No. 684,418. Patented Oct. 15, 1901.

G. B. ESSEX.

LUBRICATOR.

(Application filed Mar. 7, 1901.)

(No Model.)

Fig. 1.

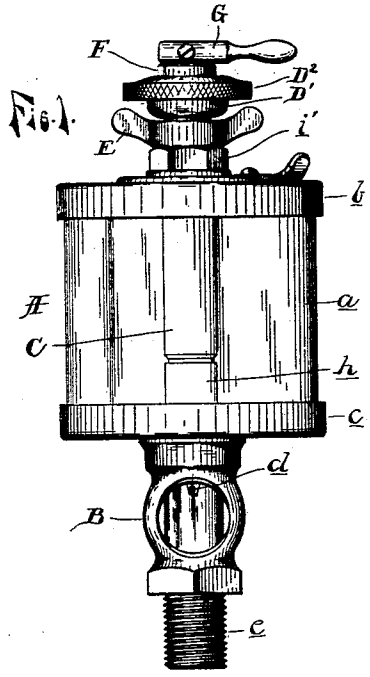


Fig. 2.

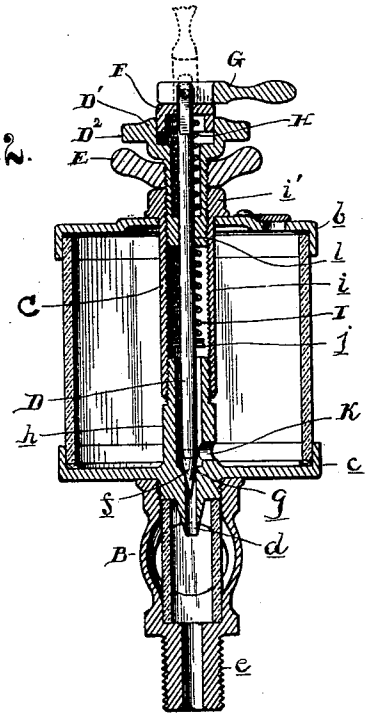
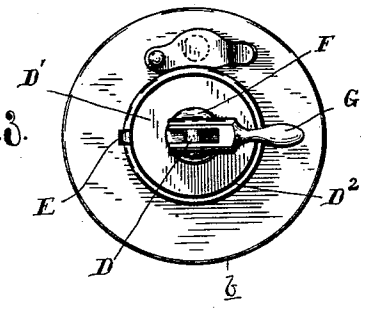


Fig. 3.



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GEORGE B. ESSEX, OF DETROIT, MICHIGAN, ASSIGNOR TO THE G. B. ESSEX BRASS COMPANY, OF SAME PLACE.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 684,418, dated October 15, 1901.

Application filed March 7, 1901. Serial No. 50,164. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. ESSEX, a citizen 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.

This invention relates more particularly to that kind of gravity-feed lubricators which are employed for automatically oiling journals and other similar bearings; and my improvement involves a novel construction of valve for controlling the discharge from the reservoir, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is an elevation of my improved lubricator. Fig. 2 is a vertical central section thereof. Fig. 3 is a plan view thereof.

A is a reservoir, which may be formed, as usually, with a cylindrical glass case *a*, clamped between upper and lower heads *b c*, the former being provided with the usual filling-opening. The lower head has formed in its center the downwardly-projecting discharge-nozzle *d*, which projects into a sight-fitting B, secured to the lower head, and terminates in a screw-nipple *e* for screwing the lubricator into the cap of a journal-box or other bearing.

C is a central hollow feed-tube extending upwardly from the lower head through the reservoir and forms a housing for the valve-stem D, which latter at its lower end is tapered to form a valve *f*, adapted to seat upon a valve-seat *g* in the lower end of the feed-tube and through which said feed-tube communicates with the nozzle *d*. The feed-tube, which connects with the reservoir through an opening K, may be preferably formed with a lower portion *h*, cast integral with the lower head, and an upper portion *i*, having a screw-thread connection therewith. The upper end of the feed-tube projects through the upper head and is formed with a clamping-head *i'*, adapted to clamp the parts of the reservoir together.

D' is a chambered plug screw-threaded into the upper end of the feed-tube. Its lower end is formed with a guide-bearing *l* for the valve-stem, and its upper end has a knurled head D^2, by means of which it may be readily screwed up or down in the feed-tube for the purpose of adjustment, a jam-nut E upon the plug locking it in its adjusted position.

F is a cupped washer vertically guided in a recess formed in the head of the plug D' and provided with a central aperture for guiding the upper end of the valve-stem. The valve-stem has pivotally secured to its upper end a bifurcated hand-lever G and has sleeved upon it two coil-springs H I. The coil-spring H is inclosed in the chamber of the screw-plug D' and is interposed between the bottom of the plug D' and the washer F, and the coil-spring I is inclosed in the feed-tube and is interposed between the lower end of the screw-plug D' and a fixed abutment *j* on the valve-stem D.

The parts being constructed and arranged as shown and described, they are intended to operate as follows: The coil-springs H I are both under tension, but act in opposite directions upon the valve-stem, and the spring I being somewhat stronger it will in the position of the lever G shown in Fig. 2 hold the valve-stem down upon the valve-seat yieldingly; but if the lever G is thrown up into the dotted position shown the spring H will be compressed to such an extent that it will overcome the resistance of the spring I to the opening of the valve, and as a result the valve-stem will be bodily raised up from its seat and admit the lubricant to feed through the nozzle.

Should it be desired to regulate the amount of feed, it may be accomplished by adjusting the screw-plug D' up or down in the feed-tube. It will also be seen that by reason of forming the valve *f* with a long taper and guiding the valve-stem only in bearings near its upper end the valve will readily guide itself to its seat.

My construction thus accomplishes in a very simple way the desired objects of closing the valve yieldingly, so that it will not jam the seat, of guiding the valve-stem to the seat, and of providing means for regulating the feed. At the same time the lever G, which by

its position acts as a signal to indicate whether the cup is feeding or not, is always held by a spring-pressure in either of its two positions.

What I claim as my invention is—

1. In a gravity-feed lubricator, the combination of the reservoir, of a central hollow feed-tube extending up from the bottom through the top of the reservoir and having an inlet-opening leading from the reservoir into the feed-tube, an outlet from the bottom of the feed-tube formed with a valve-seat at its junction with the feed-tube, a valve-stem supported in a vertical guide bearing in said feed-tube and extending up through said tube, a valve at the lower end of said valve-stem and forming a rigid part thereof, two coil-springs sleeved upon the valve-stem one above the other, the lower exerting its tension to lower the valve-stem and the upper one exerting its tension to raise the valve-stem, a washer sleeved upon the valve-stem and bearing upon the upper spring and a hand-lever pivotally secured to the valve-stem above said washer and holding said springs jointly under tension.

2. In a gravity-feed lubricator, the combination with the reservoir A, of the feed-tube C, having the inlet K and the outlet *d* formed with the valve-seat *f* the valve-stem formed at its lower end with the taper valve *g*, the lever G pivotally secured to the upper end of the valve-stem, the chambered screw-plug D′ vertically adjustably secured in the upper end of the feed-tube, and forming the guide-bearing *l* for the valve-stem, the springs I and H sleeved upon the valve-stem and exerting their tension in opposite directions upon the valve-stem, and the cupped washer F interposed between the spring H and the lever G.

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

GEORGE B. ESSEX.

Witnesses:

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