

Feb. 2, 1926.

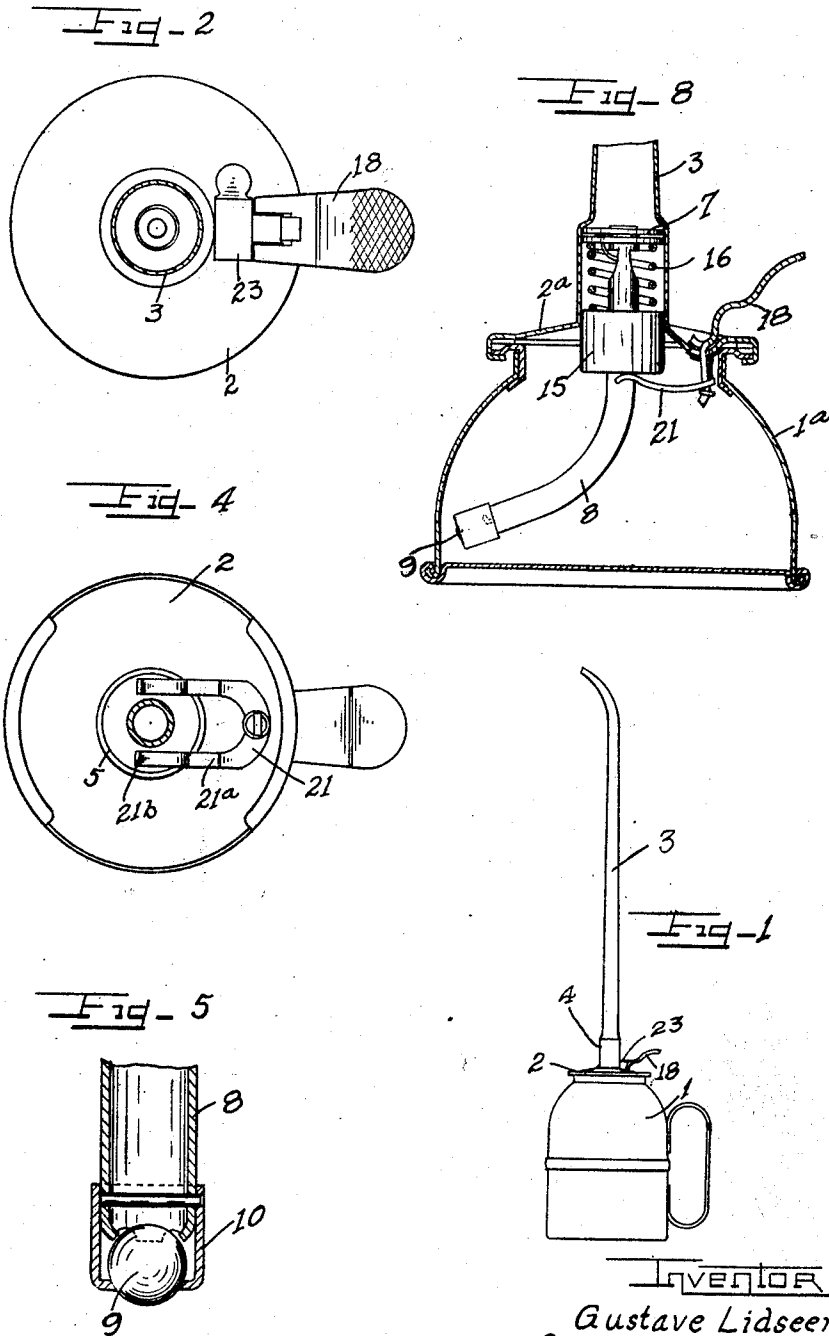
G. LIDSEEN

1,571,676

COMBINED PUMP AND FORCE FEED OIL CAN

Filed Feb. 14, 1924

2 Sheets-Sheet 1



by

INVENTOR
Gustave Lidseen
Charles H. Pillsbury
Attys.

