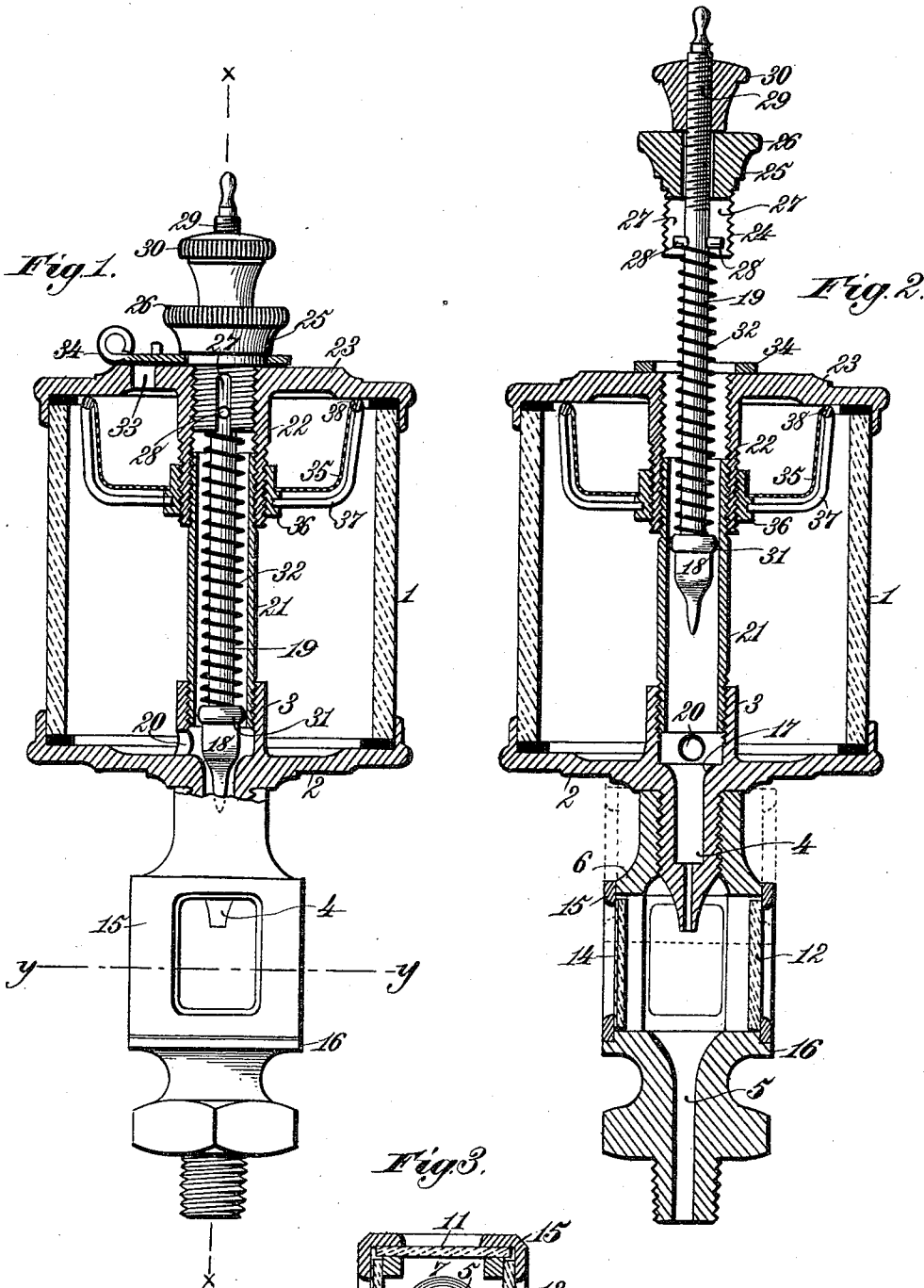


(No Model.)

W. MIEDING.
LUBRICATOR.

No. 464,799.

Patented Dec. 8, 1891.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM MIEDING, OF NEW ORLEANS, LOUISIANA.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 464,799, dated December 8, 1891.

