

1,268,518.

I. A. WEAVER.  
BUCKET PUMP.  
APPLICATION FILED DEC. 31, 1915.

Patented June 4, 1918.

2 SHEETS—SHEET 1.

Fig. 1

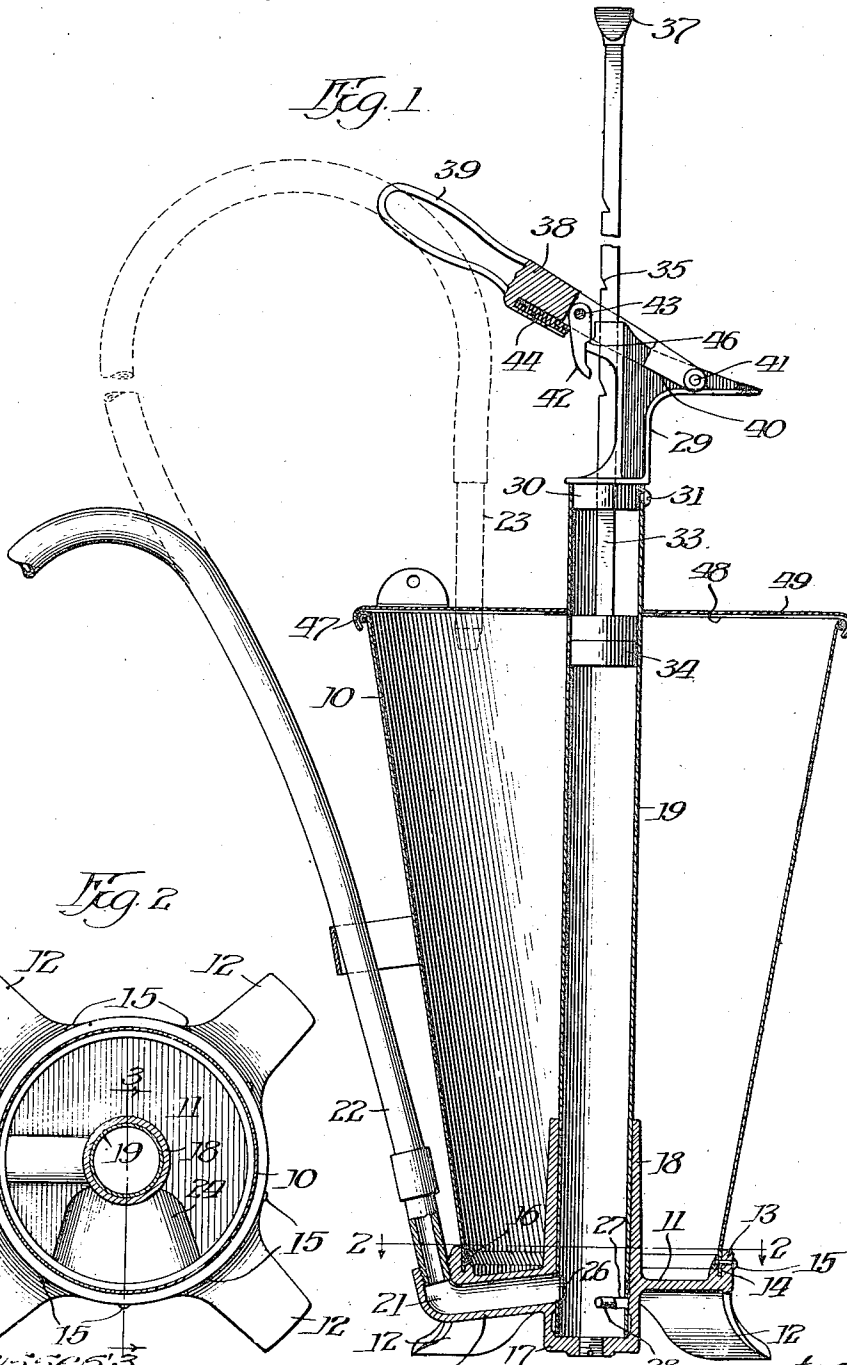
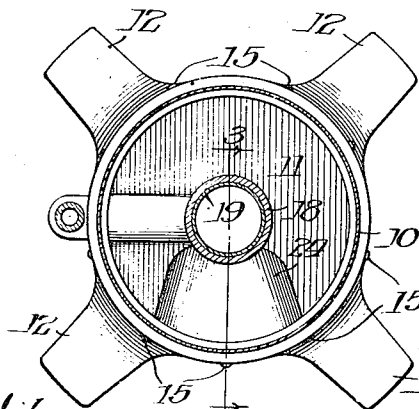


