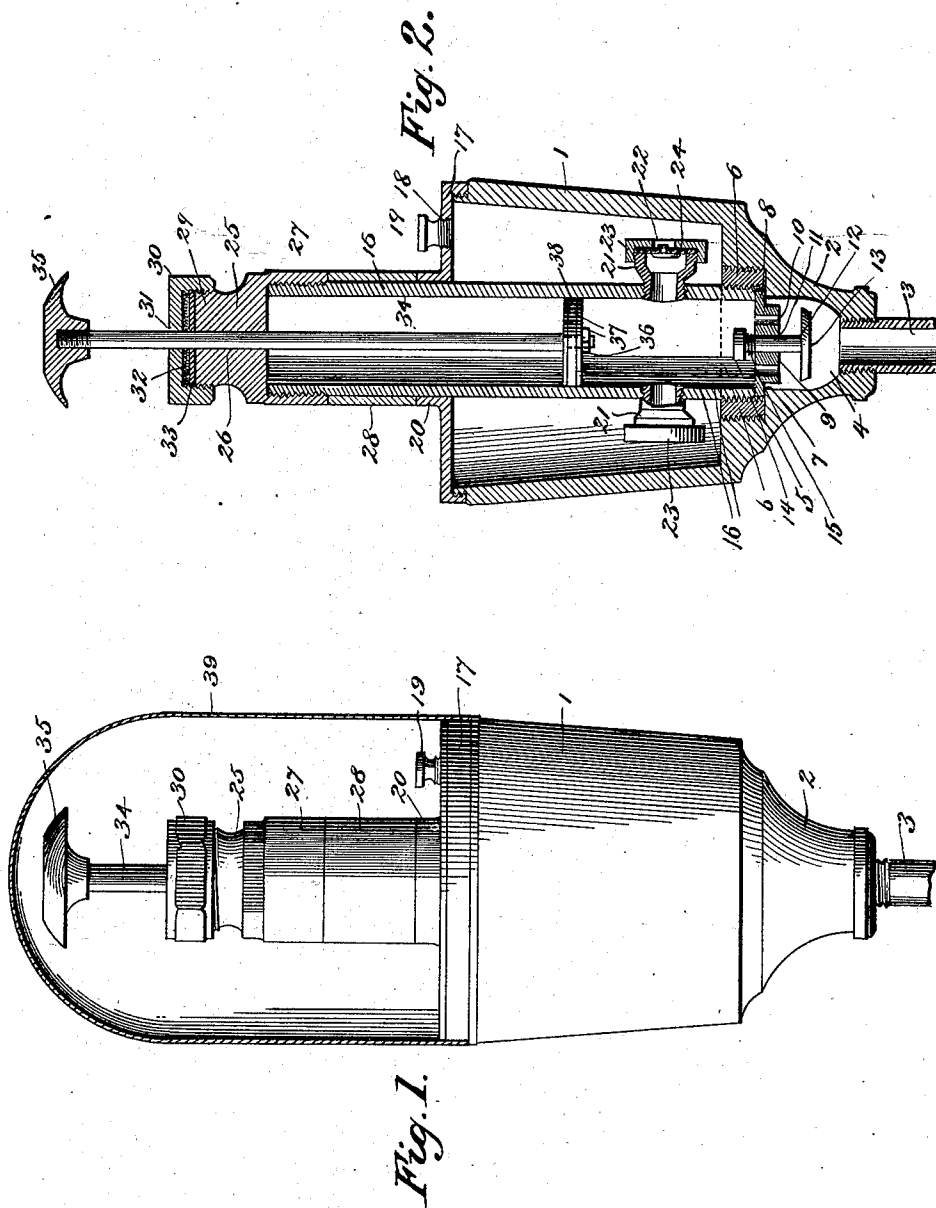


(No Model.)

J. J. KENNEDY.
LUBRICATOR.

No. 560,723.

Patented May 26, 1896.



