

J. SHERRY.
LUBRICATOR.

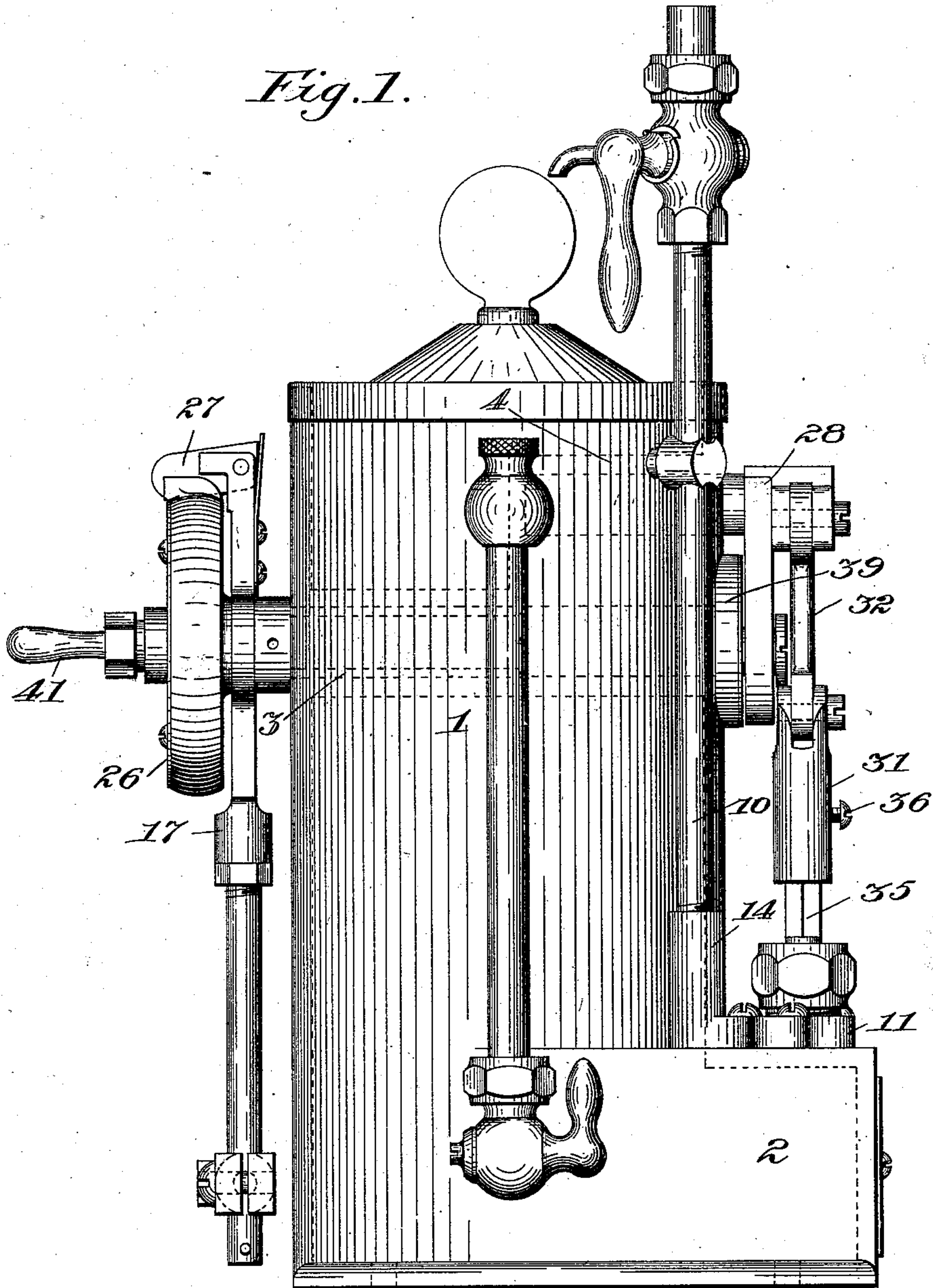
APPLICATION FILED MAY 10, 1905.