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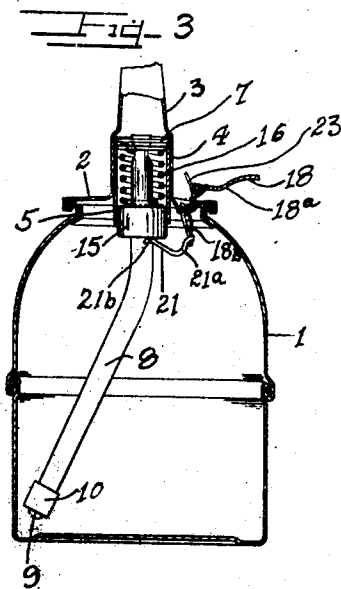
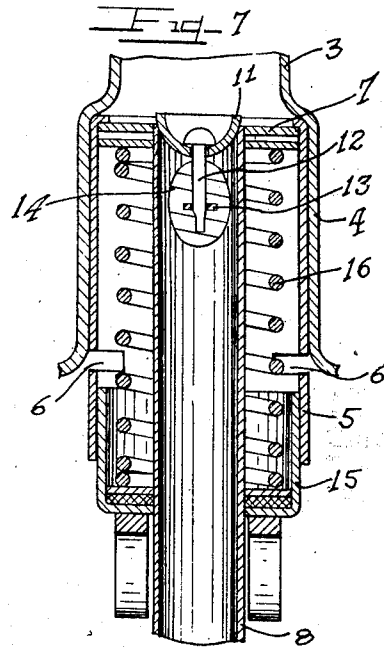
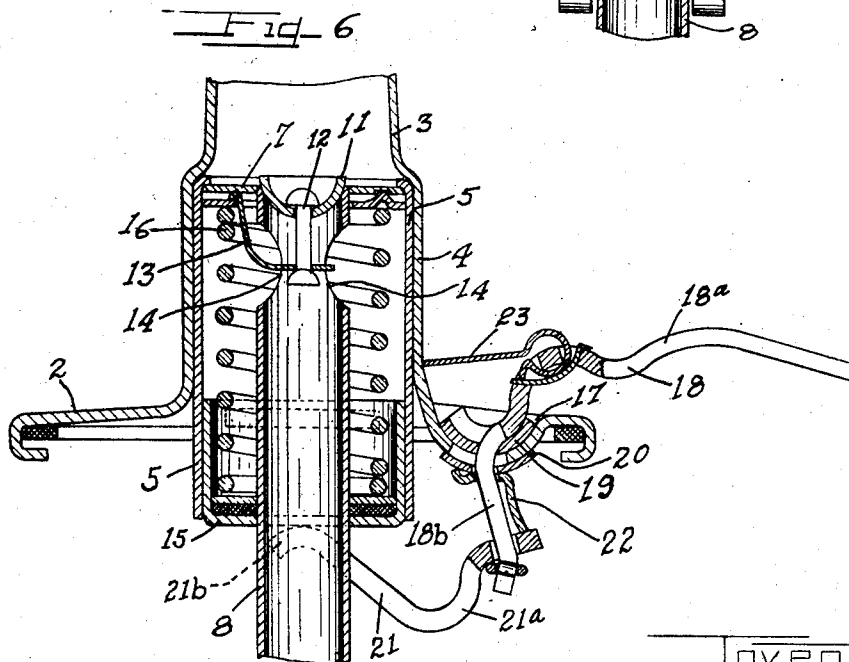
G. LIDSEEN

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COMBINED PUMP AND FORCE FEED OIL CAN

Filed Feb. 14, 1924

2 Sheets-Sheet 2



Inventor
Gustave Lidseen

Charles S. Miller

by

Attys.

Patented Feb. 2, 1926.

1,571,676

UNITED STATES PATENT OFFICE.

GUSTAVE LIDSEEN, OF CHICAGO, ILLINOIS.

COMBINED PUMP AND FORCE-FEED OIL CAN.

Application filed February 14, 1924. Serial No. 692,636.

To all whom it may concern:

Be it known that I, GUSTAVE LIDSEEN, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Combined Pump and Force-Feed Oil Can; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the numerals of reference marked thereon, which form a part of this specification.

This invention relates to a combination forced feed and pumping oil can.

It is an object of this invention to provide an oil can which can be converted from a forced feed one to a pumping one, whereby it is possible to lubricate bearings above the can by using the pumping feature, and whereby it is possible to lubricate other bearings especially those requiring a downward tilting of the oil can by the forced feed thereof.

