Sept. 21, 1926. 1,600,866

A. BURNETT

COMBINATION OIL AND GREASING DEVICE

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Fig. 1.

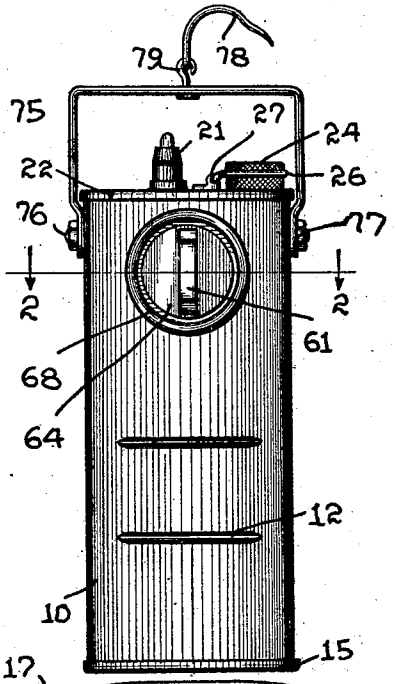
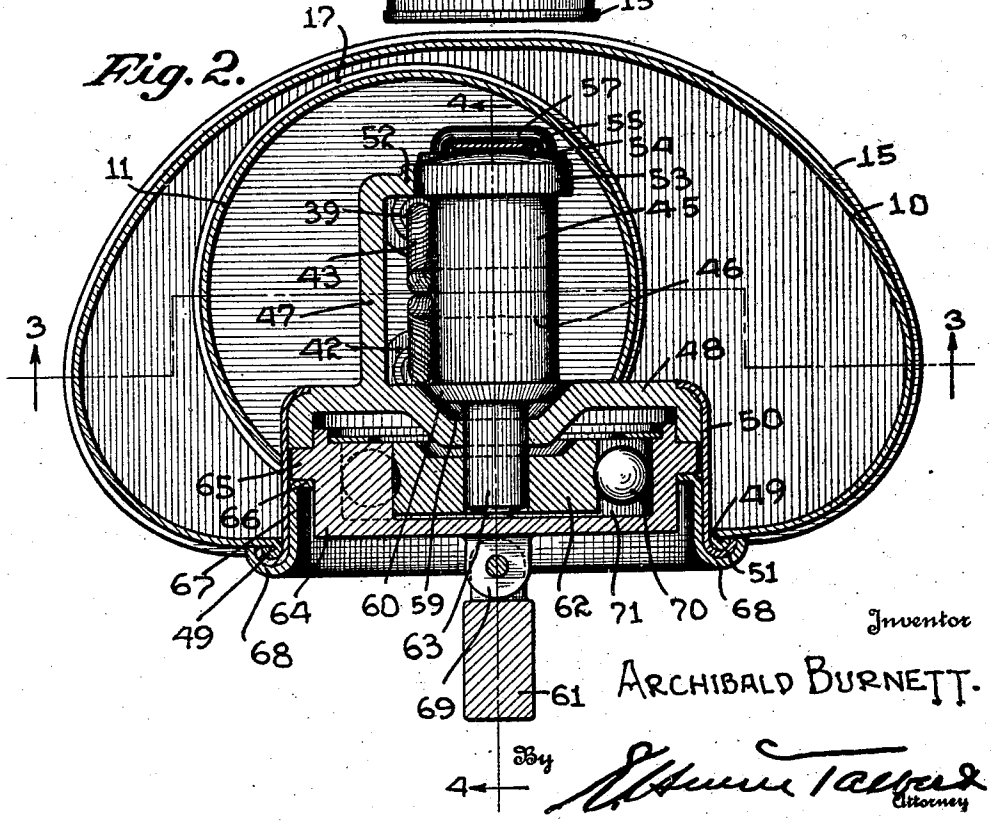


Fig. 2.



