

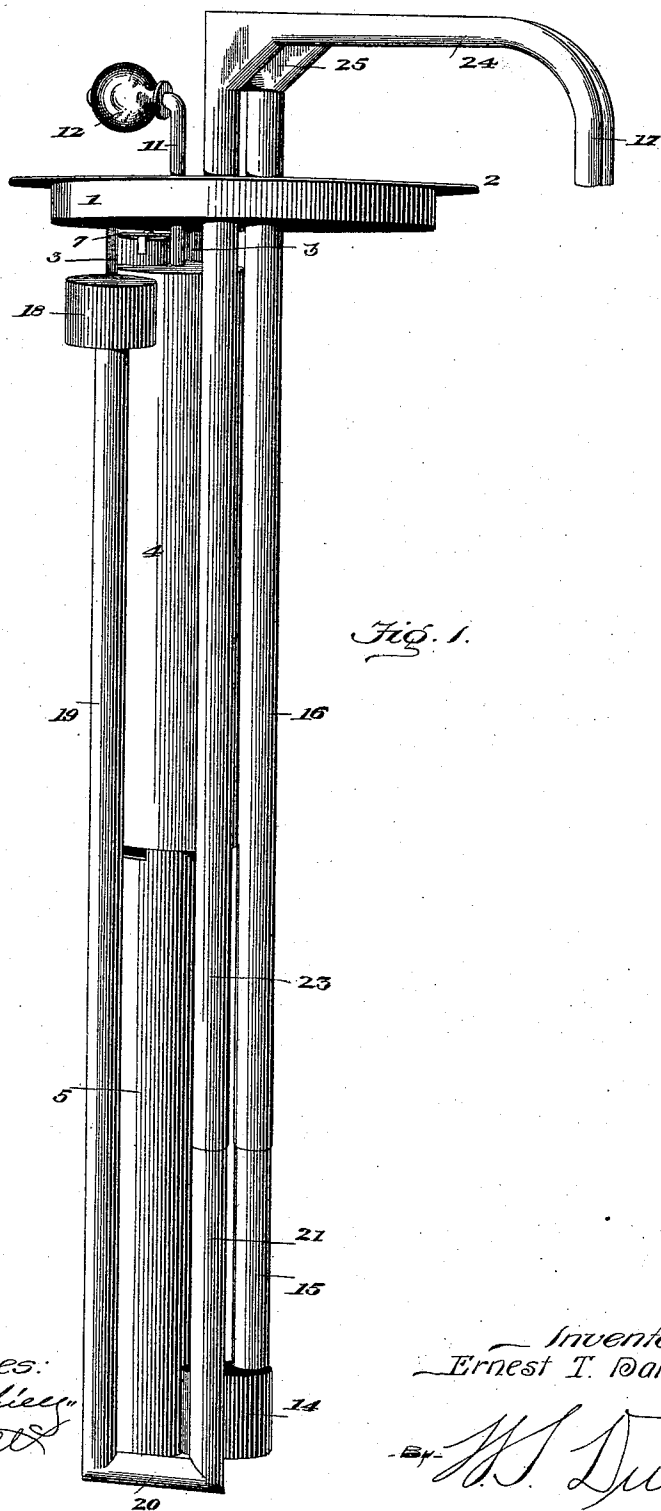
(No Model.)

2 Sheets—Sheet 1.

E. T. DARLING.
LAMP FILLER.

No. 572,502.

Patented Dec. 1, 1896.



Witnesses:
Wm. Cashiey
C. H. Duwall

Inventor:
Ernest T. Darling.

-By- W. S. Duwall
-Att'y.

(No Model.)

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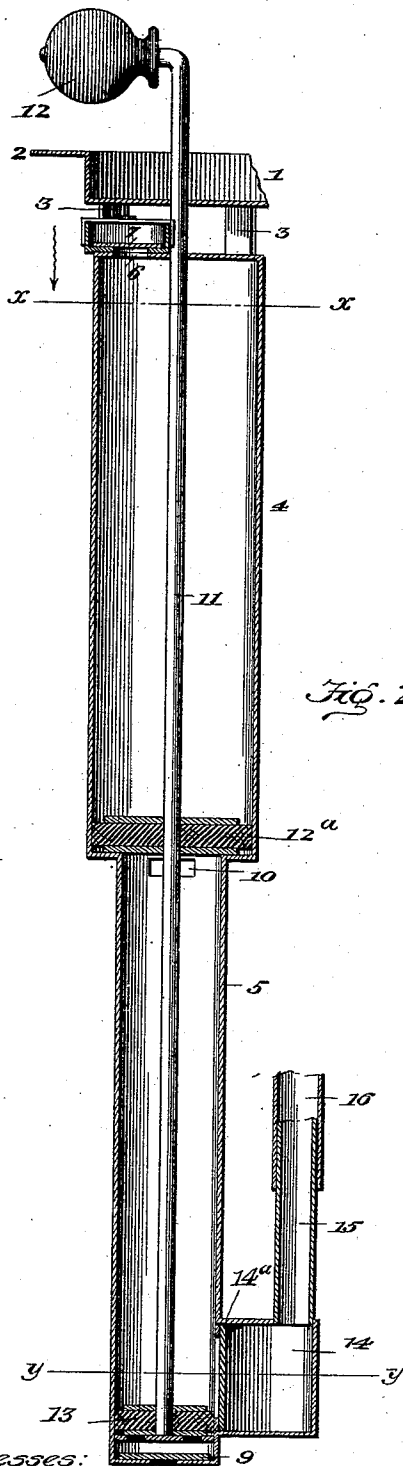


Fig. 2.

