

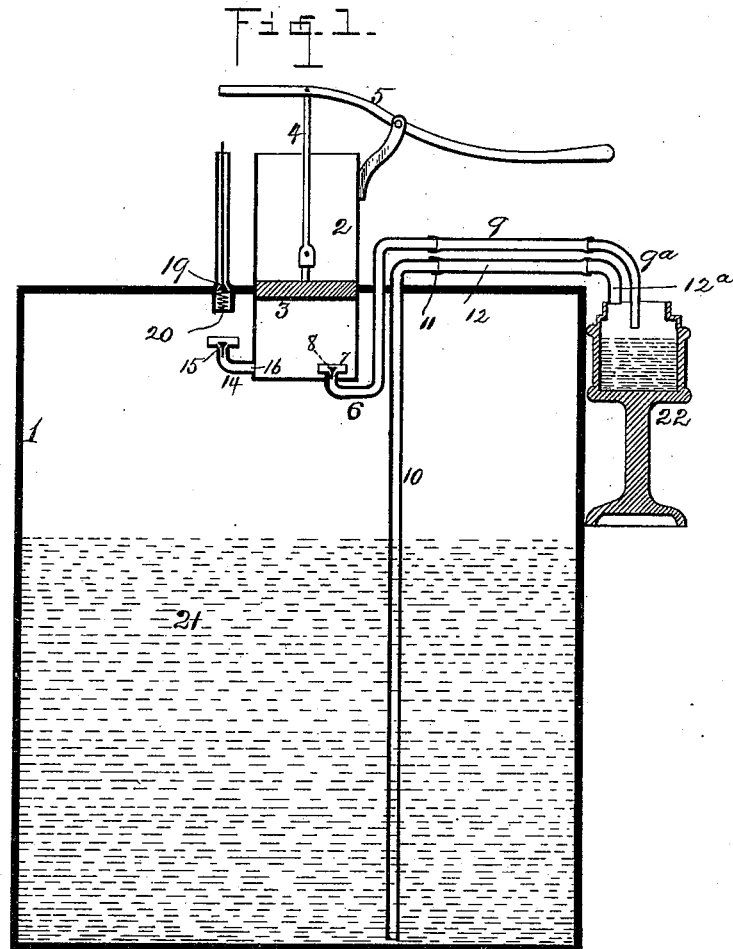
(No Model.)

3 Sheets—Sheet 1.

E. W. LUCE.
OIL CAN AND FILLER.

No. 420,812.

Patented Feb. 4, 1890.



Witnesses

Will E. Aughinbaugh
Shipley Brashears Jr.

By his

Attorney

Inventor

E. W. Luce

S. Brashears

(No Model.)

