Oct. 6, 1925. 1,556,513

A. E. FEE

OIL CAN

Filed July 5, 1924

Fig. 2.

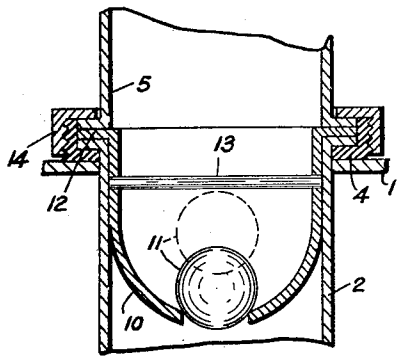


Fig. 1.

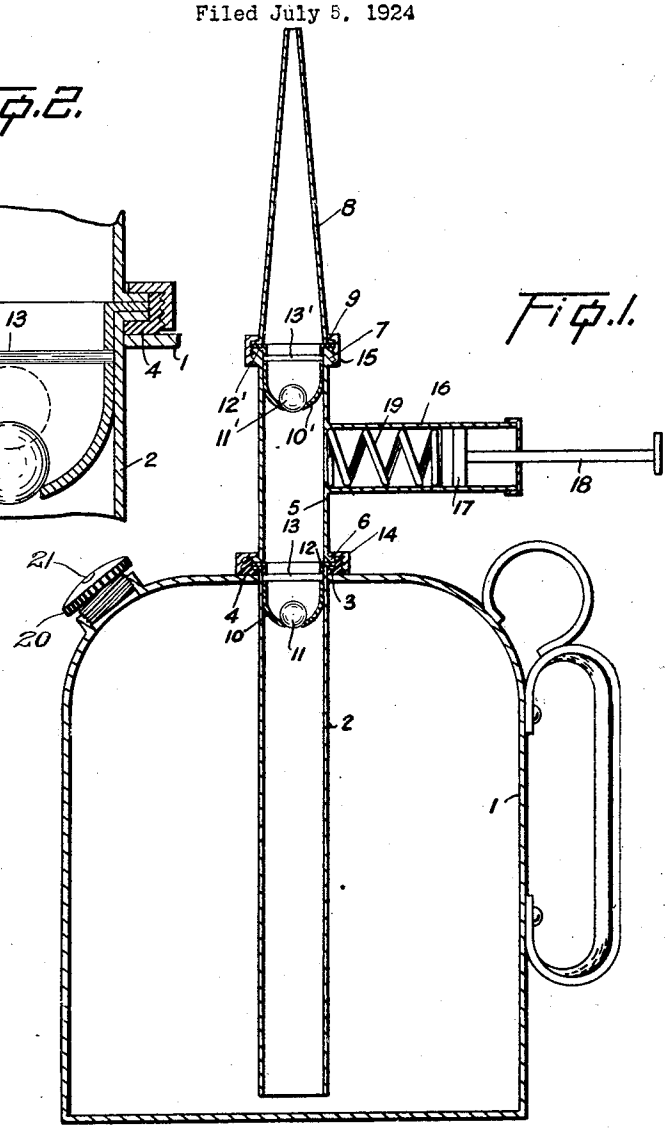
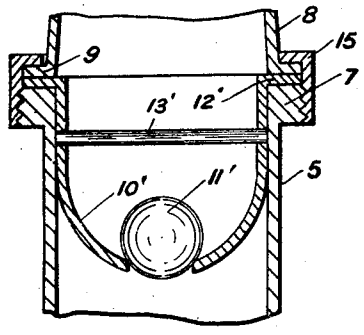


Fig. 3.



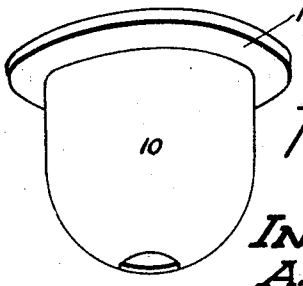


Fig. 4.

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UNITED STATES PATENT OFFICE.

ALBERT EDWARD FEE, OF KILLAM, ALBERTA, CANADA.

OIL CAN.

Application filed July 5, 1924. Serial No. 724,377.

To all whom it may concern:

Be it known that I, ALBERT EDWARD FEE, a subject of the King of Great Britain, and a resident of the town of Killam, in the Province of Alberta, Canada, have invented certain new and useful Improvements in Oil Cans, of which the following is the specification.

My invention relates to improvements in oil cans and the object of the invention is to devise a can of the force feed type in which there will be as little obstruction to the feed tube as possible.

A further object is to devise a can in which the valves in the feed tube are unencumbered with springs.

A still further object is to devise a can in which the feed tube can be readily taken apart in order to clean it out.

Another object is to devise a can in which the valve seats for the valves in the feed tube are so designed that the valves will be self-seating and in which there will be no liability of foreign matter lodging on the valve seats, and yet another object is to devise a can which will be capable of handling a heavy grade of oil.

My invention consists of an oil can constructed and arranged all as hereinafter more particularly described and illustrated in the accompanying drawing in which:

Fig. 1 represents a vertical section of my can.

Fig. 2 is an enlarged vertical sectional detail through the lower valve in the feed tube.

Fig. 3 is a similar sectional view through the upper valve, and

Fig. 4 is an enlarged perspective detail of my particular design of valve seat.

Like characters of reference indicate corresponding parts in the different views.