924,588.

Patented June 8, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

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INVENTOR

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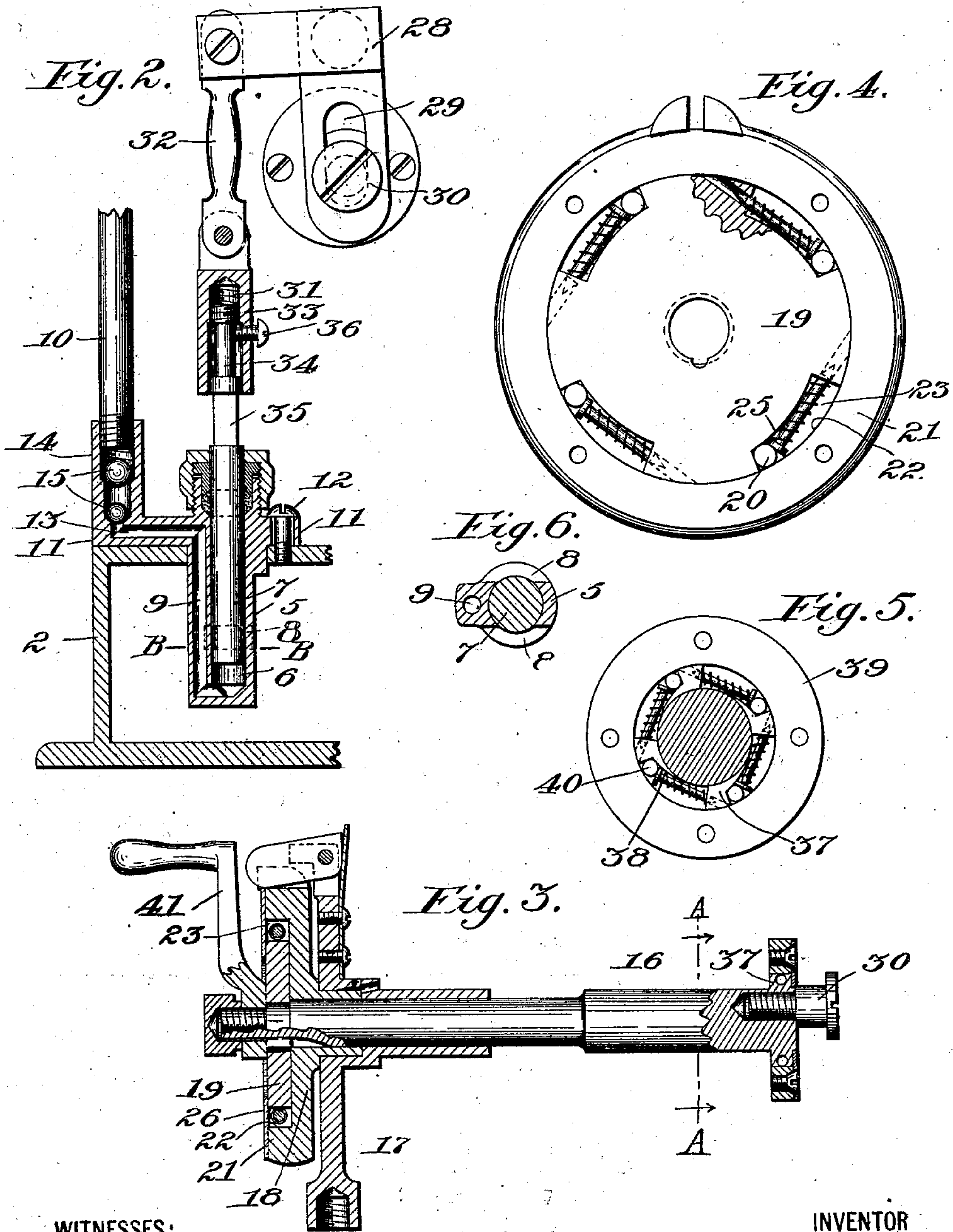
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UNITED STATES PATENT OFFICE.