Fig. 2



Witnesses  
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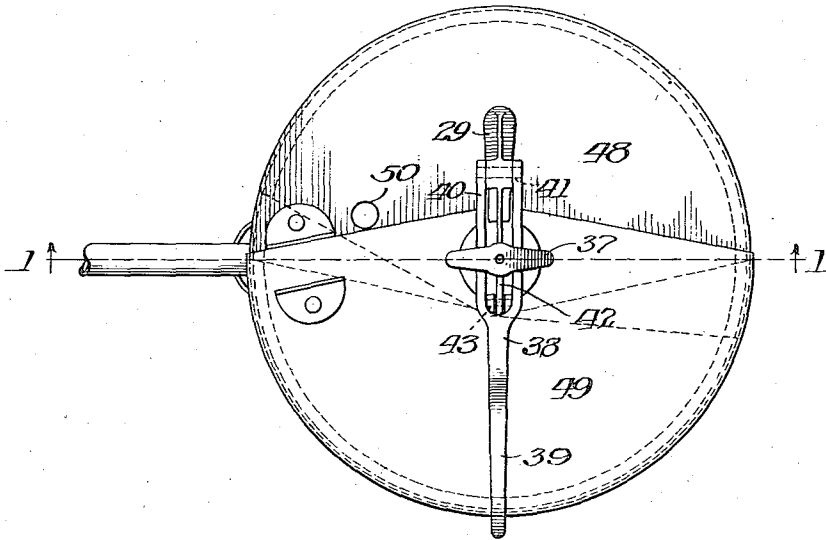
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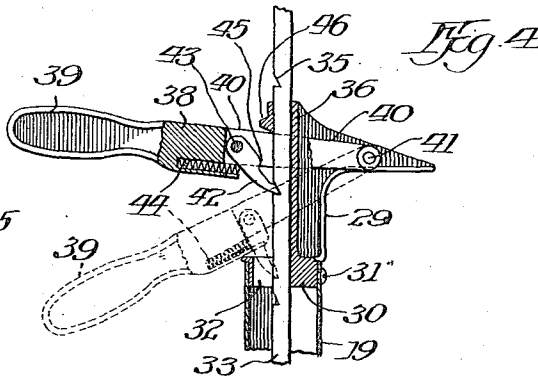
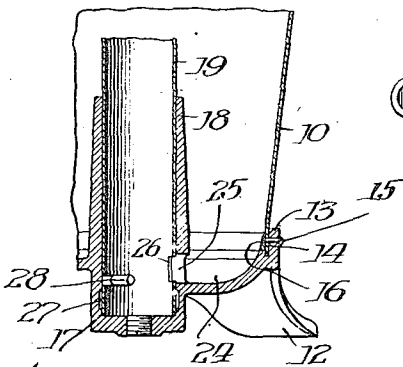
2 SHEETS—SHEET 2.

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*Fig. 5.*



*Fig. 3.*



Witnesses:

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# UNITED STATES PATENT OFFICE.

IRA A. WEAVER, OF SPRINGFIELD, ILLINOIS, ASSIGNOR TO THE WEAVER MANUFACTURING COMPANY, OF SPRINGFIELD, ILLINOIS, A CORPORATION OF ILLINOIS.

