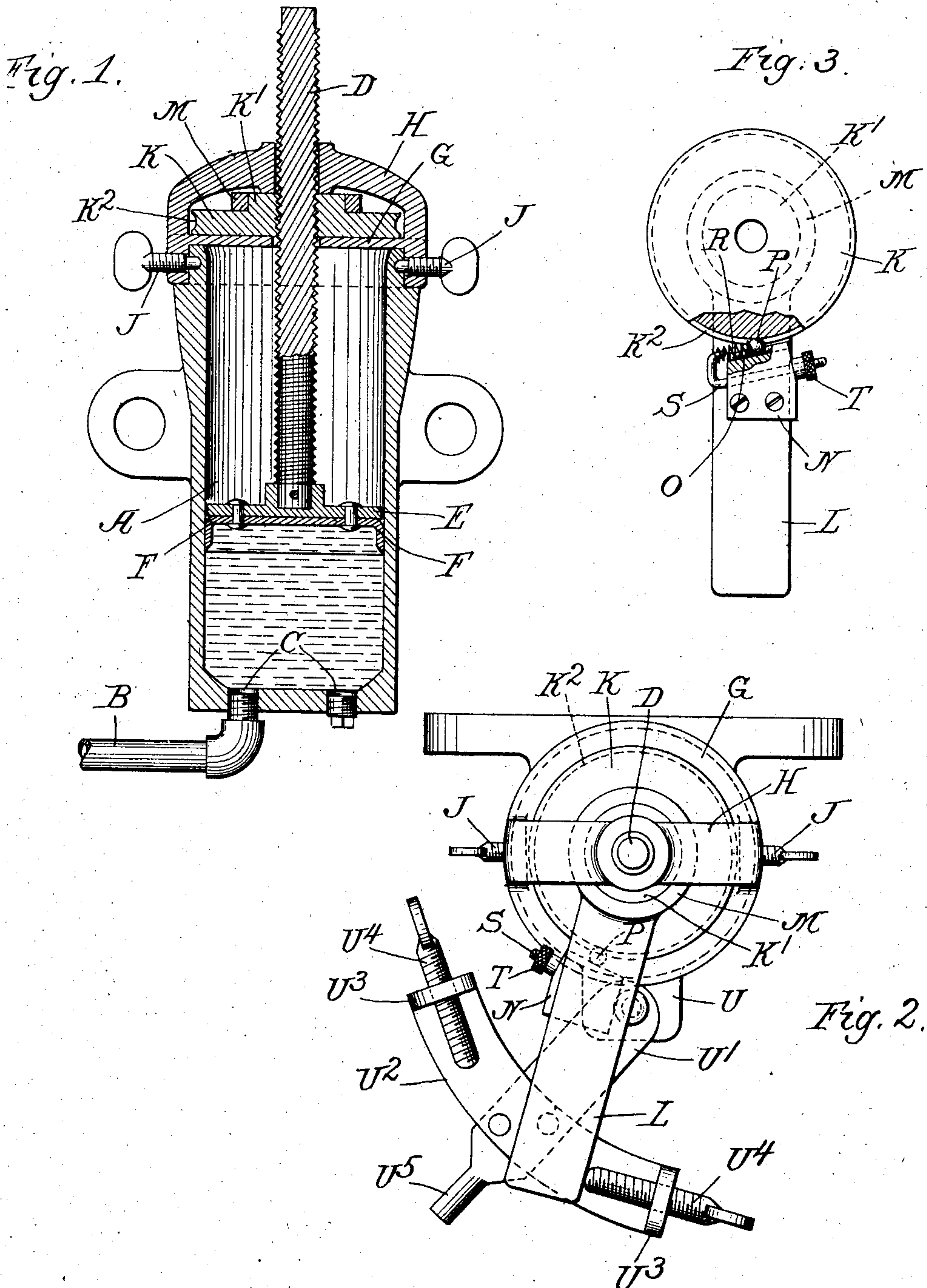


No. 834,388.

PATENTED OCT. 30, 1906.

G. M. LOMBARD.  
LUBRICATOR.

APPLICATION FILED JAN. 11, 1904.



Witnesses.

Edward T. Wray,  
Homer S. Kraft.

Inventor.

George M. Lombard.  
by Parker Watts  
Attorney's.



# UNITED STATES PATENT OFFICE.

GEORGE M. LOMBARD, OF MADISON, WISCONSIN, ASSIGNOR TO AARON O. AUTEN, OF CHICAGO, ILLINOIS.

## LUBRICATOR.

No. 834,388.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed January 11, 1904. Serial No. 188,488.

*To all whom it may concern:*

Be it known that I, GEORGE M. LOMBARD, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented a certain new and useful Improvement in Lubricators, of which the following is a specification.

My invention relates to lubricators, particularly such as are intended to give a forced flow of oil under adverse circumstances, such as great cold or where heavy oil is used.

One form of my invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a vertical section through the device. Fig. 2 is a plan view. Fig. 3 is a detail of the clutch.