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To all whom it may concern:

Be it known that I, WILLIAM MIEDING, a citizen of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented new and useful Improvements in Lubricators, of which the following is a specification.

This invention relates to that type of lubricators composed of a glass oil cup or reservoir containing a vertically-fixed tube having a discharge-nozzle at its lower end delivering the oil into a sight-chamber, a spring-closed valve-stem arranged in the tube and provided with a cross-pin or lugs working in a vertically-slotted part of a sleeve or bush placed in the top of the oil cup or reservoir, and a screw-nut working on the screw-threaded upper end of the valve-stem and bearing against the vertically-slotted sleeve or bush, all in such manner that the valve-stem can be raised or lowered by turning the screw-nut, while the pin-and-slot connection of the valve-stem and sleeve or bush prevents the valve-stem from turning axially when it is moved lengthwise by the nut.

In prior lubricators of this type it is essential to employ a somewhat complicated construction in order to prevent displacement of the slotted sleeve or bush, and also to provide a pin connection between the sleeve or bush and the oil cup or reservoir to hold the sleeve or bush against axial rotation when the screw-nut is turned to raise the valve-stem. In addition to this complicated and expensive construction such prior lubricators are objectionable, in that the valve-stem cannot be removed without disconnecting the parts comprising the oil cup or reservoir. It is frequently desirable to remove the valve-stem, and prior constructions permit this; but it is essential to detach the cap or top wall of the oil cup or reservoir and also the internal vertical tube.

The purposes of my invention are to avoid the objections stated, to provide a new and improved lubricator, and to remove the valve-stem, its closure-spring, and the adjusting-nut by the detachment of the slotted sleeve or bush, whereby it is entirely unnecessary to disturb any other part of the lubricator in detaching the valve-stem, its spring, and adjusting-nut.

To accomplish such ends my invention involves the features of construction and the combination or arrangement of devices hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional elevation of a lubricator constructed in accordance with my invention. Fig. 2 is a sectional view taken on the line *x x*, Fig. 1; and Fig. 3 is a sectional view taken on the line *y y*, Fig. 1.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates the glass cylindrical part of an oil cup or reservoir, supported at its lower end by a base-plate or disk 2, having an upwardly-projecting sleeve 3 and a downwardly-projecting nipple 4 for dropping the oil through a sight-chamber into the delivery-orifice 5, which communicates in the usual manner with the part to be lubricated. The sight-chamber comprises a metallic casing 6, which is square in cross-section and contains apertures 7, 8, 9, and 10, closed by panes of glass 11, 12, and 13, arranged, respectively, at three sides of the casing, and a mirror 14, arranged at the remaining and rear side of the casing, for the purpose of illuminating the drops of oil as they descend through the sight-chamber. The panes of glass and the mirror rest against the outer surfaces of the casing 6, and are confined in proper relative position through the medium of a vertically-sliding skeleton frame 15, having orifices coinciding with the panes of glass. The vertically-sliding skeleton frame rests upon the ledge 16 on the casing 6, and can be elevated to the position indicated by dotted lines, Fig. 2, for the purpose of gaining access to the panes of glass to enable them to be renewed, and also to be conveniently detached for the purpose of preserving them in a clean condition.

The oil-dropping nipple 4 is provided with a valve-seat 17 to receive the conical or pear-shaped valve 18 on the lower extremity of the valve-stem 19. The upwardly-projecting sleeve 3 of the base-plate or disk 2 is provided with a recess 20 for the flow of oil from the oil cup or reservoir into the oil-dropping

nipple, and into such sleeve is screwed the lower end of a vertical tube 21, having a screw-threaded connection with the pendent sleeve 22, formed with the top or cap plate 23 of the oil cup or reservoir, whereby the fixed tube 21 serves to retain the top or cap plate in proper position on the cylinder 1 of the oil cup or reservoir.

