(No Model.) 2 Sheets—Sheet 1.

R. O. GRAHAM & F. C. SMITH.

OIL PUMP.

No. 497,653. Patented May 16, 1893.

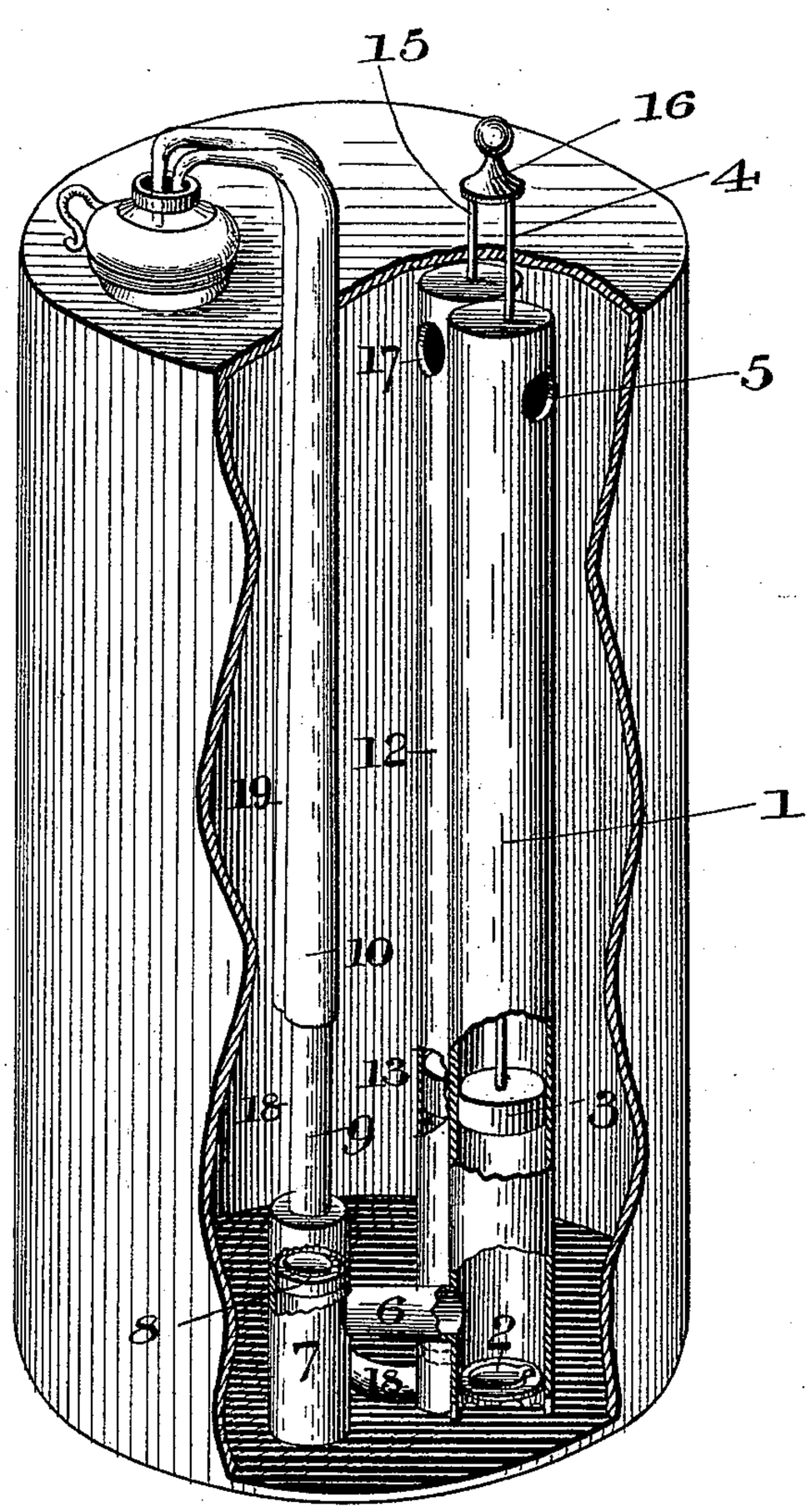

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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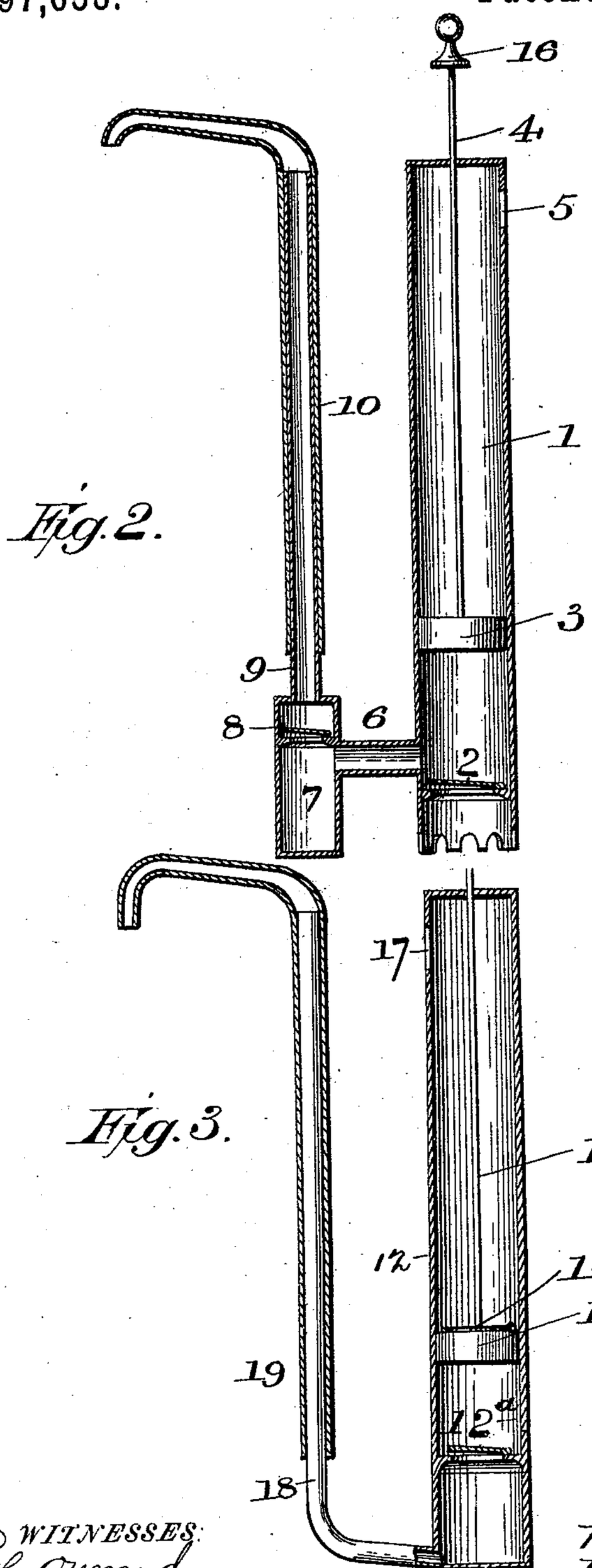

Fig. 2.

Fig. 4.

Fig. 3.

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UNITED STATES PATENT OFFICE.

ROBERT ORLANDO GRAHAM AND FRED CLINTON SMITH, OF BLOOMINGTON, ILLINOIS.

OIL-PUMP.

SPECIFICATION forming part of Letters Patent No. 497,653, dated May 16, 1893.

Application filed December 9, 1892. Serial No. 454,628. (No model.)

To all whom it may concern:

Be it known that we, ROBERT ORLANDO GRAHAM and FRED CLINTON SMITH, both residents of Bloomington, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Oil-Pumps; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention relates to improvements in pumps to be used in connection with the ordinary portable oil cans, for filling or supplying oil to lamps.

The ordinary manner of filling coal oil lamps by bodily lifting the can containing the oil, so that the contents thereof will flow through the nozzle into the lamp, is not only a dirty, disagreeable, and laborious operation, but is also very dangerous, owing to the liability of the lamp to overflow and the oil to be spilled, which frequently results in serious fires, destructive to life and property.

The object of our invention is to provide a pump which can be readily placed within an oil can and removed therefrom when desired, and by which a lamp can be filled in a rapid and efficient manner, without any liability of overflowing the lamp, and without the disadvantages resulting from the ordinary manner of filling lamps.