## BUCKET PUMP.

1,268,518.

Specification of Letters Patent.

Patented June 4, 1918.

Application filed December 31, 1915. Serial No. 69,557.

### *To all whom it may concern:*

Be it known that I, IRA A. WEAVER, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Bucket Pumps, of which the following is a specification.

My invention concerns features of novelty in the construction and functional capabilities of devices of that character wherein buckets and pumps are combined in such a way as to be effective both as storage containers and pumping appliances.

Devices incorporating or embodying the distinguishing advantageous characteristics of my invention have their bases and side-walls so constructed and associated together as to provide a structure of marked strength and unlikely to leak, even though dented or damaged.

A further object of the invention is the provision of pumping-means which is easily operated, which will deliver measured quantities of the liquid, and the actuation of which will not tend to displace the bucket on the floor, even though it is unattached.

The appliance is also equipped with a novel form of cover, which, while readily operable, cannot be taken off, and affords a support for the hose nozzle, permitting drainage back into the bucket.

The manner of attaining these and other desirable objects by means of this invention will be readily apparent to those skilled in this art from a consideration of the desirable embodiment of the invention illustrated in the accompanying drawings forming a part of this specification which should be considered in connection with the following detailed description of the appliance.

In these drawings, like reference characters refer to the same parts throughout the various figures.

In these drawings:

Figure 1 is a vertical central section through the appliance on line 1—1 of Fig. 5, with the pump turned;

Fig. 2 is a horizontal section on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary vertical section through the base-portion of the appliance on line 3—3 of Fig. 2;

Fig. 4 is a detail view of the plunger-actuating mechanism, and

Fig. 5 is a plan view of the structure.

By reference to the drawings, it will be observed that the bucket or container comprises a sheet-metal side-wall member 10 of general inverted conical shape. The bottom of the receptacle is composed of an integral cast-metal member 11 having four supporting feet 12, 12. This part 11 has an upstanding, cylindrical, marginal flange 13 just inside of which is an annular groove 14 accommodating the lower edge portion of the shell 10, the latter being fastened to the flange by means of a number of rivets 15, and, in order to insure against leakage under all conditions, such shell or casing is soldered to the base at 16 internally of and entirely around the container so that bending or marring of the shell will not break the solder joint and the device as a whole will be maintained leak proof.

The base also has a central, depending cylindrical socket 17 in register with which there is an upstanding extension or flange 18, the two aligned parts 17 and 18 unitedly forming a socket or cavity accommodating the lower portion of the pump barrel or cylinder 19, which extends upwardly through the bucket cover as shown. Base 11 on its under side is equipped with a thickened portion 20 extending outwardly between a pair of the legs to the outside of the bucket or container, as shown in Fig. 1, such enlargement having a passage 21 therethrough into which the end of a flexible metal hose 22 is secured, as by a screw-threaded connection, the hose at its other end being supplied with a nozzle 23, as is shown. The inner end of passage 21 is in communication with the interior of the socket or chamber 17, 18, and at 24 the bottom-wall of the base is depressed, and at this part of the appliance the wall of the socket 18 is apertured at 25. (Fig. 3).

The lower end of the pump barrel or cylinder 19 is equipped with a port 26, which, by turning of the barrel, may be moved into register with the passage 25 or with the passage 21, and, in order to limit such angular turning of the barrel, the latter is provided beneath the wall 11 with a slot 27 into which a pin or screw 28, extended through the wall of the socket 17, projects, such screw or pin constituting a fixed limiting stop, as will be readily understood.

The upper end of the pump-cylinder is supplied with a bracket member 29, which at its lower end has a cylindrical portion 30

fitted in the upper end of the shell 19 and secured therein by a plurality of screws 31, such part of the bracket having a slot 32 for the accommodation of a sliding ratchet plunger rod 33 square in cross-section and carrying at its lower-end the plunger or piston 34, one edge of such rod being provided with spaced ratchet notches 35 equally distant apart. The upper portion of the bracket has a bearing 36 for such rod or bar, the latter at its upper end being equipped with an operating-handle or finger-grip 37.

