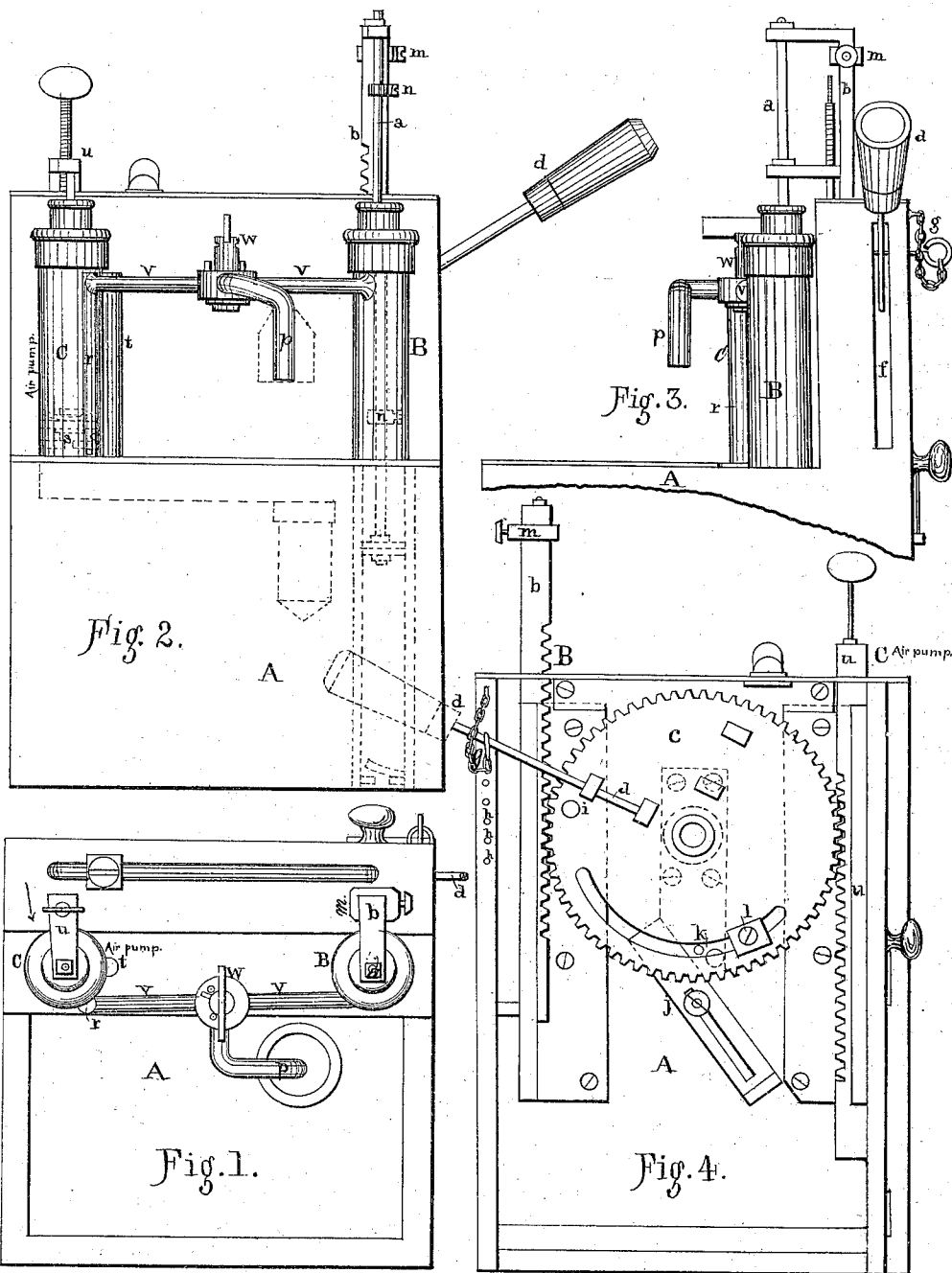


E. F. WILDER.

Apparatus for Filling Oil Cans.

No. 135,680.

Patented Feb. 11, 1873.



Witnesses

J. S. Brown, Inventor
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UNITED STATES PATENT OFFICE.

ELI F. WILDER, OF LOWELL, MASSACHUSETTS.

IMPROVEMENT IN APPARATUS FOR FILLING OIL-CANS.

Specification forming part of Letters Patent No. 135,680, dated February 11, 1873.

To all whom it may concern:

Be it known that I, ELI F. WILDER, of Lowell, in the county of Middlesex and State of Massachusetts, have invented an Improved Apparatus for Drawing Liquids and Filling Small Vessels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being a plan of the apparatus; Fig. 2, a front elevation thereof; Fig. 3, a side elevation of the same; Fig. 4, a back elevation of the same.

