A. W. BELL.

OIL CAN.

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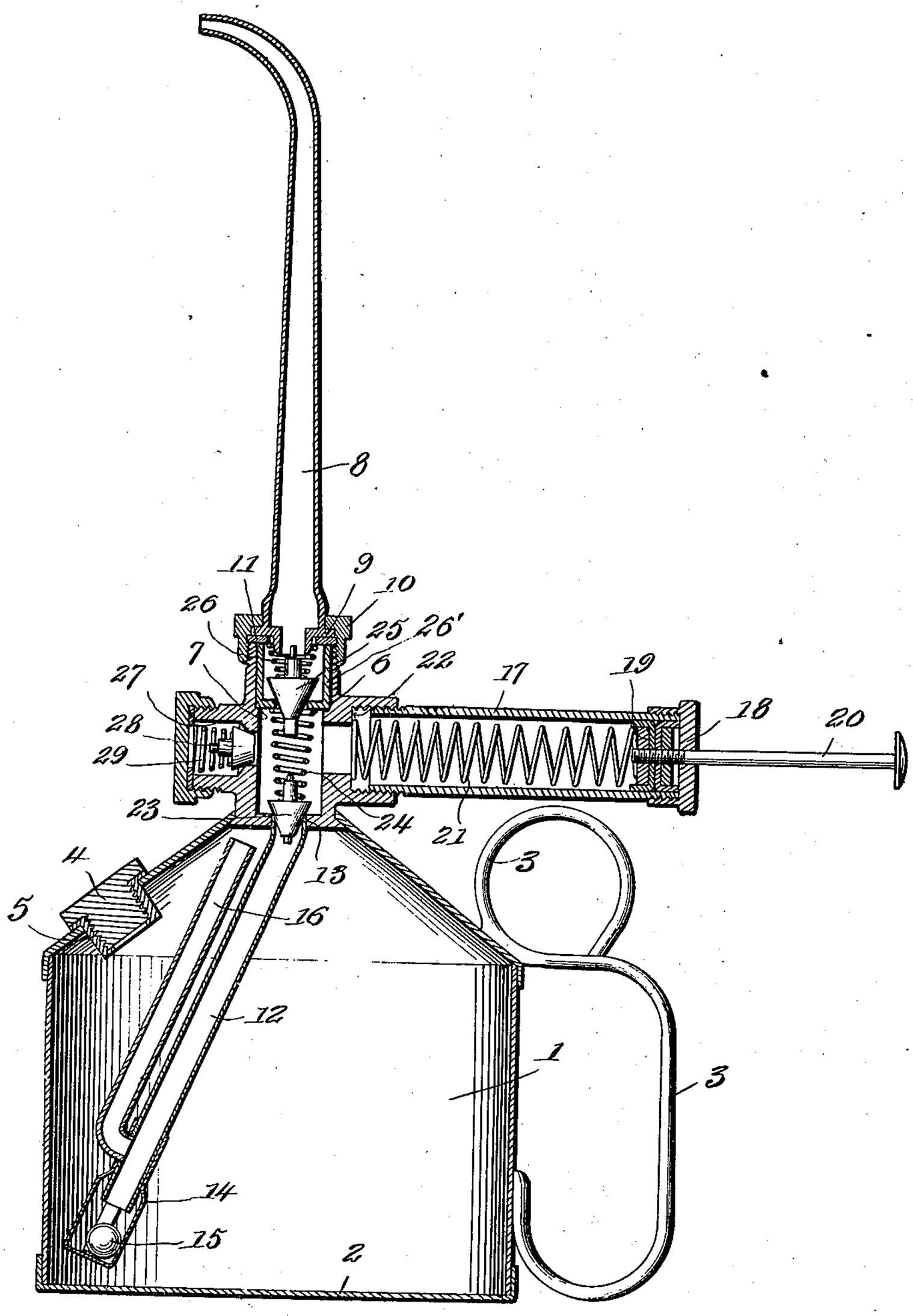

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UNITED STATES PATENT OFFICE.

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OIL-CAN.