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By

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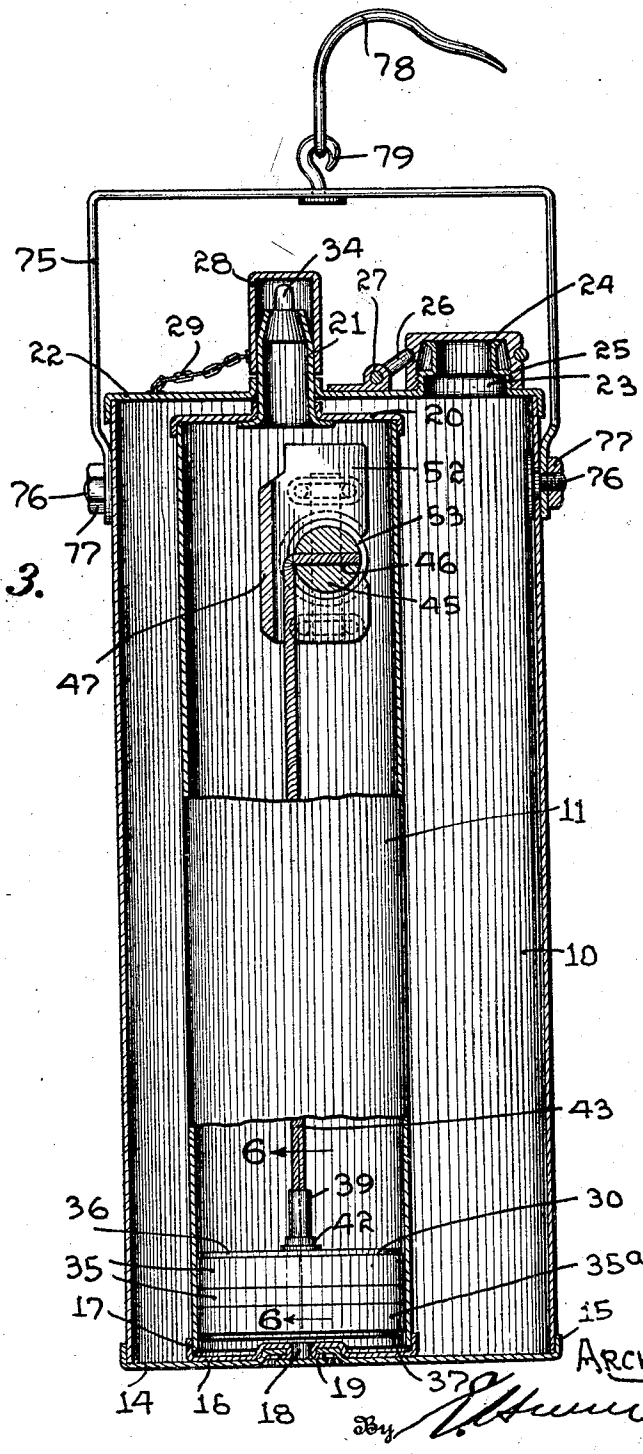


Fig. 3.

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COMBINATION OIL AND GREASING DEVICE

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Fig. 4.