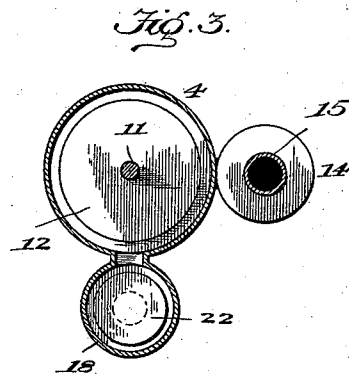
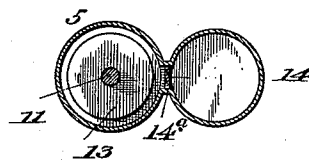


Fig. 4.



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UNITED STATES PATENT OFFICE.

ERNEST T. DARLING, OF COLFAX, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO
FRANK HANKS AND OTIS E. CROUCH, OF SAME PLACE.

LAMP-FILLER.

SPECIFICATION forming part of Letters Patent No. 572,502, dated December 1, 1896.

Application filed June 1, 1896. Serial No. 593,901. (No model.)

To all whom it may concern:

Be it known that I, ERNEST T. DARLING, a citizen of the United States, residing at Colfax, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Lamp-Fillers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in lamp-fillers; and the objects of my invention are to produce a cheap and simple construction of filler in the form of an attachment designed to be removably applied to an oil tank, can, or barrel, and to conduct oil therefrom to a lamp fount or reservoir into which the discharge-tube of the filler attachment is inserted, and to so construct the filler attachment as to adapt the same to discharge into the lamp fount or reservoir only so much oil as the same is capable of receiving, and in no event cause a running over and spilling or wasting of the oil.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of a lamp-filler attachment constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view through the pump-cylinders and a portion of the discharge-tube. Fig. 3 is a transverse sectional view on the line *xx* of Fig. 2. Fig. 4 is a horizontal sectional view on the line *yy* of Fig. 2.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates a shallow tray or drip-pan, the same being countersunk and provided with a peripheral horizontal flange 2, designed to rest upon the upper end of the oil can, barrel, or tank to which the filler is applied. Suspended from the pan by means of metal straps 3 are an upper and a lower pump-cylinder, designated as 4 and 5, respectively. The upper pump-cylinder 4 is of greater capacity and diameter than the pump-cylinder 5, and the two cylinders communicate at their ad-

jacent ends. The upper end of the cylinder 4 is provided with an opening 6, above which is inclosed an upwardly-opening valve 7. The lower end of the lower cylinder 5 is provided with an inlet-opening 8, above which is confined an upwardly-opening valve 9. The upper end of the cylinder 5 is further provided with one or more vents 10.

Passing through a perforation formed in the pan 1 at one side of its center and through a corresponding opening formed in the upper end of the cylinder 4 is a plunger-rod 11, the same having its upper end deflected and provided with a handle 12, by means of which the said rod may be manually operated. The rod extends through the larger cylinder 4 to a point near the bottom of the smaller cylinder 5 and is provided within said cylinders with piston-heads 12^a and 13, the same being preferably formed of sole-leather disks clamped between upper and lower plates which are rigidly secured by solder or otherwise to the plunger-rod 11.

Connected to the lower end of the cylinder 5, by means of a chamber 14 that extends horizontally from said cylinder, is the lower end of a discharge-tube 15, the same extending up parallel to the cylinders a suitable distance and having telescoped thereupon a tube 16, which latter projects through an opening in the bottom of the pan 1 above the same and terminates in a laterally and downwardly disposed discharge-spout 17, that extends beyond the edge of the pan and may be raised and lowered a suitable distance therefrom, as will be obvious. An outwardly-opening valve 14^a may be, and preferably is, located at the opening between the cylinder 5 and the chamber 14.

Communicating with the upper end of the upper cylinder 4 is a chamber 18, that extends laterally therefrom, and with the bottom of this chamber there is connected a communicating tube 19, that depends to the bottom of the cylinder 5, is laterally disposed, as at 20, thence upwardly disposed, as at 21, extending parallel to a discharge-tube 15 and terminating at a corresponding point. Within the chamber 18 is arranged an upwardly-opening valve 22, and telescoped on the branch 21

of said tube is a tube 23, which passes up loosely through and to a point above the pan 1 and terminates in a laterally and downwardly disposed branch 24, that corresponds to the discharge-spout 17.