The pendent sleeve 22 of the top or cap plate is internally screw-threaded to engage the internally-screw-threaded portion 24 of a bushing 25, having a central smooth bore, through which loosely passes the valve-stem 19. The bushing 25 is provided with a milled head 26 by which to screw it into and unscrew it from the pendent sleeve 22, and the screw-threaded portion of the bushing is formed with a vertical slot 27, extending transversely therethrough, to receive the cross-pin or lateral lugs 28 on the valve-stem 19 in such manner that, while the valve-stem can be raised and lowered, the pin-and-slot connection prevents it from axially rotating. The upper extremity of the valve-stem is screw-threaded, as at 29, and engages an adjusting screw-nut 30, which bears against the upper side of the screw-threaded bushing 26, so that by turning the nut in the proper direction the valve-spindle will be raised to lift the valve 18 from the valve-seat 17. It will be obvious that the relative position of the valve and valve-seat can be varied to suit the conditions required for feeding the oil in greater or less quantities, as occasion demands.

The valve 18 is provided with a shoulder 31, against which bears the lower extremity of a coiled or other suitable spring 32, encircling the valve-stem and bearing at its upper extremity against the slotted screw-threaded portion of the bushing 26. This spring tends to press the valve 18 into a closed position against the valve-seat 17, but yields for the purpose of raising or lowering the valve more or less when the adjusting screw-nut 30 is operated.

It will be observed that the only direct connection between the valve-stem, its spring, and adjusting-nut resides in the slotted screw-threaded bushing, and consequently the valve-stem, its spring, and adjusting-nut can be quickly removed from the lubricator by simply unscrewing the bushing 26. In this respect my invention differs from all prior lubricators of this character of which I am aware.

The top or cap plate of the oil-reservoir is provided with a supply-orifice 33, which can be covered and uncovered by a swinging plate or other suitable device 34.

For the purpose of filtering the oil supplied to the oil cup or reservoir through the feed-orifice 33, I arrange in the upper portion of the reservoir a cup-shaped filter or strainer 35, resting upon a collar 36, carried by the

pendent sleeve 22. The collar 36 is provided with a cage for sustaining the thin foraminous material of which the filter or strainer is composed. The cage comprises a series of wires or arms 37, attached at one extremity to the collar 36 and at the opposite extremity joined to a ring 38, adapted to rest against the inside of the top or cap plate 23 of the oil cup or reservoir. The cage constitutes a substantial support for the filter or strainer, and therefore the latter can be composed of very light and thin material. The collar 36 is internally screw-threaded and engages an external screw-thread on the pendent sleeve 22, so that when the top or cap plate 23 of the oil cup or reservoir is removed the collar 36 can be unscrewed for the purpose of detaching the filter or strainer and its supporting-cage.

Having thus described my invention, what I claim is—

1. The combination, with an oil cup or reservoir having an oil-dropping nipple and an internal vertical tube, of the top or cap plate having a pendent internally-threaded sleeve, a removable screw-threaded bushing engaging the pendent sleeve and provided with a vertically-slotted lower end, an adjusting-nut resting against the screw-threaded bushing, the valve-stem having a shouldered valve, a cross-pin or lugs engaging the slotted portion of the bushing and a screw-threaded upper extremity on which the screw-nut is mounted, and a spring bearing at one end against the shouldered valve and at the opposite end against the slotted part of the bushing, substantially as and for the purpose described.

2. A lubricator consisting of an oil cup or reservoir having a top or cap plate provided with a pendent sleeve, a collar engaged with the sleeve, a cup-shaped filter or strainer resting on the collar, and a filter or strainer supporting cage consisting of wires or rods secured to the collar and sustaining the filter or strainer, substantially as described.

3. A lubricator consisting of an oil cup or reservoir having a top or cap plate provided with a pendent externally-screw-threaded sleeve, a screw-threaded collar engaging the sleeve, a cup-shaped filter or strainer resting on the collar, and a filter or strainer supporting cage consisting of wires or arms secured at one end to the collar and at the opposite end to a ring adapted to rest against the inside of the top or cap plate, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

WILLIAM MIEDING. [L. S.]

Witnesses:

CHAS. L. CASE,

JULIUS ALBRIGHT.