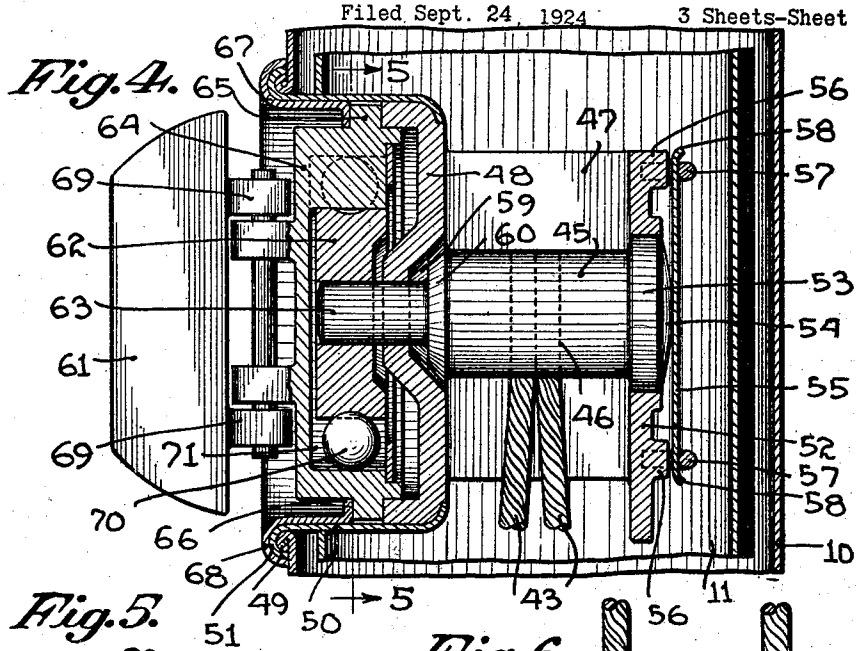


Fig. 5.

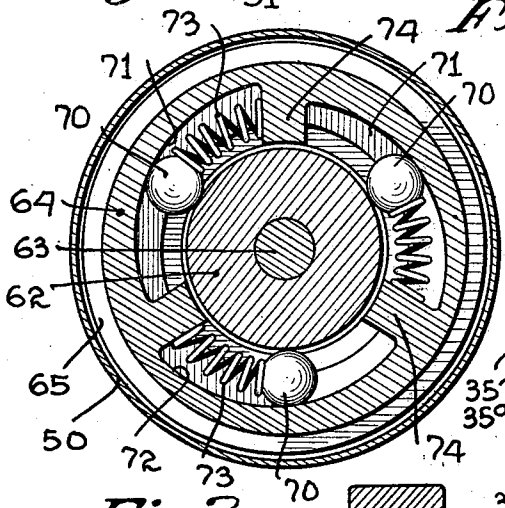


Fig. 6.

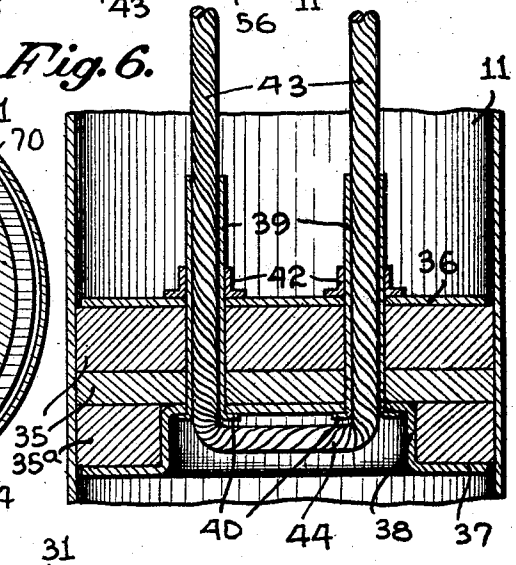
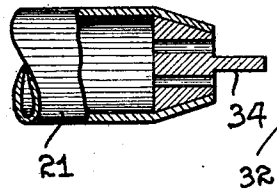


Fig. 7.



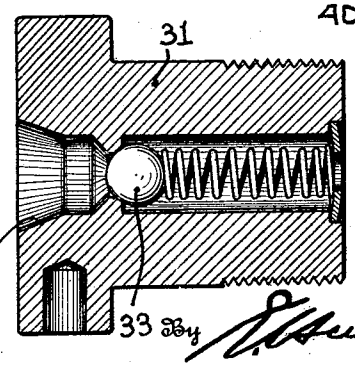


Fig. 8.

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Patented Sept. 21, 1926. 1,600,866

UNITED STATES PATENT OFFICE.

ARCHIBALD BURNETT, OF JEROME, ARIZONA.

