantity of oil be required to be delivered in any given case the fingers may be extended over the button *i*, so as to depress the piston. By this means the whole contents of the can may be caused, if necessary, to rapidly flow out through the tube.

The cover is preferably made detachable from the body of the can, so the latter may be opened should it become necessary to at any time examine the inner parts or for cleaning the can out, renewing the packing-rings, or other purposes. Ordinarily the cover is not designed to be removed from the body of the can.

What I claim as my invention is—

1. An oil-can comprising a receptacle, a delivery-tube communicating with its interior, and a plurality of fluid-ejecting devices independently movable respectively in the direction of delivery whereby the receptacle may be completely delivered of its contents, substantially as specified.

2. An oil-can comprising a receptacle, a plurality of fluid-ejecting devices and a delivery-tube connected to one of said devices and opening within the receptacle the complete delivery of the contents of the receptacle being effected by the actuation of said devices, substantially as specified.

3. An oil-can comprising a receptacle, a pair of movable diaphragms normally urged in opposite directions and defining an intermediate fluid-chamber and a delivery-tube operatively connected with one of said diaphragms and opening into the chamber the complete delivery of the contents of the receptacle being effected by the actuation of said diaphragms, substantially as specified.

4. An oil-can comprising a receptacle, a stationary flexible diaphragm, and a bodily-movable diaphragm within the receptacle, each of

the diaphragms being capable of independent operation, and a delivery-tube operatively connected with one of the said diaphragms the complete delivery of the contents of the receptacle being effected by the actuation of said diaphragms, substantially as specified.

5. An oil-can comprising a receptacle having a flexible bottom, a piston within the receptacle, a delivery-tube piercing the piston the complete delivery of the contents of the receptacle being effected by the actuation of the bottom and piston, and a spring intermediate of the bottom and piston, substantially as specified.

6. An oil-can comprising a receptacle, having a flexible bottom, a piston within the receptacle, a delivery-tube piercing the piston, and a spring intermediate of the piston and bottom and contacting with the latter only at points immediately adjacent to the walls of the receptacle whereby the flexion of the bottom is unopposed by the spring the complete delivery of the contents of the receptacle being effected by the actuation of the flexible bottom and piston, substantially as specified.

7. An oil-can comprising a receptacle, a piston composed of superimposed dome-shaped plates having peripheral flanges and intermediate packing, a tube piercing the piston and a nut upon the tube below the piston, substantially as specified.

8. An oil-can comprising a receptacle, a piston composed of superimposed dome-shaped plates, and intermediate packing, a delivery-tube having a reduced end piercing the plates, a nut upon the tube below the piston, and a tapering spiral spring having its smaller end extended into the dome of the piston, substantially as specified.

In witness whereof I have hereunto set my hand, this 18th day of October, 1898, in the presence of two subscribing witnesses.

ROBERT PATTERSON.

Witnesses:

ENOS B. WHITMORE,

M. L. WINSTON.