1,166,739. Specification of Letters Patent. Patented Jan. 4, 1916.

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To all whom it may concern:

Be it known that I, ARCHIBALD W. BELL, 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 Oil-Cans, of which the following is a specification.

This invention relates to improvements in oil cans for oiling engines and other machinery; and the primary object thereof is to provide an oil can of the force-feed type wherein the oil or other lubricant is first sucked or drawn into a chamber provided therefor and then forced or ejected from the said chamber through a suitable discharge spout, the suction and ejection being effected by the operation of a cylinder piston disposed in communicative relation with the said chamber.

A further object of the invention contemplates the provision of means including an oil receiving tube, arranged within the oil can in such a novel and peculiar manner as to receive and convey the oil to the chamber above mentioned, the said tube having a plurality of inlet openings formed at different points within the can to permit the inflow of oil regardless of the position of the can.

A still further object of the invention resides in the provision of a plurality of spring controlled valves arranged to open and close communication between the several inlet and outlet passages or ports leading into and out of the chamber, each valve being automatically operated according to the movement of the cylinder piston.

The above and additional objects are accomplished by such means as are illustrated in their preferred embodiment in the accompanying drawings, described in the following specification and then more particularly pointed out in the claims which are appended hereto and form a part of this application.

In describing my invention in detail reference will be had to the accompanying drawings wherein I have shown a longitudinal sectional view of an oil can constructed in accordance with my invention.

Proceeding now to the description of the drawings wherein is illustrated the preferred embodiment of my invention the numeral 1 designates the can body which is provided with a suitable base 2 and handle 3. A plug 4 is threaded into a sleeve 5, the former, when removed, allowing the said body 1 of the can to be filled as desired.

A specially devised valve casing 6 is soldered or otherwise fixedly secured to the can body, the said casing having a chamber 7 formed therein into which the oil or other lubricant is drawn or sucked before its ejection or discharge through the discharge spout 8. The said spout 8 is provided with an annular outwardly directed flange 9 at the base thereof, a packing nut 10 being arranged over the said spout and engaging one face of the said flange for supporting the spout in proper place and effecting a water tight joint between the casing 6 and the said spout, this being accomplished by interposing a washer 11 between one face of the flange 9 and the upper extremity of the casing 6.

The means employed for receiving and conveying the oil contained within the body 1 to the chamber 7 comprises an oil receiving tubular member 12 one end of which is secured within an opening 13 formed within the casing 6, at the lower end of the chamber 7, the opposite end of the said tubular member 12 having a valve seat 14 arranged thereover within which a ball valve 15 is disposed, the latter being normally held out of engagement with the lower extremity of the said tubular member when the can 1 is in an upright position. A branch pipe 16 is secured in any suitable manner to the tubular member or pipe 12, the free end of the said pipe 16 terminating at a point adjacent the opening 13, this arrangement of the said pipe permitting the oil to be freely drawn into the tubular member 12 and thence conveyed to the chamber 7 when the body 1 is tilted or inverted. To increase the efficiency of the oil can, the tubular member 12 is disposed at an angle within the body 1 so as to position the inlet opening at one side of and near the bottom 2 of the can.

Passing on to the means employed for sucking or drawing the oil into the chamber 7 and discharging the same through the discharge spout 8, the said means comprises a cylindrical member 17 one end of which is threaded into the casing 6 as illustrated, the opposite end being closed through the medium of a cap 18 arranged thereover. A piston 19 having an operating rod 20 secured thereto and projecting exteriorly of the cyl-

inder 17 is arranged for operation within the said cylinder, the piston being normally forced into engagement with the cap 18 through the medium of an expansion spring 21 disposed within the cylinder, one end of the said spring abutting the piston 19 and the opposite end, a shoulder 22 formed within the casing 6. By forcing the piston 19 inwardly or toward the shoulder 22, thereby compressing the spring 21, it will be seen that the oil or lubricant contained within the chamber 7 is forced out through the discharge spout 8, a reverse movement of the piston 19 caused by the pressure brought to bear thereupon by the spring 21 creating a suction within the chamber thereby drawing or sucking a second supply of oil or other lubricant from the body 1 into the chamber 7.