The invention comprises the novel structure and combinations hereinafter described and more particularly pointed out and defined in the appended claims.

In the accompanying drawings which illustrate a preferred form of this invention and in which similar reference numerals refer to similar features in the different views:

Figure 1 is an elevational view of the oil can.

Fig. 2 is an enlarged top plan view of the oil can with the nozzle shown in section.

Fig. 3 is an enlarged vertical section through the oil can showing parts in elevation.

Fig. 4 is an enlarged bottom plan view of the cover or closure for the oil can showing the feed pipe in section.

Fig. 5 is an enlarged sectional view through the lower end of the feed pipe.

Fig. 6 is an enlarged sectional view through the forced feed and pumping mechanism of the oil can.

Fig. 7 is an enlarged sectional view through the forced feed and pumping mechanism showing parts in different positions.

Fig. 8 is a sectional view of a slightly modified form of oil can with parts in elevation.

Referring to Figs. 1 to 7 of the drawings which illustrate an embodiment of this invention, there is shown an oil can embody-

ing a body portion or lubricant container 1 having a cover or closure 2 provided with a nozzle 3 which has a lower cylindrical portion 4 which flares outwardly and is partially flanged for attachment to the body portion which is likewise partially flanged upon its upper end. A sleeve 5 is secured within the cylindrical portion of the nozzle and depends therebelow and near the upper end of this depending portion are slots 6 for the admission of oil into the sleeve when the can is properly tilted. These slots constitute inlet ports when it is desired to merely force the oil from the can instead of pumping as will later appear.

A partition 7 or the like is secured in the upper end of the sleeve 5. In the present instance, the partition is formed of a pair of spaced disks which are centrally apertured for the reception of the upper end of an oil feed pipe 8 which extends into the lubricant container at an angle to a point adjacent the bottom; the lower end being closed by a ball valve 9 confined by a cap 10. A concave valve 11 is seated in the upper end of the pipe 8 and normally closes the same. A stud 12 depends from this concave valve, and a leaf spring 13 attached at one end to the lower end of the stud, and secured at its other end to the partition yieldingly maintains the valve 11 in closed position. A pair of inlet ports 14 are formed in the upper end of the feed pipe through which that lubricating oil is adapted to pass that enters the ports 6 as will later appear.

A piston 15 is mounted for reciprocation in the sleeve 5. In the present instance, this piston consists of a hollow cylindrical member closed at its lower end except where the same is centrally apertured for the reception of the feed pipe 8. A coil spring 16 is confined in the sleeve 5 between the partition 7 and the piston for normally depressing the piston.

The cover or closure 2 is provided with a concave recess or seat 17 plainly shown in Fig. 6. A lever 18 preferably constructed of several parts is fulcrumed in this recess. This lever comprises a concave fulcrum 19 seated for sliding movement in the concave recess 17, an upper power arm 18^a secured to said fulcrum and a lower weight arm 18^b which extends through a suitable slot in the closure. A suitably curved shield 20 is positioned over the lower end of the slot, and

the lever arm 18^b extends through this shield which has a sliding movement on the bottom of the closure.

The weight arm 18^b of the lever 18 comprises a forked end 21 which is shown in the present instance as a separable member attached thereto. This forked end has a downward bend as is indicated at 21^a whereby an upward slope is imparted to the outer portions of said fork. The ends of the fork are adapted to engage the bottom of the piston 15 and as it is necessary for the same to slide over said bottom, they are preferably curved downwardly as indicated at 21^b. In order to add rigidity to the forked end, a bracing strip 22 is attached upon the arm 18^b for engaging the outer end of the member 21.

As the lever 18 is oscillated, it will raise and lower the piston 15 for pumping oil through the nozzle 3, provided the ports 6 are closed. In order to close these ports during the pumping operation, the piston 15 is elevated by means of the lever 18, into the position shown in Fig. 6 in which the ports 6 are closed, and the link 23 which is pivoted to the arm 18^a of the lever is swung to engage the nozzle. With the link 23 in the position shown in Fig. 6, the limits of reciprocation of the piston 15 will be such as to always close the slots or ports 6. It is therefore possible to pump oil from the can through the feed pipe 8 when the ports 6 are closed.