1 is the body of the can. 2 is the lower portion of the oil feed tube adapted to extend down freely through the top of the can so that its lower edge is in the vicinity of the bottom thereof, said portion 2 having an outwardly flanged upper end 3 which rests on an externally threaded ring 4 of L-shaped cross section permanently secured to the top of the can about the opening through which the feed pipe extends. 5 is the upper portion of the feed tube provided with an outwardly flanged lower end 6 and an externally threaded upper end 7.

8 is the discharge spout having an outwardly flanged lower end 9. 10 is my lower valve seat which consists of a cup-shaped body portion adapted to receive the ball 11 and provided with an outwardly extending flange 12 and a transversely extending pin 13 for limiting the upward movement of the ball 11. The upper valve is of identical construction to the lower valve consisting of a cup-shaped valve seat 10′, ball 11′ and provided with a flange 12′, a pin 13′ being also situated in the body portion of the valve seat for limiting the upward movement of the ball. 14 is an internally threaded union collar adapted to be screwed onto the ring 4 and 15 is a similar collar adapted to be screwed onto the threaded upper end 7 of the upper portion 5 of the feed tube.

16 is a laterally extending plunger tube closed at its outer end and its inner end communicating with the tube 5 intermediately of its length. 17 is a plunger reciprocable in the tube 16 and adapted to be actuated by the plunger rod 18. 19 is a spring interposed between the inner face of the plunger 17 and the inner end of the tube 16.

In assembling my device the lower portion of the feed tube 2 is inserted into the body 1 of the can so that its flange 3 rests on the collar 4. The lower valve seat 10 is now inserted into the upper end of the feed tube portion 2 so that its flange 12 rests on the flange 3. The upper portion 5 of the feed tube with the collar 14 thereon is now applied to the lower portion 2 by resting the flanged lower end 6 on the flange 12 of the lower valve seat and screwing down the union collar 14 onto the ring 4 which is soldered or otherwise secured to the top of the can. Thus a tight joint is made between the upper and lower portions of the feed tube. The upper valve seat 10 is now inserted into the upper end of the portion 5 of the feed tube and the flanged lower end 9 of the spout 8 applied thereto, the union collar 15 being screwed down over the flange 9 onto the threaded upper end 7 of such portion 5, a tight joint being thus made between the spout and this portion of the feed tube.

Air is introduced into the can body 1 by having a small hole 21 in the filler cap 20.

My device is actuated as follows:

On the outward stroke of the plunger 17 a charge of oil is drawn up through the portion 2 of the feed tube, through the lower valve seat 10 into the upper portion 5 of the feed tube due to the suction created by the

plunger moving, the lower ball valve 11 being raised off its seat and the suction seating the upper valve 11 on its seat.

On the subsequent inward stroke of the plunger 17 the downward pressure of the oil in the feed tube portion 5 seats the lower valve 11 on its seat 10 and thus the oil in such portion is forced up through the upper valve seat 10, raising the valve 11 off its seat and finally being discharged through the spout 8.

On releasing the rod 18 the spring 19 moves the plunger 17 outwardly and thus a fresh charge of oil is introduced into the portion 5 of the feed tube automatically and which can be discharged as desired by the inward movement of the plunger.

In order to clean the feed tube and valves it is only necessary to unscrew the collars 14 and 15 when the portions of the feed tube can be disconnected and the valve seats removed.

My particular form of valve assembly obviates the use of valve springs and provides a self-seating valve which will not be liable to clog and thus a free flow of oil is permitted through the feed tube. The particular assembly facilitates easy cleaning and repair. In addition the valves are interchangeable.

If desired the threaded upper end of the feed tube portion 5 can be made of the same diameter as the external diameter of the ring 4 and thus by removing the portion 5 of the feed tube the spout 8 can be applied directly to the lower portion 2, thus transforming the can into the drip type instead of the pressure type.

What I claim as my invention is:

1. In an oil can, the combination with the can body, of an oil feed tube comprising separable upper and lower feed portions, the lower portion extending down into the can body, a depending cup shaped valve seat having an outwardly extending flange, a ball valve in the valve seat, means for removably securing the flange between the two portions, a separable spout portion, a depending cup shaped valve seat having an outwardly extending flange, a ball valve in the valve seat, means for removably securing the flange between the spout portion and the upper feed tube portion, a plunger tube communicating with the upper feed tube portion and a plunger reciprocable in the plunger tube.

2. In an oil can, the combination with a can body, of an oil feed tube comprising separable upper and lower feed portions, the lower portion extending down into the can body and its upper end having an outwardly extending flange, an externally threaded ring secured to the top of the can supporting the lower feed tube portion having a rebated internal surface, said flange on the lower feed tube portion resting on said rebated surface, a depending cup shaped valve seat having an outwardly extending flange resting on the flange of the lower feed tube portion, and the valve seat depending thereinto, a ball valve in the valve seat, the upper feed tube portion having an outwardly flanged lower end resting on the flange of the valve seat, an internally threaded union collar extending down over the flange on the lower end of the upper feed tube portion and screwed onto the externally threaded ring secured to the can body, the upper end of said upper feed tube portion being externally threaded, a second depending cup shaped valve seat inserted into the top of the upper feed tube portion and having an outwardly extending flange resting on the top of the same, a ball valve in the valve seat, a spout portion having an outwardly flanged lower end resting on the flange of the second valve seat portion, an internally threaded union collar extending down over the flange on the spout portion and screwed down onto the externally threaded upper end of the upper feed tube portion, a plunger tube communicating with the upper feed tube portion, and a plunger reciprocable in the plunger tube.

ALBERT EDWARD FEE.