3 Sheets—Sheet 2.

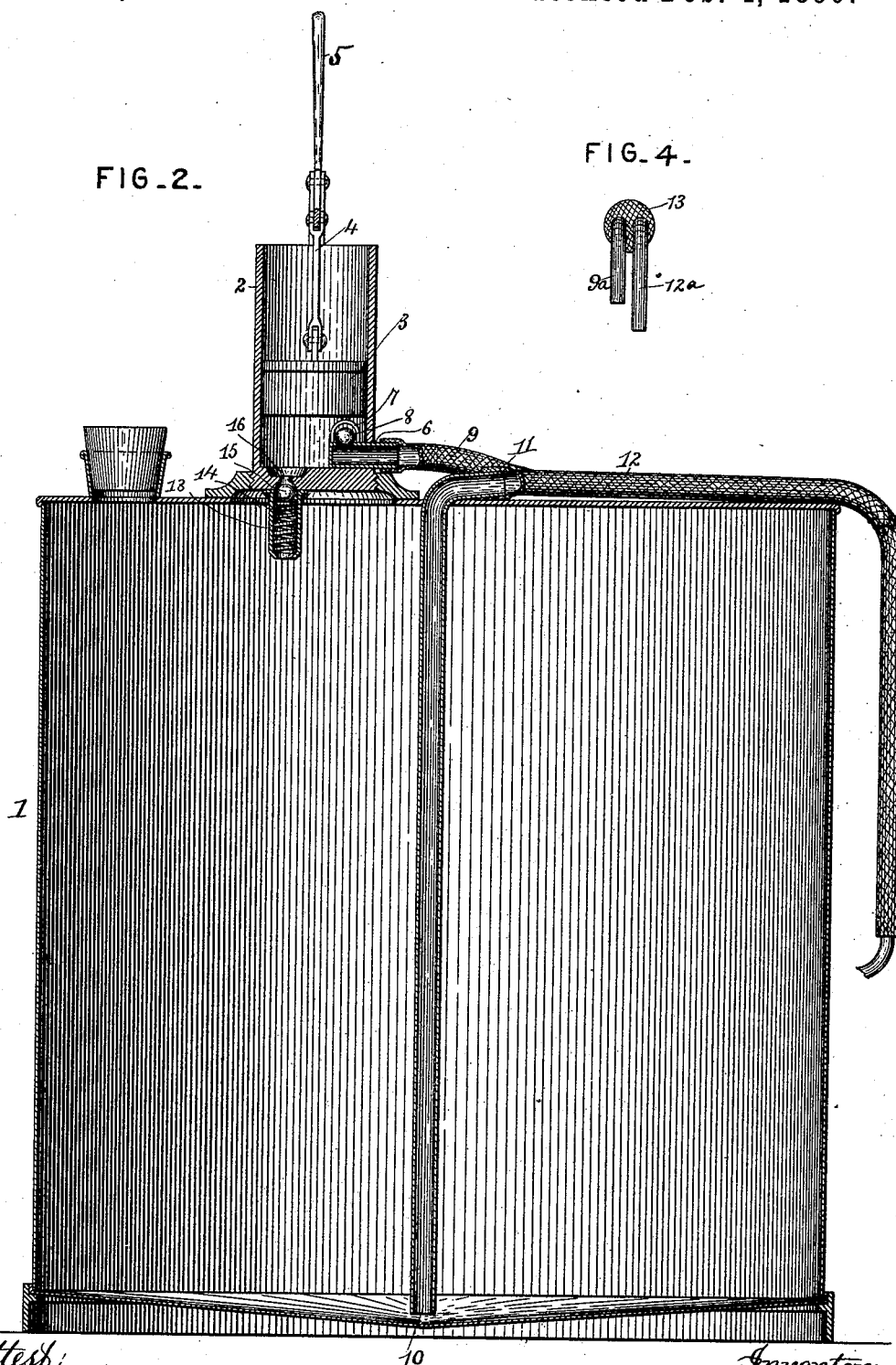
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FIG. 2.

FIG. 4.



Attest:
Geo. T. Linnard
John S. Kitzey.

Inventor:
Edwin W. Luce
by Charles C. Buckley

(No Model.)

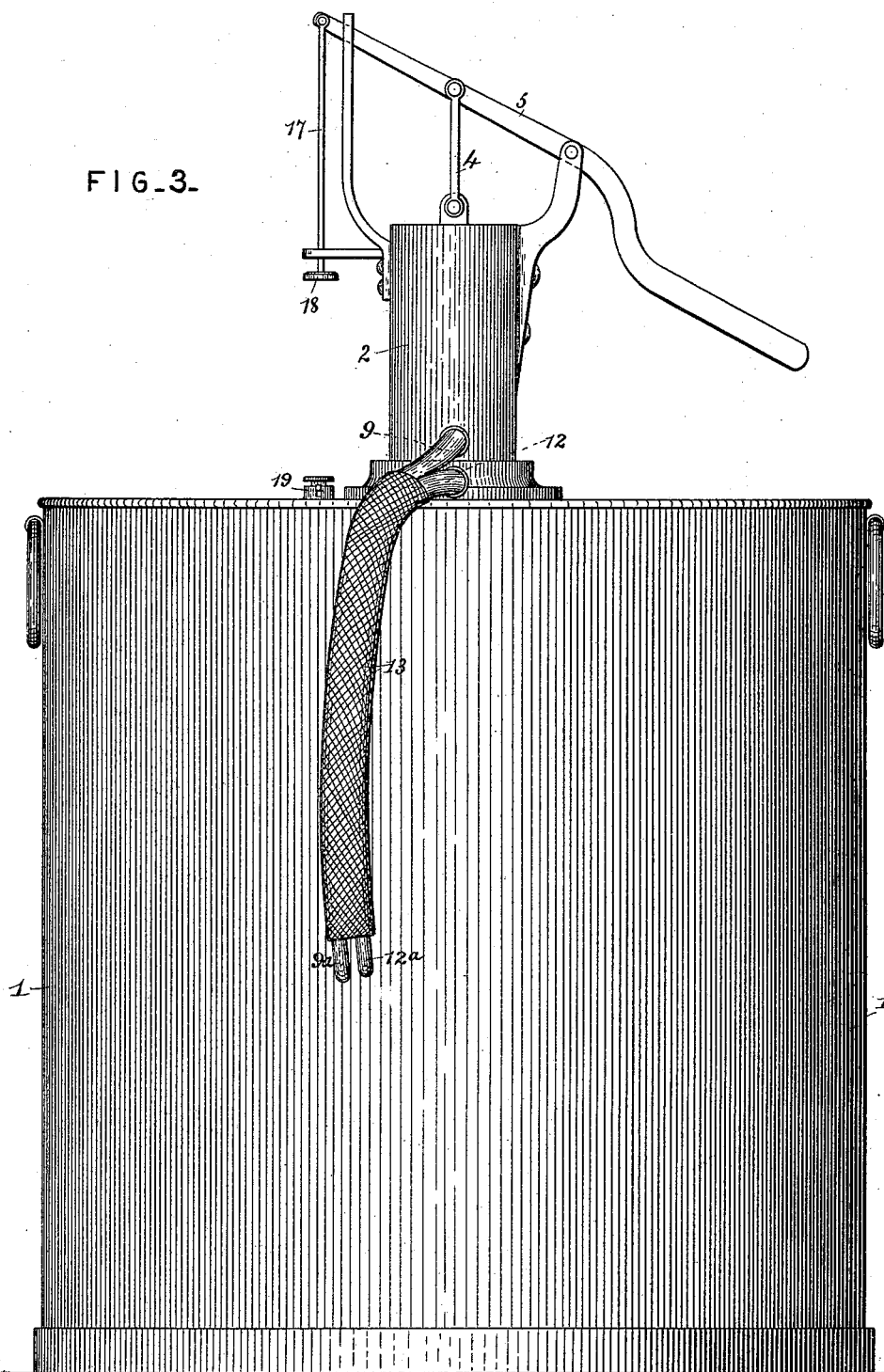
3 Sheets—Sheet 3.