Like letters designate corresponding parts in all of the figures.

The object of my invention is more particularly to draw oil from large cans or tanks into small cans or oilers with facility and without overflowing them; but it is applicable to drawing other liquids in like manner.

Let A represent the tank, can, or reservoir in which the oil is contained and kept, and B a pump for drawing the oil therefrom into the oilers or small cans. In order to fill the oilers with the greatest expedition it is desirable that a single stroke of the pump-piston should accomplish the filling; but to do this properly a uniform quantity should be drawn at each stroke. My apparatus is provided with a gage-stroke, which not only draws a uniform but a definitely-measured quantity of oil, and the measure is changeable and adjustable at pleasure. The mode of effecting the measured gage-stroke of the pump-piston, as shown in the drawing, is as follows: The piston-rod *a* of the pump is secured to or connected with a sliding rack, *b*, into which a stationary pinion, *c*, gears. A vibratory movement is given to the pinion *c* by a lever, *d*, whereby the strokes of the piston are produced. It is evident that by placing limits to the reciprocating movements either of the handle-lever *d*, the pinion *c*, the rack *b*, or the piston-rod *a*, a gaged stroke can be produced. Thus, as represented, the handle-lever *d* moves in a slot, *f*, the extent to which it can move therein being limited in one direction by a pin, *g*, inserted across the slot in any one of a series of gage-holes, *h h*. The pinion *c* is shown as having a pin or projection, *i*, which, in one direction, strikes an adjustable stop, *j*; or a stationary pin, *k*, is struck by a stop, *l*, adjust-

able on the pinion. The rack *b* is represented with an adjustable stop, *m*, to strike a stationary part of the frame; and the piston-rod *a* is shown with adjustable stops *n n* to strike the top of the pump. Any of these stops may be provided with a scale to indicate exact measurements. The same principle applies if other means are employed to communicate the movements to the pump-piston. Thus, if a vibratory lever is connected directly with the piston-rod the adjustable stop may be applied either to the lever, to the piston-rod, or to both. There is, however, a difficulty in the practical use of a gage-filling stroke arising from the fact that the oilers are frequently brought to be refilled before they are entirely emptied, so that when a quantity of oil sufficient to fill an empty oiler is pumped therein they overflow and waste oil, as well as become besmeared therewith. To obviate this difficulty I connect with the filling-pump another pump for completely emptying the oilers before refilling them. Such a pump I have represented at C in the drawing. This pump is secured upon the tank A, and is constructed so that it will return to the tank the oil pumped from the oilers. This pump is provided with a projecting nozzle or tube, *p*, to reach down into the cans or oilers; and a pipe or passage, *r*, is represented as extending therefrom down into the chamber below the stationary valve *s*, Fig. 2, of the pump, so that the upward stroke of the pump-piston draws the oil from the oilers. The oil thus drawn into the pump is raised to near the top of the pump-barrel, and flows therefrom through a pipe or passage, *t*, into the tank. In the drawing the piston-rod of this pump is shown connected with a reciprocating rack, *u*, which gears into the same pinion *c* that operates the filling-pump, the movements of one pump thus alternating with those of the other; or, if other means of operating the two pumps together are employed—as by a simple vibratory lever—their pumping-strokes may alternate. In using the two pumps together I effect a great convenience in filling the oilers by the use of a single nozzle or spout, *p*, both for emptying and filling the oilers, so that, when once inserted in them, they do not require to be shifted from their position till they are emptied and refilled. I accomplish this, as represented, by connecting the single

nozzle *p* with a pipe, *v*, which communicates with both pumps; and by the use of a stop-cock, *w*, so constructed that by turning it one way communication is opened between the nozzle and the emptying-pump and cut off from the filling-pump; and by turning the cock the other way communication is opened between the nozzle and filling-pump and cut off from the emptying-pump. Thus, then, when the movements of the pumps alternate, the motion of the operating-lever one way empties the oilers and its motion the other way fills them, the stop-cock, in the meantime, being turned.

A single pump might be constructed to both empty and refill the oilers; but more movements would be required, and therefore the operation would be less simple and convenient than the two pumps with one nozzle and alternating in action.

The stop-cock *w*, arranged as shown, is operated separately by hand; but it may be con-

nected with the operating movements of the pumps, so as to be turned automatically thereby.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. An emptying-pump, *C*, in combination with the filling-pump *B*, substantially as and for the purpose herein specified.

2. In combination with the pumps *B C*, the pinion *c* and racks *b u*, or their equivalent, for causing the movements of the two pump-pistons to alternate with each other, substantially as and for the purpose herein specified.

3. The three-way cock *w*, in combination with the pumps *B C* and their single nozzle *p*, substantially as and for the purpose herein specified.

ELI F. WILDER.

Witnesses:

J. S. BROWN,
D. J. BROWN.