When it is desired to oil a bearing by tilting the can or inverting the same, the link 23 is swung out of engagement with the nozzle whereby the piston will be forced down by the spring 16 to its lower limit as shown in Fig. 7, whereby the ports 6 are opened for the entrance of oil above the piston, assuming of course that the can has been sufficiently tilted for such a purpose. From the chamber above the piston, the oil will flow through the ports 14 into the feed pipe 8, and may be forced therefrom into the nozzle 3 by operating the lever 18, producing what may be termed a forced feed.

In Fig. 8, there is shown a slightly different form of oil can, 1^a having a cover 2^a provided with a nozzle 3 which has a lower cylindrical portion as the first form, with a similar partition 7 and feed pipe 8 and piston 15 operable by a lever 18 as in the first form. The sleeve 5 shown in the first form is, however, omitted in this second form so that the piston reciprocates directly against the wall of the nozzle. This second form is hence only adapted for pumping oil and is not adapted for forced feeding as the first form.

From the foregoing, it will be apparent that I have devised a novel form of oil or lubricating can which is very convenient for use in oiling bearings in any position; the

pumping feature being adapted for oiling bearings that do not require undue tilting of the can, while the forced feed feature being adapted for oiling bearings which require considerable tilting of the can.

I am aware that numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted otherwise than necessitated by the prior art.

I claim:

1. In an oil can embodying a lubricant container, a closure therefor having a nozzle terminating in a lower cylindrical portion, a partition in the upper end of said cylindrical portion, an oil feed pipe connected to said partition and extending into said container, valves in the upper and lower ends of said pipe, said pipe having means therein for communicating with said cylindrical portion below said partition, a spring controlled piston slidably mounted around said feed pipe and adapted for entering the cylindrical portion of said nozzle and means for controlling and operating said piston.

2. In an oil can embodying a lubricant container, a closure therefor having a nozzle provided with a lower cylindrical portion, a sleeve secured in said cylindrical portion, a centrally apertured partition in the upper end of said cylindrical portion, a feed pipe secured in the aperture of said partition and depending into said container, said pipe having upper and lower valves, and inlet ports adjacent the upper valve, said ports communicating with said cylindrical portion below said partition, a spring controlled piston slidably mounted upon said pipe and adapted for reciprocation in said sleeve, said sleeve having an opening for the admission of lubricant adapted to be closed by said piston, means for reciprocating said piston and means for limiting the reciprocating movements thereof.

3. In an oil can embodying a lubricant container, a closure therefor having a nozzle provided with a lower cylindrical portion, a sleeve secured in said cylindrical portion and provided with an oil port, a feed pipe extending centrally of said nozzle and communicating with said cylindrical portion, a spring controlled piston slidably mounted upon said pipe and adapted for reciprocation in the cylindrical portion of said nozzle, valves in said feed pipe communicating with said container and nozzle respectively, means for reciprocating said piston and means for limiting the reciprocation thereof for keeping said oil port closed.

4. In an oil can embodying a lubricant container, a closure therefor having a nozzle provided with a lower cylindrical portion, a sleeve in said cylindrical portion,

said sleeve having an inlet port, an oil feed pipe having valve means therein extending from said nozzle and communicating with said cylindrical portion, a piston in the cylindrical portion of said nozzle, means for reciprocating said piston and means for limiting the reciprocating movements of said piston to close said inlet port.

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5. In an oil can embodying a lubricant container, a closure therefor having a nozzle provided with a lower cylindrical portion, a sleeve in said cylindrical portion, a piston reciprocable in said sleeve, an oil feed pipe extending through said piston and connected to said nozzle, said feed pipe having upper and lower valves and upper inlet ports and means for reciprocating said piston.

6. In an oil can embodying a lubricant

container and a closure therefor having a 20
nozzle provided with a lower cylindrical portion, a piston in said cylindrical portion, a feed pipe having valve means therein extending through said piston to said nozzle and having openings therein communicating with said cylindrical portion, a lever pivoted upon said closure and extending within said can, and an operating member secured upon said lever and engaging the lower end of said piston for 30
actuating the same relative to said feed pipe, said piston being adapted to suck oil through said feed pipe and to discharge the same to said nozzle.

In testimony whereof I have hereunto 35
subscribed my name.

GUSTAVE LIDSEEN.