The invention consists in the novel construction and combination of parts, hereinafter fully described and claimed.

In the accompanying drawings: Figure 1 is a perspective view of an oil can partly broken away, showing a pump constructed in accordance with our invention, located within the same. Fig. 2 is a longitudinal sectional view, taken through the center of what I term the supply barrel and pipes by which the oil is supplied to the lamp. Fig. 3 is a similar view of the return barrel and pipes by which any surplus oil supplied to the lamp is conducted back to the can, thus preventing overflow of the lamp. Fig. 4 is a detail perspective view of a modified form of nozzle for the supply and return pipes.

In the said drawings, the reference numeral 1 designates a vertical barrel or tube, of any suitable size, provided at its lower end with an upwardly opening valve 2, and with a piston or plunger, 3, with which is connected a rod 4, by which the same is operated. Near its upper end, the barrel 1 is provided with an opening 5, through which any oil, which may accumulate above the piston, is forced into the can. At a short distance above the valve 2, is a lateral pipe 6, connected and communicating with a small barrel or tube 7, provided with an upwardly opening valve 8, just above the said pipe 6. Connected with this tube 7, is a vertical pipe 9, over the upper end of which telescopes a pipe 10, adapted to extend up above the top of the can, and has its end curved or formed into a goose-neck so as to be inserted into the filling opening of a lamp. The object of telescoping the pipe 10 upon the pipe 9, is to enable it to be moved vertically, so as to allow it to be adjusted to suit lamps of different heights, which rest upon the top of the can during the operation of filling.