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OIL CAN AND FILLER.

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Patented Feb. 4, 1890.

FIG. 3.



Attest:
Geo. T. Smallwood
John H. Kinsley

Inventor:
Edmund H. Luce
by Charles C. Buckley
attys

UNITED STATES PATENT OFFICE.

EDWIN W. LUCE, OF BRADFORD, PENNSYLVANIA.

OIL CAN AND FILLER.

SPECIFICATION forming part of Letters Patent No. 420,812, dated February 4, 1890.

Application filed September 11, 1889. Serial No. 323,588. (No model.)

To all whom it may concern:

Be it known that I, EDWIN W. LUCE, a citizen of the United States of America, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Oil Cans and Fillers, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to mechanism for transferring liquid from one receptacle to another; and it consists of an oil can and filler of an improved construction, whereby the oil cannot be made to overflow from the lamp or other receiver, no matter how long the operation of transferring is continued.

I will first fully describe the construction and operation of my invention, and afterward specifically set forth its points of novelty in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view through an oil-can embodying my improvements, showing also in section a vessel—such as a lamp—into which the oil is being transferred, the lamp being somewhat smaller and the pump-cylinder somewhat larger than they would be if drawn to a correct scale. Fig. 2 is a similar view, in which the position and construction of some of the parts are slightly varied from those in Fig. 1. Fig. 3 is a view in side elevation of the devices as shown in Fig. 2. Fig. 4 is a detail view showing the discharge end of the conduits or pipes shown in Fig. 2.

Like numerals of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by numerals, 1 is the oil can, barrel, or other reservoir or tank from which the liquid is to be discharged. In the top of this is secured a pump-cylinder 2, provided with a solid piston-head 3, which is connected by a piston-rod 4 to an actuating lever or handle 5.

6 is a pipe leading from the cylinder 2 and having secured thereto a cage 7, containing a valve 8, which may be a ball-valve, as shown in Fig. 2, or a pin-valve, as in Fig. 1, or of any well-known pattern, the sole requisite being that it be an inward-opening valve. To this pipe is connected a tube, hose, or conduit 9, as shown. Another pipe 10 extends

from near the bottom of the can or reservoir 1 through the top, and at 11 has attached to it a tube, hose, or other conduit 12. The conduits 9 and 12 are preferably made flexible, may be of any desired length, and may, if desired, be inclosed by a jacket 13. When the conduits are made of flexible material, each of them will be provided with a metallic nozzle or mouth-piece, (marked, respectively, 9^a and 12^a,) which are bent, as shown, to substantially a right angle. These nozzles at their bends rest on the top of the lamp or receiver 22, while their forward ends pass into the same.