In operation, the filler attachment being in position as hereinbefore indicated, the telescopic tubes 15 and 24 are adjusted to a suitable height. This adjustment is uniform in regard to the tubes, in that said tubes are brought together at their outer extremities and soldered, and, furthermore, are connected by means of an intermediate yoke 25. The oil-fount of a lamp is brought under the outer ends of the tubes and either the tubes lowered by telescoping or the fount raised until said tubes are inserted in the filler-opening of the fount. The handle of the plunger is then grasped and the plunger reciprocated. By the upstroke of the plunger oil is drawn through the opening 8 and into the cylinder 5, the valve 9 rising to permit of the passage of the oil. Upon the downstroke of the plunger the oil, finding no other means of escape, is forced into the chamber 14 and up through the tubes 15 and 16 and out through the discharge-spout 17. When the oil in the lamp-fount has reached the discharge-spout 17, it can rise no higher by reason of the fact that it would be drawn or sucked up by the tube 24, through which it would pass into the tubes 21 and 19, and thence through the valve 22 into the chamber 18, from which it will be emptied into the upper cylinder 4 at a point above the piston 12^a of the latter. This is caused by reason of the fact that at each downstroke of the plunger, by which oil is forced from the cylinder 5 through the tubes 15 and 16, the piston 12^a forms a vacuum above it in the cylinder 4 and in the tubes leading therefrom, and as a consequence all oil above the level of the discharge-spout 17 is drawn into the tube 24 and discharged into the cylinder 4. On the next upstroke the oil is forced by the piston 12 upwardly through the valve 6 back into the can from whence it came. The diameter of the cylinder 4 being greater than that of the cylinder 5 it will be obvious that the oil can never pass above a given point, as all oil above that point will be drawn or sucked out and returned to the tank or barrel as fast as discharged in the fount of the lamp. In fact, by increasing the diameter of the upper or suction cylinder the capacity of the same is increased, and this renders it impossible for any overflow to occur in the fount of the lamp.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided a very cheaply-constructed convenient oil-filler attachment for cans and other oil-receptacles, the same being perfectly adapted for conveniently filling oil-founts of lamps, measures, &c., and which, although operated in the dark, will emit just sufficient quantity to fill the same and no more, all surplus being carried back

to the original receptacle in the manner hereinbefore described.

I do not limit my invention to the exact details of construction herein shown and described, but hold that I may vary the same to any degree within the scope of my invention without sacrificing the advantages or departing from the spirit thereof.

Having described my invention, what I claim is—

1. In a device of the class described, the combination with a drip-pan, the vertically-aligning cylinders supported thereby, a valved outlet in the upper cylinder and a valved inlet in the lower end of the lower cylinder, a plunger-rod arranged in the two cylinders and pistons carried by the rod and fitting the cylinders between the valves, of a valved discharge-tube leading from the lower cylinder and having a loose telescopic section passing through the pan loosely and terminating above and at one side of the same in a discharge, and a valved suction-tube comprising telescopic sections passing loosely through the pan and connected to the discharge-tube so as to move therewith and at its other end connected to the upper end of the upper cylinder, substantially as specified.

2. In a device of the class described, the combination with the flanged pan 1, the aligning cylinders 4 and 5 supported thereby, the outlet-valve in the upper end of the former cylinder, the inlet-valve in the lower end of the latter cylinder, the valved chamber 14 leading from the lower end of the cylinder 5 and having the telescopic discharge-tubes 15 and 16, the latter passing through the pan and adjustable therein and terminating in the spout 17, of the plunger 11 having the handle 12 above the pan and within the cylinders having the heads 12 and 13, the chamber 18 having a valve 22 leading from the upper end of the cylinder 4, the suction-tube 19 leading from the chamber and having the lateral branch 20 and vertical branch 21, the telescoping section 23 arranged thereon and terminating in the suction end 24 connected to and terminating coincident with the spout 17, substantially as specified.

3. In a device of the class described, the combination with a support, the vertically-aligning cylinders arranged thereunder, the upper cylinder being of greater diameter than the lower cylinder and communicating with the latter, an overflow-opening located in the upper cylinder and an induction-opening located in the bottom of the lower cylinder, a piston common to both cylinders, piston-heads arranged on the piston and fitting said cylinders, and an inwardly-opening valve located over the induction-opening in the bottom of the lower cylinder, of a discharge-tube leading from the lower cylinder above the valved induction-opening thereof and terminating in a spout above the cylinders, an outwardly-opening valve located at the juncture of the discharge-tube and lower cylinder, an

overflow-tube terminating in a spout and arranged in close relation with the spout of the discharge-tube and extending through the support and connected at its upper end to the
5 upper end of the cylinder, and an upwardly-opening valve arranged at said point of connection, substantially as specified.

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

ERNEST T. DARLING.

Witnesses:

M. H. TROUTMAN,
JAMES M. PRATT.