Spring controlled valves are arranged within the casing 6 for controlling the intake and discharge of the lubricant from the chamber 7, one of the said valves 23 being arranged within the said chamber for normally closing the opening 13 formed therein, the upper end of the tubular member 12 acting as a seat therefor. A spring 24 is disposed within the chamber 7 and arranged to embrace the stem of the valve 23, one end of the spring engaging the said valve and the opposite end the upper or top wall of the chamber 7. A second valve 25 the movement of which is likewise controlled through the medium of a spring 26 is arranged to open and close communication between the chamber 7 and discharge spout 8, both the valves 25 and 23 being frustoconical in shape to prolong the longevity and efficiency thereof. A valve cup or housing 26′ may be seated within the casing 6 to form a valve seat for the valve 25. By the provision of the said cup 26′, it will be seen that the valve 23 and the spring 24 may be removed and replaced by first removing the said cup and the valve 25. The operation of the cylinder piston 19 automatically operates the two valves 23 and 25, the former being withdrawn from engagement with the tubular member 12 during the suction stroke of the piston and the latter being withdrawn from engagement with the seat provided therefor during the force or opposite stroke of the cylinder piston, the springs 24 and 26 returning the valves to their normal position the moment the piston 19 becomes stationary.

If desired, the discharge spout 8 may be removed from its position illustrated in Fig. 1 of the drawings and attached in a like manner over an outlet 27, disposed in axial alinement to the cylinder 17. A valve 28 and spring 29 are arranged within the outlet 27 for controlling the discharge of the lubricant therefrom when the spout 8 is attached thereto.

It will be seen from the above, taken in connection with the accompanying drawings that the ball valve 15 automatically closes the inlet opening of the tubular member 12 when the can 1 is inverted thus permitting the suction created by the movement of the cylinder piston to draw or receive an oil supply through the branch pipe 16, the ball 15 returning to its normal position and out of further engagement with the said member 12 the moment the can 1 is righted; that the operation of the several valves employed in connection with the invention is absolutely automatic, the said operation being controlled by the movement of the cylinder piston; and that the lubricant contained within the body 1 is drawn or sucked into the chamber 7 and discharged therefrom through the spout 8 by the operation of the rod 20 which projects exteriorly of the cylinder 17.

In reduction to practice, I have found that the form of my invention, illustrated in the drawings and referred to in the above description, as the preferred embodiment is the most efficient and practical; yet realizing that the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize the fact that various minor changes in details of construction, proportion and arrangement of parts may be resorted to, when required, without sacrificing any of the advantages of my invention, as defined in the appended claims.

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

1. In an oil can, a body, a hollow casing in communication with said body, said hollow casing having outlet openings formed therein, a detachable spout adapted to be arranged over any one of said openings, a removable cap adapted to be arranged over the other of said openings, spring controlled valve means operable within the casing to open and close said outlet openings, spring controlled valve means operable within said casing to open and close communication therebetween and said body, and means operable to suck the contents of said body into said casing and force said contents out of said spout, operation of said last mentioned means being adapted to automatically actuate said valve means against tension of the respective springs therefor, as and for the purpose set forth.

2. In an oil can, a body, a hollow casing mounted exteriorly of and in communication with said body, said hollow casing having two outlet openings formed therein, a detachable spout adapted to be arranged over either of said outlet openings, a removable cap adapted to be arranged over the other of said openings, the openings being so formed relatively to the casing as to dispose the longitudinal axis of the spout

when arranged over one of the openings at a right angle to its longitudinal axis when arranged over the other of the said openings, spring controlled valve means operable within said casing to open and close said outlet openings, spring controlled valve means operable within said casing to open and close communication therebetween and said body, and means operable to suck the contents of said body into said casing and force said contents out of said spout, operation of said last mentioned means adapted to automatically actuate said valve means against tension of the respective springs therefor, as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ARCHIBALD W. BELL.

Witnesses:
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