COMBINATION OIL AND GREASING DEVICE.

Application filed September 24, 1924. Serial No. 739,639.

The object of the invention is to provide a single device comprising means for the carrying and dispensing of oil and means also for the carrying and dispensing of grease so that the latter may be readily and quickly applied to such parts of a device as require grease and which have previously been equipped with the valve elements adapted to cooperate with a grease gun; to provide a construction of the kind indicated which may be easily and cheaply constructed; and to provide a construction in which the operating parts are of the simplest form and, therefore, unlikely to damage or disarrangement in use.

With these objects in view, the invention consists of the construction and combination of parts of which a preferred embodiment is illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevational view of the device embodying the invention.

Figure 2 is a transverse horizontal sectional view on the plane indicated by the line 2—2 of Figure 1.

Figure 3 is a transverse vertical sectional view on the plane indicated by the line 3—3 of Figure 2.

Figure 4 is a detail sectional view on the plane indicated by the line 4—4 of Figure 2.

Figure 5 is a detail sectional view on the plane indicated by the line 5—5 of Figure 4.

Figure 6 is a sectional view on the plane indicated by the line 6—6 of Figure 3.

Figure 7 is a detail sectional view of the nozzle of the grease dispensing element of the device.

Figure 8 is a central longitudinal sectional view illustrating the form of valve to be used in connection with the invention and to be applied to such parts as are to be lubricated by the device.

Within the oil container or flask 10, which is adapted for the reception of oil to be dispensed where the use of oil is necessary, is positioned the barrel 11 of the grease gun or grease dispensing device. Both the flask 10 and barrel 11 are made preferably of sheet metal, the latter preferably of steel tubing. The flask 10 cross sectionally is substantially oval-shaped, the stock being pressed to provide ribs 12 to give added strength.

The bottom 14 of the flask is peripherally flanged, as at 15, and the flange overlaps and is brazed, spot welded or soldered to the body portion of the flask. The barrel 11 is provided with a similar bottom 16 flanged, as at 17, and secured to the barrel as described with reference to the flange 15, but both the bottom 16 and bottom 14 are formed with registering holes constituting a vent opening 18 for the admission of air to the grease gun below the plane of the piston to preclude suction on the latter in operation and to permit the ejection of air in the operation of filling the grease gun. A detachable cap 19 is provided for closing the vent hole when desired.

The cover 20 of the barrel 11 closes the grease gun at the top and is made similar to the bottom 16, this cover carrying a nozzle 21 projecting through the cover 22 of the flask 10, this covering 22 being similar to the bottom 14 and secured to the body portion of the flask in the same manner as the bottom.

The oil which is carried in the flask is dispensed from the latter through a discharge mouth 23 through which the flask is also charged, and when not in use the discharge mouth is closed by a cap 24 threadingly engaged with the mouth, as indicated at 25. The cap 24 is carried by a yoke ring 26 engaging a peripheral groove in the cap so as to permit relative rotary movement of the two and the yoke ring is hingedly mounted, as at 27, on the cover 22. Thus, the cap may be rotated to disengage it from the discharge mouth and thereafter it may be swung over on the hinge 27 as a pivot out of obstructing relation to the discharge mouth as when dispensing the contents of the flask or when charging the latter. The nozzle 21 is also provided with a cap to close the latter when not in use but this cap 28 frictionally engages the nozzle and is prevented from loss when disengaged by a flexible member 29, such as a chain or the like, which secures it to the cover 22.

The contents of the grease gun 11 is ejected by a piston 30. When the piston is advancing toward the nozzle, the grease is ejected from the nozzle and the latter is adapted at such instant for engagement with a valve 31 having a seat 32 for the extremity of the nozzle and a spring seated ball valve 33, which is held normally seated, is unseated by a tongue 34 of flat metal diametrically spanning the discharge end of the nozzle. Thus, when the nozzle is engaged with the seat in the valve member, the ball

valve is unseated by the tongue and the grease or other contents carried in the gun is ejected through the nozzle and through the valve 31 to the parts to be lubricated.