Witnesses
Francis D. Blackstone
C. F. Duwall

Inventor:
John J. Kennedy.
By *C. F. Duwall* Attorney.

UNITED STATES PATENT OFFICE.

JOHN J. KENNEDY, OF CARBONDALE, PENNSYLVANIA.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 560,723, dated May 26, 1896.

Application filed October 5, 1895. Serial No. 564,787. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. KENNEDY, a citizen of the United States, residing at Carbondale, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Lubricators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to lubricators for journals and bearings; and the objects in view are to produce a lubricator of cheap and simple construction and adapted for application to any kind of a journal or bearing, as on fixed or portable machinery or vehicles of any description, to so construct the lubricator as to adapt it to contain a quantity of liquid lubricant and to discharge the same by a simple operation of the device to the points desired in predetermined quantities, and, finally, to protect the device from the dust.

Various other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a lubricator constructed in accordance with my invention, the dust-cap being shown in section. Fig. 2 is a vertical longitudinal sectional view of the device, the dust-cap being removed.

Like numerals indicate like parts in both figures of the drawings.

In practicing my invention I employ a reservoir 1, designed to contain liquid lubricant, which reservoir is designed so as to adapt it to the particular position it is intended it shall occupy, and its external shape may be varied so as to accommodate it to the specific application. One of the most ordinary forms, however, is that illustrated, and which, as shown, is of inverted-truncated-cone shape. The lower end of the reservoir 1 is somewhat abruptly reduced to form a neck 2, and threaded in the lower end of said neck is the flexible discharge-pipe 3. Instead of being flexible the pipe 3 may be rigid. I, however, prefer flexibility of this part in order that the device itself may be located in any desired best-adapted position, and the discharge-pipe 3

given such a course as will adapt it to conduct the lubricant to the desired point.

The interior of the reservoir, immediately above the pipe 3 and within the neck 2, is provided with a cavity 4, and the same has at its upper end an annular recess 5, the wall of which is threaded. Seated within this annular recess 5 and externally threaded to engage the threads thereof is a fillet 6, the same being of such width as to leave an annular shoulder 7 between its inner surface and the wall of the cavity 4. Seated upon this shoulder 7 is the annular flange 8, that surrounds a valve-seat 9, the latter depending a short distance into the cavity 4 and being provided with a central perforation 11 and an annular series of discharge-perforations 10. Located in the central perforation 11 is the reciprocating valve-stem 12, carrying the valve 13 at its lower end and the head 14 at its upper end. A spring 15 is interposed between the head 14 of the valve-stem and the valve-seat 9 and serves to normally raise the valve, so as to close the latter against its seat. The interior of the fillet 6 is threaded, and the same receives the lower end of a cylinder 16, the same being externally threaded at its upper and lower ends, the latter threads engaging with those of the fillet. The lower end of the cylinder bears upon the valve-seat 9, so that the latter by said cylinder is secured immovably in position. The cylinder is somewhat longer than the reservoir, and therefore extends above the same. A cap or cover 17 is provided with an internally-threaded depending flange which engages with similar threads produced upon the upper end of the reservoir. At one side of its center the cap or cover 17 is provided with a filling-opening 18, and closing the same is a removable plug 19, threaded therein. At its center the cap or cover is provided with an opening fitting around the cylinder 16, and an annular flange encircles the opening, and therefore the cylinder. Near its lower end and at diametrically opposite sides the cylinder 16 is tapped, and located therein are radially-disposed valve-cases 21, having removable caps 23 located on their outer ends. The caps are perforated, as at 22, and between said caps inwardly-opening clack-valves 24 are located. The upper end of the cylinder 16 has thread-

ed thereon a guide-cap 25, the same being centrally perforated or bored in an axial line, as at 26, and having its lower end formed with a depending internally-threaded flange, which 5 removably engages with the threads on the upper end of the cylinder. Between the lower end of the guide-cap 25 and the upper end of the flange 20 of the cap or cover 17 a filling-sleeve 28 may encircle the cylinder.