JOHN SHERRY, OF ROCHESTER, NEW YORK.

LUBRICATOR.

No. 924,588.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed May 10, 1905. Serial No. 259,755.

To all whom it may concern:

Be it known that I, JOHN SHERRY, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Lubricator, of which the following is a specification.

My invention has for its object the production of a lubricator, which is particularly simple in construction, economical in manufacture and highly efficient and durable in use; and to this end, it consists in the novel combinations, constructions and arrangements of the component parts of the lubricator, hereinafter set forth and claimed.

In describing my invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a side elevation of my lubricator. Fig. 2 is a detail view, partly in section, showing the pump and the coacting portion of the actuating mechanism therefor. Fig. 3 is a detail view, partly in section, of the actuating shaft and clutches associated therewith, and contiguous parts. Fig. 4 is a face view of one of said clutches, the retaining plate being removed. Fig. 5 is an enlarged sectional view on line A—A, Fig. 3. Fig. 6 is a sectional view on line B—B, Fig. 2.

This lubricator comprises, generally, a reservoir for the lubricant, a pump having a reciprocally movable piston, means for actuating the piston, said means including mechanism for permitting the adjustment of the piston without varying the length of its stroke.

The reservoir 1 is of any desirable form, size and construction, is formed with a lateral extension 2 at its lower end, a transverse bearing 3 extending through its upper portion and opening through opposite sides thereof, and also with a bearing 4 arranged above the bearing 3 and opening through but one side of the reservoir.

As illustrated, the pump consists of a pump-body 5 having a piston-chamber 6 connected to the reservoir, and a piston 7 movable in said chamber. Preferably, the body 5 depends into the extension 2 from the top of said extension and is formed with inlet-ports 8 located intermediate of the ends of the piston-chamber 6 and with an outlet-passage 9 communicating with the piston-chamber at the lower end thereof. Said passage 9, as shown, extends upwardly

along the piston-chamber 6 and communicates with a conduit 10 which is connected with the mechanism to be lubricated. Said pump-body 5 is usually detachably secured to the extension 2 of the reservoir, being here illustrated as arranged in an opening formed in the top of said extension, and having a flange 11 lapped upon the upper face of the top of said extension and secured thereto in any suitable manner as by screws 12. A lateral branch 13 of the outlet-passage 9 is formed in said flange, the outer end of said branch 13 communicating with a vertical chamber 14 to which the conduit 10 is attached and in which suitable check-valves 15 are located. The inlet-ports 8 are disposed opposite to each other, are of comparatively large size so as to permit the lubricant to flow practically unobstructed therethrough into the piston-chamber, and are opened and closed by the piston 7. Said piston 7 extends upwardly above the body 5 and is adjustable lengthwise of the chamber without varying the length of its stroke, to regulate the extent to which it will be moved into the pocket or portion of the chamber beneath the ports 8 thus governing the amount of lubricant forced from said chamber. However, when the piston is adjusted to project into the chamber to its greatest extent, the lower end of the piston, at the end of the outstroke thereof, is beneath said ports 8 so that the piston closes said ports during an entire reciprocation thereof and no lubricant can enter the chamber.

The means for actuating the piston 7 comprises a rotary element, as a shaft 16, journaled in the bearing 3 and extending to opposite sides of the reservoir, one end thereof overhanging the lateral extension 2, an oscillating driving element 17, a clutch connecting said elements whereby the rotary element or shaft is actuated intermittently in one direction, and connections between said rotary element or shaft 16 and the piston. The oscillating driving element, as here shown, consists of a lever pivoted intermediate of its ends on the rotary element or shaft 16 near the end thereof. Said clutch comprises two power-transmitting members 18, 19 associated, respectively, with said elements, and parts 20 for locking said members together, one of said members, as 18, consisting of a disk mounted on the rotary element or shaft 16 and provided with an