The piston 30 consists of a plurality of flexible disks 35 of which the lowermost 35[a] is of annular form, and the disks are held in assembled relation between metal disks 36 and 37 of which the latter is cupped, as indicated at 38, the cupped portion occupying a position within the eye of the lowermost disk 35[a]. The metal disks 36 and 37 are connected by sleeve members 39 which extend through the top and intermediate disk members 35, being flanged at the bottom, as at 40, to abut the disk 37. Thimbles 42 encircle the sleeve members and bear upon the disk 36 and are soldered, brazed or spot welded to the sleeve members 39 or, if desired, may be threaded on the latter. The purpose is to provide an assembling means for the disks 35 and steel disks 36 and 37.

The sleeve members constitute the means of connection of the lifting cable 43 with the piston. This cable is preferably of metal and made preferably of brass strands, the looped portion 44 occupying a space within the cupped portion 38 of the lower disk 37 and the parallel sections extending through the sleeves 39 to a roller 45 positioned adjacent the top of the barrel 11. The roller 45 is diametrically bored, as at 46 (Figure 2), and the terminals of the cable are extended through the bore and secured to the latter by soldering, brazing or equivalent means. The rotation of the roller 45 serves to reel the cable thereon and to consequently advance the piston toward the nozzle end of the grease gun with the consequent ejection of the grease contained in the barrel between the gun and the nozzle.

The roller 45 is mounted for rotation in a bracket 47 constituting an inwardly directed extension from the rear wall of a plate 48 of circular form and set in a corresponding opening in the front wall of the flask 11, the edge of the opening being beaded, as indicated at 49, and the plate being bounded by a securing ring 50 welded or otherwise secured to the plate and rolled, as at 51, for securement by welding or equivalent means to the bead 49.

The bracket 47 is provided with an arm 52 parallel to the plate 48 and is formed with an opening for engagement peripherally with the head 53 of the roller 45, the head being spherically formed on the rear face, as indicated at 54, for frictional engagement with a flat spring 55 spanning the bosses 56 positioned above and below the roller and engaging under loops 57 with its extremities outturned, as at 58. The purpose of the spring is to impell the roller 45 toward the plate 48 which on the inner face is formed with a depression with a sloping peripheral wall constituting a conical seat 59 for a correspondingly shaped head 60 formed on the outer end of the roller. The head 60 is thus always in firm engagement with the seat 59 and leakage of the contents of the barrel is precluded at this point. Provision against such leakage must be provided since the operating means for the roller and thus the piston is exterior to the flask 11.

The operating means consists of a manually actuable leaf 61 operatively connected with the roller 45 by an interposed clutch of which the driven element 62 is disposed adjacent the outer face of the plate 48 and is fixedly mounted on a stud 63 constituting an integral part of the roller 45, and projecting axially thereof through a clearance opening formed in the bottom of the depression of the plate 48. The driving member of the clutch consists of a ring 64 having a peripheral rib 65 traversing a guideway defined by the peripheral edge of the plate 48 and a flange 66 of a retainer ring 67, the latter being peripherally rolled, as at 68, and secured by welding or otherwise to the peripheral roll 51 of the ring 50. The rib 65 constitutes the means for retaining the driving member of the clutch in position and permits rotation of the latter, the driving member of the clutch carrying the actuating leaf 61 which is foldably connected with the member 64 as by a hinge connection 69.

The driven member 62 of the clutch is peripherally grooved for traverse by the balls 70 of which there are a plurality, preferably three, carried in raceways 71 of the driving member 64. The inner peripheral walls 72 of the raceways are of arcuate contour but generated on a radius eccentric to the axis of the driven clutch member 62. Thus movement of the balls along the raceway serves to advance them radially inward into binding engagement with the driven clutch member and they are yieldingly impelled by compression springs 73 disposed between them and abutments 74. Obviously, the rotation of the actuating leaf 61 in one direction will serve to effect clutching action between the driving and the driven clutch members 64 and 62, whereas rotation in the other direction will fail to communicate motion from one to the other of the clutch members.