10 The upper end of the guide-cap 25 is reduced and externally threaded, as indicated at 29, and threaded thereon in an adjustable manner is the cap 30, the same being perforated, as at 31, in line with the axial bore 26 of 15 the guide-cap. Arranged between the guide-cap and adjustable cap 30 is a soft washer 32, below which is a metal plate 33. This constitutes a stuffing-box, in which wear may be compensated for by a simple adjustment of 20 the cap 30 in such manner as will cause it to compress and spread the soft washer or stuffing 32. Passing through the stuffing-box thus constructed and the upper end of the guide-cap 25 and depending into the cylinder 16 is 25 the plunger-rod 34, whose upper end beyond the stuffing-box is provided with a removable head 35 and whose lower end is reduced and threaded to receive a nut 36, above which is located a pair of metal disks 37, which embrace the upper and lower sides of a disk 38, 30 the whole constituting a well-known form of piston-head. This completes the construction of one of the simplest forms of my device with the exception of the dust-cap 39, which may 35 or may not be employed, and which if employed readily takes over the upper end of the reservoir in a removable manner and, as shown, will effectually exclude the dust from the moving parts, which might otherwise be 40 impeded in their operation.

The operation of the device will be obvious from the description, but may be detailed as follows: The operator after removing the dust-cap draws the plunger upwardly, the 45 piston thereof being brought to a point above the inlet-valves. This creates a vacuum below the piston, causing the inlet-valves to open inwardly and admit the lubricant from the reservoir into the cylinder. A subsequent 50 depression of the plunger causes the inlet-valves to close and forces the lubricant through the lower or discharge valve 9 into the cavity 4, from whence it is conducted by the discharge-pipe 3 to the desired point.

55 From the foregoing description, in connection with the accompanying drawings, it will be obvious that my invention is subject to many changes as regards its details, and I therefore state that I do not limit the same to 60 such exact details as are herein shown and

described, but hold that I may vary the same within the scope of my invention and mechanical skill so as to adapt it for use in any of the various positions to which it may be applied. 65

Having described my invention, what I claim is—

1. In a lubricator, the combination with the reservoir externally tapered at its lower end, and within said tapered portion provided with 70 a cavity of less diameter than the interior of the reservoir and at whose lower end is located a discharge, the wall of said cavity below the general bottom of the interior of the reservoir being provided with an annular recess, of a valve-seat within said recess and 75 closing the top of the cavity and having a downwardly-opening valve, a pump-cylinder threaded in the wall of the annular recess and bearing upon and retaining the valve in 80 position and above said point having inlet valved openings, and a plunger located in the cylinder, substantially as specified.

2. In a lubricator, the combination with the reservoir having a cavity formed in the bottom of its interior, which cavity terminates 85 at its lower end in a discharge and at its upper end is provided with an annular recess, of a valve-seat arranged in the recess and carrying a downwardly-opening valve, a cylinder threaded in the recess and retaining the 90 valve-seat in position and at its upper end projecting above the reservoir, valved openings located in the cylinder immediately above its lower end, a plunger arranged in the 95 cylinder, and a cover removably threaded on the upper end of the reservoir and encircling the cylinder, substantially as specified.

3. In a lubricator, the combination with the reservoir having a cavity formed in the bottom of its interior, which cavity terminates 100 at its lower end in a discharge and at its upper end is provided with an annular recess forming a valve-seat, of a downwardly-opening valve arranged in the seat and of a width 105 or thickness less than the depth of the seat, a cylinder threaded at its lower end in the annular recess or seat and bearing upon and serving to retain the valve within its seat, said cylinder being provided with valved in- 110 lets communicating with the interior of the reservoir at points above the valve, and a plunger arranged in the cylinder, substantially as specified.

In testimony whereof I affix my signature 115 in presence of two witnesses.

JOHN J. KENNEDY.

Witnesses:

W. S. DUVALL,
C. F. DUVALL.