The appliance also includes a lever 38, supplied with an actuating handle 39, bifurcated so as to provide two arms 40, 40, which straddle the bracket and rod and are fulcrumed to the former at 41. Between the arms 40 a pawl 42 is pivoted at 43, such pawl or finger being yieldingly pressed toward the notched side of bar 33 by a coil expansion spring 44 housed within a cavity of the lever 38. This pawl has a shoulder 45 adapted to cooperate with a ledge or shoulder 46 on that portion of the bracket having the bearing 36. When the handle 39 is raised to its limit of upward movement, the pawl will become caught on the catch 46 and hold the handle in this elevated position and the pawl out of cooperative relation with the notches of the piston rod, as shown in Fig. 1. Depression of the handle automatically releases the pawl so that it may co-act with such notches.

As is customary in the construction of buckets or pails, the top edge of the sheet-metal wall constituting the shell 10 is bent outwardly around a wire 47 to provide a smooth finish for the top edge. The cover comprises two overlapping sheet-metal members 48 and 49, each of which is perforated for the reception of the pump barrel 19 and each of such members around its edge is bent downwardly and partially around the marginal rib at the top of the shell 10. This construction permits the cover members to be moved or swung around on the top of the bucket so as to provide a substantial opening between them or to entirely close the bucket, the upper member of the cover riding on the under one and the latter in turn riding on the top edge of the bucket. When in the full line position shown in Fig. 5, these two members close the bucket, and when the upper one is shifted to the dotted line position of Fig. 5, the bucket will open.

In order to provide a holding means for the hose nozzle when not in use and to permit the drainage of its contents into the bucket, the cover-member 48 is supplied with an aperture 50 into which the nozzle may be fitted, as shown in dotted lines in Fig. 1.

An appliance of this character, while not limited to any particular use, is, nevertheless, especially adapted for employment in connection with automobiles and similar structures to supply their transmission or

differential gear casings with lubricating oils or soft greases.

The appliance is operated substantially as follows:

Assuming that the bucket contains a supply of the lubricant and that the plunger or piston and its rod and handle are at their lowermost position of stroke, the operator, by means of the handle or grip 39 turns the pump barrel 19 and its associated parts to the right, bringing the port 26 into register with the aperture 25, that is to say, the pump cylinder is brought into communication with the interior of the bucket, with no communication with the passage 21. The handle 39 is then lifted its full extent of travel to the position shown in Fig. 1, the pawl engaging the catch shoulder which holds the pawl 42 retracted, the latter maintaining the handle or lever in this elevated position.

By grasping the handle 37, and pulling directly upwardly, the piston or plunger 34 is raised its full stroke and the barrel 19 becomes filled with a charge of the lubricant received from the bucket through the registering apertures 25 and 26.

Then by means of the handle 39, the operator turns the pump cylinder and its associated parts to the left, breaking communication between the interior of the bucket and the pump barrel and establishing a connection between the barrel and the passage 21 and the hose connected thereto.

Now, the lever handle 39 is depressed and moved downwardly its full extent of movement to the position shown in dotted lines in Fig. 4. At the beginning of this movement the pawl passes away from its retaining shoulder 46 and soon afterward automatically engages the lower-most ratchet notch of the piston rod 33 so that continued depression of the handle forces the plunger down and discharges through the hose and nozzle a definite measured quantity of the lubricant. The handle is then raised until the pawl engages the second notch and is then depressed a full downward stroke, delivering through the hose and nozzle another equal volume of the lubricant, which may be fed in the instances indicated into the gear casing of an automobile. This operation or pumping manipulation of the handle 39 is continued until the desired quantity of the lubricant is discharged. In this manner, the lubricant can be pumped out of the bucket and directly into the desired receptacle, the discharge being accurately measured as delivered.

