

No. 711,295.

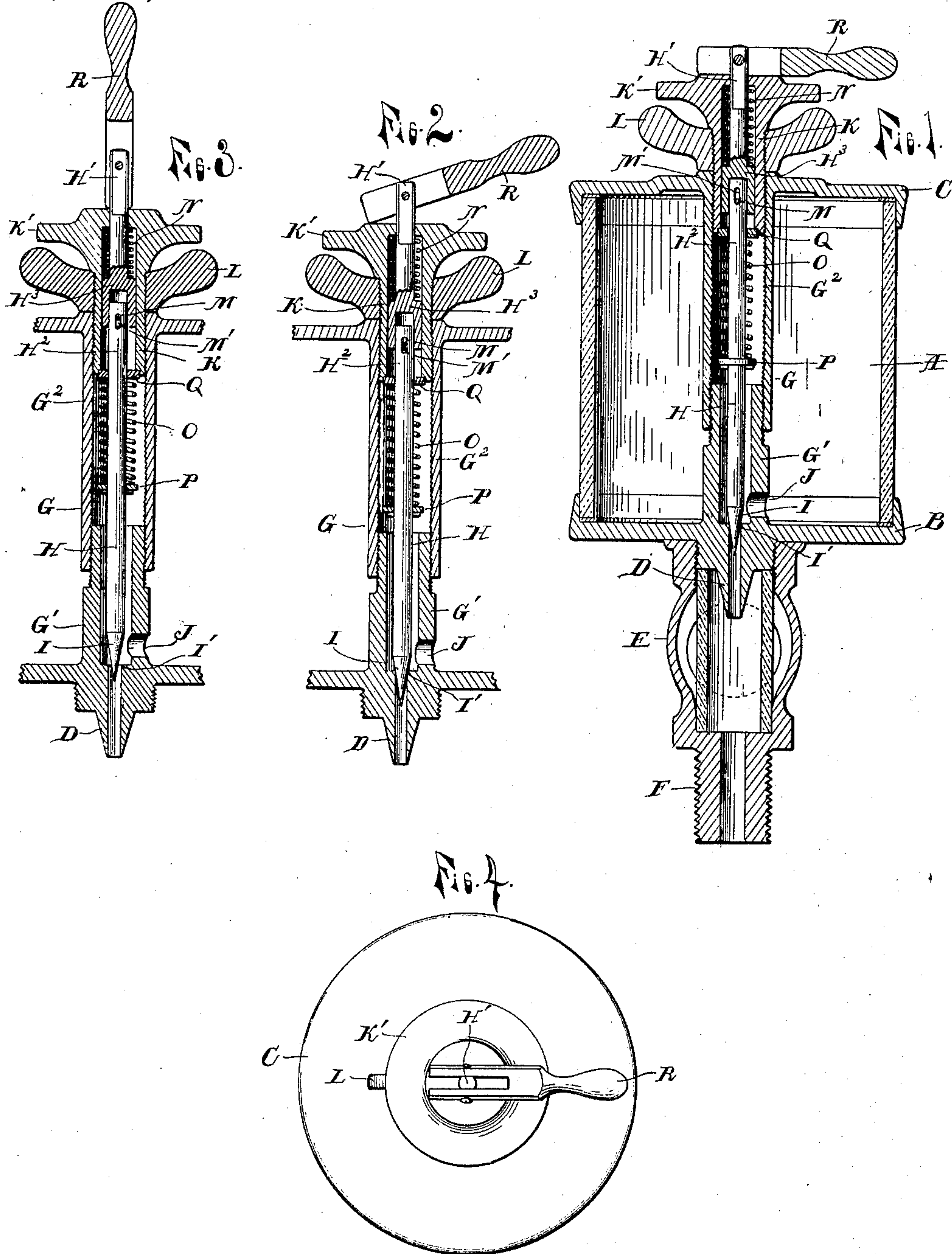
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LUBRICATOR.

(Application filed Feb. 14, 1902.)

(No Model.)



WITNESSES.

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UNITED STATES PATENT OFFICE.

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LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 711,295, dated October 14, 1902.

Application filed February 14, 1902. Serial No. 93,994. (No model)

To all whom it may concern:

Be it known that we, JOSEPH H. DEARE and JOHN M. LECKNER, citizens of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Lubricators, of which the following is a specification, reference being had therein to the accompanying drawings.

Our invention relates to improvements in gravity-feed lubricators, and more particularly to that class of lubricators used for oiling journal and other similar bearings; and its object is to provide such a lubricator with a valve operating and adjusting mechanism containing certain new and useful features and the particular arrangement and construction thereof, all as hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical central section of a device embodying our invention, showing the valve closed. Fig. 2 is a vertical central section of the feed-tube and adjacent parts, showing the valve-operating mechanism in an intermediate position; Fig. 3, the same with the valve in its raised or open position, and Fig. 4 is a plan view of Fig. 1.

A is the ordinary reservoir, consisting of the cylindrical glass body and the heads B and C to close the ends thereof. The lower head B is provided with a downwardly-extending discharge-nozzle D, which extends into and to which is secured the sight-fitting E, which fitting is provided at its lower end with a screw-nipple F for attaching the lubricator to the cap of a journal-box or other bearing.