The numeral 12, designates what I term, the return barrel or tube, closed at each end and provided with a piston or plunger 13, having an upwardly opening valve 14. This plunger or piston is provided with an operating rod 15, passing through an opening in the end of the barrel and is connected with rod 4, by means of a yoke 16, so that both rods will move in unison. Near its lower end the barrel 12, is provided with an upwardly opening valve 12^a, which in connection with piston 13 and valve 14, draws back the liquid in the lamp into the can through the pipes 18 and 19. Near its upper end, barrel 12 is formed with an opening 17, for the escape of the oil into the can, and near its lower end is provided with an upwardly extending return pipe 18, over which telescopes a pipe 19, having its upper end curved or formed into a goose-neck which is adapted to be inserted into the filling aperture of the lamp. This pipe is similar to pipe 10, but is slightly larger in diameter, and should extend into the lamp a little farther than said latter pipe.

The barrel 12, while entirely separate and independent of barrel 1, with respect to its

operation, is preferably cast or formed integral therewith for the purpose of economizing in cost, and in the space occupied in the can.

The operation will be readily understood: The pump is inserted in a can through a suitable opening in the top thereof, with the piston rods and the pipes 10 and 19 projecting up above said top. The lamp to be filled is placed upon the top of the can as seen in Fig. 1, and the pipes 10 and 19, vertically adjusted so that the nozzles thereof will extend into the filling aperture therein; the pipe 19, as before stated, extending a little farther downward in the lamp, than pipe 10. These pipes cannot only be adjusted vertically, but they are also capable of oscillating or rotating upon the pipes 9 and 18. By now reciprocating or moving the connected rods 4 and 15, up and down, the pistons or plungers thereof will be correspondingly operated, and the piston 3, will cause valve 2 to open upon its up-stroke, causing the oil from the can to be admitted into the barrel. Upon the down-stroke, the valve 2 will close and valve 8 will open, and the oil be forced into the lamp, as will be well understood. When the oil in the lamp shall have reached the proper level in the lamp, which is determined by the depth to which pipe 19 extends thereinto, any excess of oil will be drawn through said pipe into barrel 12, and through the medium of the piston 13, and its valve 14, be forced out through opening 17 into the can.

This invention will be found especially valuable in filling metal lamps in which it is impossible to see the oil contained therein.

While the invention is more particularly intended for filling lamps, it is obvious that it can be used with advantage for other purposes in which any excess of liquid pumped thereby is automatically returned to the source of supply without overflowing the receiving receptacle.

In Fig. 4, we have shown a nozzle which may be employed at the upper ends of the return and supply pipes, consisting of a coupling 20, swiveled to said pipes and provided with a short curved pipe 21 adapted to be inserted into the lamp.

Having thus described our invention, what we claim is—

1. In a pump of the character described, the combination with the supply barrel having an upwardly opening valve in its lower end, the solid piston or plunger and its operating rod, the lateral pipe above said valve, the barrel connected with said pipe provided with an upwardly opening valve and the supply pipe adapted to be inserted into a lamp, of the return barrel closed at its lower end and having an escape opening near its upper end, a piston or plunger provided with an upwardly opening valve, the operating rod connected with the operating rod of the supply barrel, and the upwardly extending pipe connected with the lower end of the said return barrel, and adapted to be inserted in the filling aperture of a lamp, substantially as set forth.

2. In a pump of the character described, the combination with the supply barrel having an upwardly opening valve in its lower end, the solid piston or plunger and its operating rod, the lateral pipe connected with the barrel above said valve, the barrel also connected with said pipe provided with an upwardly opening valve, the vertical pipe connected with the barrel and the adjustable pipe fitting upon said vertical pipe, having its upper end curved and adapted to be inserted into the filling aperture of a lamp, of the return barrel closed at its lower end, and having an escape opening near its upper end, a piston or plunger having an upwardly opening valve, an operating rod connected with said piston and with the operating rod of the piston in the supply barrel, the upwardly extending pipe connected with the lower end of said return barrel, and the adjustable pipe fitting upon said vertical pipe, and having its upper end curved and adapted to be inserted in the filling or opening of a lamp, substantially as specified.

In testimony that we claim the foregoing as our own we have hereunto affixed our signatures in presence of two witnesses.

ROBERT ORLANDO GRAHAM.
FRED CLINTON SMITH.

Witnesses:
J. F. STIECKLE,
R. F. POTTER.