At or near the cylinder 2 is a port 16, at which is secured a sleeve or short pipe 14, in which is placed a valve 15, which opens outwardly with relation to the pump, which valve may be of any desired kind—such, for instance, as the spring-closed ball-valve shown in Fig. 2, or the pin-valve shown in Fig. 1—held normally closed by gravity.

At the inner end of the pump-lever I attach a rod 17, (see Fig. 2,) having head 18, which, when the handle is raised to the extreme end of its upper stroke, presses down upon a relief-valve 19, which is held normally closed by a spring 20, thus, when desired, relieving the pressure of the air in the can above the oil 21. In the construction shown in Fig. 1 I extend the stem of the relief-valve sufficiently high to have the inner end of the pump-lever operate it without the intervention of the rod 17.

I place the pump-cylinder at any desired height with relation to the top of the can, as will be seen by reference to Figs. 1 and 2.

In the cans which I have already constructed I make the nozzle 9^a slightly longer than nozzle 12^a; but this is not at all necessary, as they may be of the same length, or 9^a may be shorter, if desired, without affecting the operation of my invention, the height to which the lamp or the vessel is filled being approximately determined by the distance which the tube 9^a projects into the vessel.

I have embodied my invention in an oil can and filler; but I desire here to state that there may be many uses to which it can be put—as, for instance, to the filling of cans from barrels or tanks, or for filling bottles, and, in fact, for any instance where it is de-

sired to transfer liquids from a tank or reservoir to a receiver, where it is desirable to prevent overflow or waste.

The operation of my invention is as follows: Oil being contained in can 1, and it being desired to fill the lamp or other receiver 22, the nozzles 9^a and 12^a are placed in the mouth of the lamp 22, the bends thereof resting upon the edge of the opening. Presuming the piston-head 3 to be at the upper end of its stroke, it is now forced downward in the cylinder, causing the contents of the cylinder below the piston-head to be expelled therefrom through valve 15 into the can, the valve 8 being normally closed and preventing exit through it. This will compress the air in the can above the oil 21, and the oil, seeking an exit, will pass through pipe 10, tube 12, and nozzle 12^a into the lamp 22. Upon the upward stroke of the piston the valve 15 closes and the valve 8 opens, thus drawing into the cylinder a supply of air through nozzle 9^a, tube 9, and sleeve 6. The next downstroke of the piston forces this air out of the cylinder into the can through valve 15 and forces more oil through pipe 10 into the lamp. These operations are repeated with the same result until the oil in the lamp has reached the mouth of nozzle 9^a, after which the upstroke of the piston will take oil from the lamp through nozzle 9^a, tube 9, and pipe 6, instead of air, as before, and the capacity of each upstroke being the same as the downstroke the operation of pumping may be indefinitely continued without causing the lamp to be filled any higher than a single downstroke will fill it, the sole result of such continued operation being that the oil forced out of the can by the downstrokes of the piston will be carried back from the lamp by the upstrokes, and so long as the mouth of nozzle 9^a is kept in the lamp, so as to have the capacity of the lamp above the mouth of the tube greater than the capacity of a single downstroke of the pump, it will be impossible to cause it to overflow.

The advantage of my invention is obvious. With it a lamp may be filled as well in the dark as in daylight, no sight of the lamp be-

ing necessary, and lamps having bodies made of metal or other opaque material may be filled with as great facility as those of glass, thus removing one great objection to the use of such opaque lamps.

The pump and filler need not necessarily be permanently secured to the vessel from which the liquid is to be discharged, but may be arranged for temporary attachment thereto or removal therefrom, as desired.

A different form of pump or air-compressor may be used without departing from the spirit of my invention so long as it compresses or forces air into the can to force the oil out and draws its supply of air out of the vessel to be filled.

When the pressure in the can is no longer desirable or necessary, it can be relieved by opening the relief-valve in the manner heretofore described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is as follows:

1. In combination, a can or reservoir for containing liquid, a pump for discharging liquid therefrom, a discharge-pipe leading to the receiving-vessel, and an air-pipe leading back to the reservoir constructed to permit the introduction of its nozzle into the receiving-vessel while in use, as set forth.

2. A can or reservoir, in combination with a pump for forcing air into it, a discharge-pipe leading from the can to the receiver, and a pipe through which the pump draws its supply of air constructed to permit the introduction of its nozzle into the receiver while in operation, as set forth.

3. In combination, the can or reservoir, the normally-closed relief-valve, the pump-cylinder, the piston, the piston-rod, and the lever-handle having its inner end directly over the relief-valve, as and for the purposes set forth.

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

EDWIN W. LUCE.

Witnesses:

RANDOLPH BATES,
JOHN D. KINNEY.