If it should be desired to handle a lubricant of a different quality or character that contained in the bucket, the nozzle or hose is inserted into the can of the desired kind of grease or oil and the barrel or chamber of the bucket may be drawn full of the foreign lubricant, which is subsequently dis-

charged into the desired receptacle without in any way disturbing the contents of the bucket.

By a similar operation the lubricant can be quickly removed from the differential or transmission casing of an automobile and delivered into a third receptacle for preservation for future use. This eliminates the disagreeable task of removing the grease by hand when it becomes necessary to inspect or overhaul these parts of an automobile and it also does away with a considerable waste of the lubricant ordinarily occasioned by such action.

By employing an appliance embodying this invention the dripping of the grease or oil is prevented and the lubricant is accurately, economically, and quickly handled. It should be observed that the discharge is accomplished by an easy downward pumping stroke of the lever handle which can be readily operated with one hand, leaving the other hand free to guide the hose nozzle, and, owing to the construction and arrangement of parts, there is no tendency to shift the bucket on the floor or upset it, and there is no requirement for keeping it in place by the foot, either in filling the pump barrel with the oil or in discharging it, both of these operations requiring a practically-vertical movement of the working parts.

It should be noted further that by making the base of the bucket in one integral casting and by riveting and soldering the side-wall in place, leakage is entirely avoided, even though the appliance itself may be more or less damaged.

The cover constitutes an improvement and allows the container to be easily filled with grease, the cover not being easily broken off or removed, and not subject to loss or displacement.

I claim:

1. In an appliance of the character described, the combination of a bucket-body, a bottom therefor composed of a single casting having a socket, a passage leading from the interior of the bucket to the interior of the socket, and a passage from the interior of the socket to the outside of the bucket adapted to have a hose connected thereto, a pump-barrel adjustable in said socket and having a port adapted to be brought into register with either of said passages, a pump-plunger in said barrel, and means to reciprocate said plunger, substantially as described.

2. In an appliance of the character described, the combination of a bucket-body, a bottom therefor composed of a single casting having a depressed socket, a passage leading from the interior of the bucket to the interior of the socket, and a passage from the interior of the socket to the outside of the bucket adapted to have a hose connected thereto, a pump-barrel rotarily adjustable in said socket having a port adapted to be brought into register with either of said passages, a pump plunger in said barrel, means to reciprocate said plunger, said depressed socket having an aperture in its wall beneath the bottom-wall of said casting, and a stop in said socket aperture cooperating with said barrel to limit the rotary movement thereof, substantially as described.

3. In an appliance of the character described, the combination of a bucket, a pump-barrel associated therewith, a pump-plunger slidable in said barrel, a notched bar connected to said plunger, a lever, a pawl mounted on said lever and adapted to co-act with the notches of said bar to depress said plunger during oscillation of said lever, a spring carried by said lever and acting to press said pawl toward the notched bar, and an abutment with which the pawl is adapted to cooperate near the upper end of the stroke of the lever, whereby the pawl is held retracted from the notched bar by the abutment and the pawl maintains the lever in elevated position, substantially as described.

4. In an appliance of the character described, the combination of a bucket-body, a bottom therefor composed of a single casting having a socket, a passage leading from the interior of the bucket to the interior of the socket, and a passage from the interior of the socket to the outside of the bucket adapted to have a hose connected thereto, a pump-barrel rotarily adjustable in said socket having a port adapted to be brought into register with either of said passages, a pump-plunger in said barrel, a bracket-member mounted on the top of said barrel, a notched bar connected to said plunger, a lever fulcrumed on said member, and a pawl mounted on said lever and adapted to co-act with the notches of said bar to depress said plunger during oscillation of the lever, substantially as described.

IRA A. WEAVER.