Thus, it is possible to reel the cable on the roller 45 only on the rotation of the actuating leaf in one direction and this in the direction to advance the piston or plunger toward the discharge nozzle, as when ejecting grease from the gun in the operation of lubricating parts of a machine. In the charging operation, the barrel 11 is charged from the discharge nozzle by connecting the latter with a source of supply under pressure. The entrance of a supply under such condi-

tions will result in moving the piston or plunger to the remote end of the barrel 11 with the consequent unreeling of the cable from the roller 45.

To provide for readily transporting the device when not in use, it is provided with a bail 75 pivotally mounted on trunnions consisting of threaded studs 76 engaged by nuts 77. To provide for hanging the device from an appropriate support, a hook 78 is connected to the bail at the center of the latter, as by an eye 79.

The invention having been described, what is claimed as new and useful is:

1. A device for the purpose indicated comprising a barrel, a piston disposed within the barrel, an actuating roll for the piston, a cable connected with the piston and reeled upon the actuating roll, the actuating roll being provided with operating means exterior to the barrel, and a clutch interposed between the operating means and the actuating roll to preclude operation of the latter except on the turning of the operating means in one direction.

2. A device for the purpose indicated comprising a barrel, a piston disposed within the barrel, an actuating roll having a flexible connection with the piston, said actuating roll being disposed within the barrel and the latter being provided with a seat for engagement with one end of the actuating roll to provide a grease-tight joint, and yielding means for impelling the roll toward said seat.

3. A device for the purpose indicated comprising a barrel, a piston disposed within the barrel, an actuating roll having a flexible connection with the piston, said actuating roll being disposed within the barrel and the latter being provided with a seat for engagement with one end of the actuating roll to provide a grease-tight joint, and yielding means for impelling the roll toward said seat, said yielding means comprising a bowed spring spanning the remote end of the roll and frictionally engaging the latter.

4. A device for the purpose indicated comprising a barrel, a piston disposed within the barrel, an actuating roll having a flexible connection with the piston, said actuating roll being disposed within the barrel and the latter being provided with a seat for engagement with one end of the actuating roll to provide a grease-tight joint, and yielding means for impelling the roll toward said seat, said yielding means comprising a bowed spring spanning the remote end of the roll and frictionally engaging the latter, said remote end being of globular contour.

5. A device for the purpose indicated comprising a barrel, a piston disposed within the barrel, an actuating roll for the piston having a flexible connection with the latter, the actuating roll being disposed within the barrel, a foldable leaf exterior to the barrel and operatively connected with the actuating roll, and a clutch interposed between the operating leaf and the actuating roll and having a driven member fixed with reference to the roll and a driving member fixed with reference to the leaf.

6. A device for the purpose indicated comprising a barrel, a piston disposed within the barrel, an actuating roll for the piston having a flexible connection with the latter, the actuating roll being disposed within the barrel, a foldable leaf exterior to the barrel and operatively connected with the actuating roll, a clutch interposed between the operating leaf and the actuating roll and having a driven member fixed with reference to the roll and a driving member fixed with reference to the leaf, and means for effecting a fixed relation between the driving and driven clutch members only in one direction of rotation of the operating leaf.

7. A device for the purpose indicated comprising a barrel, a piston disposed within the barrel, a discharge nozzle, an actuating roll disposed adjacent the discharge nozzle, the piston being cupped on its under face, and a looped cable having its loop portion disposed in the cup of said piston and extending through spaced sleeves mounted in the piston, the extremities of the cable being brought together and connected to said actuating roll.

In testimony whereof he affixes his signature.

ARCHIBALD BURNETT.