annular flange 21 having an internal engaging face 22 concentric with the rotary element or shaft 16; and the other member, as 19, comprising a disk mounted on the shaft 5 16 within said flange 21 and having its periphery contiguous to the engaging face 22, said last-mentioned disk being provided with peripheral cutouts 23 for receiving the locking parts 20. The sides 25 of the cutouts 10 opposed to the face 22 are arc-shaped and the radius of the arc of each of said sides is substantially the same as the radius of the annular engaging face 22, the center of said arc being eccentric to the center of the arc of 15 said face 22. By this arrangement the points of contact of each of the locking parts 20, which are preferably rollers, with the engaging face 22 and the side 25 of the cutout are approximately in a straight line passing 20 through the center of the axis of the rotary element or shaft 16. Thus said members 18, 19 are positively and instantly locked together at the beginning of the driving movement of the element 17. An annular retaining ring 26 holds the member 19 in the member 18. As illustrated, the member 19 is 25 fixed to the rotary element or shaft 16, and the member 18 is loose thereon and is connected to the driving element 17 in any suitable manner, as by a pivoted catch 27.

The connections between the rotary element or shaft 16 and the piston 7 include the mechanism for permitting the adjustment of the piston lengthwise of the piston-chamber 35 without varying the stroke of the piston, and consists of an oscillating member, as the angular lever 28, pivoted in the bearing 4 of the reservoir and having a slot 29 formed in one of its arms in which works an eccentric 40 pin 30 provided on the end of the rotary element or shaft 16, a part 31 for engaging the outer end of the piston 7, and a link 32 having its ends pivoted, respectively, to said part 31 and to the other arm of said oscillating member or angular lever 28. In the 45 illustrated embodiment of my invention the piston is provided with a threaded end 33 and a portion 34 of reduced thickness below said end, and also with a portion 35 angular in cross-section for receiving a wrench; and 50 the engaging part 31 consists of an internally threaded socket for receiving the threaded end 33 of the piston. Release of the piston from the socket or adjustment thereof to an 55 undue extent into the piston-chamber 6, is prevented by a screw 36 which engages the rear face of the threaded end 33 of the piston 7.

A clutch similar in principle of operation 60 to that of the clutch previously described prevents retrograde movement of the rotary element or shaft 16, said clutch consisting of radially arranged arms 37 formed integral

with the rotary element or shaft 16 near the end of said element or shaft opposite to that 65 on which the driving element or lever 17 is located, arc-shaped faces 38 between said arms, a cup 39 fixed to the reservoir and inclosing the part of the rotary element or shaft 16 having the integral arms 37, and 70 rollers 40 arranged between said arms, the arc of said faces 38 being eccentric to the center of the cup 39 and of a radius substantially the same as that of said cup. A hand-piece, as the crank 41, is provided on the 75 other end of the shaft for actuating the shaft forwardly independently of the driving element.

A lubricator constructed as described is noiseless, is cheaply manufactured and the 80 amount of lubricant to be pumped at each throw of the piston can be regulated while the lubricator is in operation.

The construction and operation of my lubricator will now be readily understood 85 upon reference to the foregoing description and the accompanying drawing.

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

In a force feed lubricator and in combination a reservoir having a tubular body portion and a lateral extension at the lower end thereof, a rotary shaft disposed diametrically of the upper portion of said tubular 95 body and having its ends projecting through the walls of the tubular body, means for driving the shaft associated with one of the projecting ends thereof, such means including a clutch, a pump located in 100 said lateral extension of the body, an angular lever pivotally supported upon said body, a connection between one end of the lever and the piston of the pump, a connection between the other end of the lever and 105 the other projecting end of said rotary shaft, said connection being made eccentrically of such end, and a second clutch for preventing retrograde movement comprising a cap located between said lever and the tubular 110 body and secured to the latter, clutch surfaces on said other projecting end of the shaft and movable clutch members interposed between the last-named clutch surfaces and the interior of said cap, substantially as 115 and for the purpose specified.

In testimony whereof, I have hereunto signed my name in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, 120 this 20th day of April, 1905.

JOHN SHERRY.

Witnesses:

S. DAVIS,

F. G. BODELL.