G is an axial feed-tube consisting of two parts, one part, G', made integral with the head B and externally screw-threaded, and the other part, G², integral with the head C and internally screw-threaded to receive the part G' and connect the heads to hold them firmly against the ends of the glass body. Within the feed-tube G is the valve-stem H, having a lower tapered end forming a valve I, adapted to engage a valve-seat I' in the lower end of said feed-tube, through which the feed-

tube communicates with the nozzle D, an opening J in the side of the tube admitting the oil thereto.

The portion G² of the feed-tube is internally screw-threaded throughout its length, and into its upper end, which opens through the head C, is screwed the chamber-plug K, having a milled head K' to facilitate the turning of the same and a lock-nut L thereon to hold said plug in any of its adjusted positions.

The valve-stem H is made in two parts, the part H' being provided at its lower end with an enlarged and chambered head H³, which fits within the chamber of the plug K and forms a socket to receive the upper end of the other part H² of the valve-stem, the parts being connected by providing the head H³ with a transverse pin M, which engages a slot M' in the part H². The two parts of the stem are thus connected, so that there is a lost motion, or, in other words, one part is free to move longitudinally a short distance independently of the other. Sleeved on the part H' of the stem is a spring N, engaging at one end the head H³ and at its opposite end the inner end of the chamber of the plug K, and on the part H² is sleeved the spring O, which engages a fixed abutment P on the stem at one end and a collar Q at the opposite end, which collar engages a seat on the lower end of the plug K.

The upper end H' of the stem projects through the head K' of the plug, and to this end is pivoted the bifurcated hand-lever R, the upper face of the head K' forming the fulcrum for the said lever.

When the lever R is in the position shown in Fig. 1, the spring O exerts a force to hold the valve I to its seat, and the spring N exerts a downward pressure on the shoulder formed by the head H³ to hold the lever R down upon the head K'. When the lever is raised in the operation of opening the valve, the first movement thereof raises against the action of the spring N the part H' of the valve-stem only, the pin M moving up in the slot M', as shown in Fig. 2, and as said spring is a light one the movement is comparatively easy; but the pin having reached the upper end of its slot the further movement of the

lever raises the part H^2 of the stem against the action of the heavier spring O and lifts the valve from its seat, as shown in Fig. 3. The operation of the lever is thus made easier, 5 as there is but little load at the beginning of the movement, where the leverage is the least, and increases as the leverage increases. The amount of flow, or the throw of the valve, is regulated by adjusting the plug K up or 10 down in the feed-tube, and if it were not for the pin-and-slot connection between the parts of the stem, whereby the part H' is given a limited longitudinal movement independent of the part H^2 , the seating of the valve I 15 would prevent the spring from holding the lever R firmly against the head K' and would thus leave said lever free to be turned on its pivot by the vibration of the machine to which the lubricator is attached, causing constant noise and wear, besides being the source 20 of great annoyance to the attendants.

Having thus fully described our invention, what we claim is—

1. In a gravity-feed lubricator, the combination with a reservoir, a feed-tube and an adjustable plug in the upper end of said feed-tube; of a valve-stem within said feed-tube consisting of two parts, one part being connected to the other and having a limited longitudinal movement independent thereof, independently-operating springs, one to actuate each part of the valve-stem, a valve on one end of said valve-stem, and a hand-lever pivoted to the opposite end of the valve-stem. 35

2. In a gravity-feed lubricator, the combination with a reservoir, an axial feed-tube, and an adjustable plug in the upper end of said feed-tube; of a valve-stem within said 40 feed-tube consisting of two parts, one part being slotted longitudinally near its end and the other part provided with a fixed pin to engage said slot and connect said parts, springs sleeved on the parts of said stem and operating independently to actuate said parts, a valve on the lower end of said stem, and a 45 hand-lever on the upper end thereof.

3. In a gravity-feed lubricator, the combination with a reservoir, an axial feed-tube

having a valve-seat in its lower end, and a 50 chambered plug in the upper end of said feed-tube; of a valve-stem within said feed-tube consisting of two parts, the upper part being provided at its lower end with a socket to receive the upper end of the lower part of 55 said stem and the lower part provided with a slot, a pin on said upper part to engage said slot and connect the parts, springs sleeved on the parts of said stem and operating independently to actuate said parts, a valve on 60 the lower end of the stem, and a hand-lever on the upper end thereof.

4. In a gravity-feed lubricator, the combination of a reservoir, an axial feed-tube in said reservoir and opening through the top thereof, 65 a chambered screw-plug closing the upper end of said feed-tube and having a head on its outer end, a valve-seat in the lower end of said feed-tube, a valve-stem consisting of an upper and a lower part, the lower part being 70 provided with a slot near its upper end, a chambered head on the lower end of said upper part of the valve-stem to fit within the chamber of the plug and to receive the upper end of the other part of the stem, a pin in 75 said head to engage the said slot, a hand-lever pivoted to the upper end of the upper part of the stem and adapted to engage the head of said plug, a spring sleeved on the upper part of the stem and engaging the head thereon 80 and the inner end of the chamber of the plug to hold the hand-lever in engagement with the head of said plug, a valve on the lower end of the lower part of said stem, an abutment on said lower part, a collar engaging 85 the lower end of said plug, and a spring engaging said abutment and collar to hold the valve to its seat.

In testimony whereof we affix our signatures in presence of two witnesses.

JOSEPH H. DEARE.
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Witnesses:

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