Like parts are indicated by the same letters in all the figures.

A is a cylinder from which leads the pipe B, or, if desired, there may be two openings C C, whence may lead two such pipes. Each such pipe leads to the part to be lubricated, or, as in ordinary practice, to a sight-feed lubricator connected with such parts. In the cylinder there is a screw-threaded rod D, carrying at its lower end, attached thereto in any desired manner, a disk E, to the bottom of which is secured an inverted-cup-shaped flexible disk valve F. The screw-threaded rod passes upwardly through a hole in the lid G, which is associated with the yoke H and is removably held on the cylinder by means of set-screws J J. K is a disk, and K' is a smaller disk on top of the same. The two are secured together, or they may be integral. The upper disk K' is, in effect, a hub. The lower disk K has a groove K<sup>2</sup> in its periphery. The two disks are internally screw-threaded, and through them passes a screw-threaded rod D, its screw being received into a thread on the disk.

L is an arm having at one end a ring M, which encircles the disk or hub K' and carries a block N with an inclined inner face O, between which and the groove K<sup>2</sup> of the disk K lies the clutch-ball P. This ball is held in place by the spring R on the end of the rod S, which is inserted in an aperture in the block N. One end of the rod carries the spring R and the other is screw-threaded and provided with a thumb-nut T, whereby the tension on the spring R may be varied.

Projecting from the cylinder is a block U, to which is pivoted an arm U'. This arm car-

ries an arc-shaped piece U<sup>2</sup> with upturned ends U<sup>3</sup> U<sup>3</sup>, through each of which pass the thumb-screws U<sup>4</sup>. The arm L lies upon this arc-shaped piece and between the two thumb-screws.

At the outer end of the arm U' is a connection-piece U<sup>5</sup>, whereby it may be connected to some moving part—for example, the moving portion of the engine to be lubricated. I have not shown this connection of the engine to the lubricator because it is not necessary so to do to illustrate my invention. It will be sufficiently understood without such further illustration.

Of course in ordinary practice this lubricator will be driven from the eccentric-rod of an engine and will feed to a sight-feed lubricator. The lid or cover is not always necessary and may be dispensed with, the yoke alone being used. The parts K and K' rest upon the cover or the top of the cylinder, as the case may be, and bear against the under part of the yoke. Thus the yoke takes the strain of the rod. The disk E may itself be cup-shaped, if desired.

The use and operation of my invention may be further described as follows: The cylinder will be filled with oil by the removal of its lid or cover and the screw-rod and disk. The screw-rod is now worked up to a point where the disk will be near the lid, and the parts are then put together. The rod is operated until the disk is brought down onto the oil in the cylinder. The flexible disk F will expand against the inner surface of the cylinder and make a good joint. The parts are all now brought into proper relation, a suitable connection with the sight-feed lubricator, having been previously made and the connection U<sup>5</sup> being attached to some moving part. Assuming that the throw of the moving part is uniform, the travel of the disk in the cylinder can be regulated by regulating the position of the thumb-screws U<sup>4</sup>. Assuming that the disk F is somewhat firmly seated against the body of oil, when the arm U' is moved back and forth it will impart motion to the arm L, which lies between the ends of the thumb-screws U<sup>4</sup>. As this arm moves in one direction the ball P will serve as a friction-ball and force the rotating disk part way around, thus forcing the plunger-rod down, and with it the disk F, thereby putting pressure upon the oil. On the re-



turn stroke the ball P is free, and therefore the rod does not reverse its action. Obviously the parts can be adjusted so as to apply such pressure to the oil that even though  
5 it be very heavy or very cold it will be forced out of the cylinder through the pipe and into the lubricator or to the parts to be lubricated.

I claim—

10 1. In a lubricator for engines the combination of an oil-cylinder, a plunger-disk with a screw-threaded rod thereon, a device at the top of the cylinder rotating in a horizontal plane and engaging with the threaded rod to  
15 give it downward movement, and bearings for such rotating device comprising a bowed yoke across and removably attached to such cylinder, and placed above such rotating part, and means adapted to be associated  
20 with the driving mechanism of the engine for actuating the rotating device.

2. In a lubricator for engines the combination of an oil-cylinder, a plunger-disk with a screw-threaded rod thereon, a device at the  
25 top of the cylinder rotating in a horizontal plane and engaging with the threaded rod to

give it downward movement, and bearings for such rotating device, comprising a rigid part spanning the top of such cylinder, and placed above such rotating part, and having  
30 a bearing part against which the rotating device bears, and means adapted to be associated with the driving mechanism of the engine for actuating the rotating device.

3. In a lubricator for engines the combination of an oil-cylinder, a plunger-disk with a screw-threaded rod thereon, a device at the top of the cylinder rotating in a horizontal plane and having a screw-threaded aperture  
40 receiving and engaging with the threaded rod to give it downward movement, and bearings for such rotating device, comprising a rigid part spanning the top of such cylinder, and placed above such rotating part, and having  
45 a bearing part against which the rotating device bears, and means adapted to be associated with the driving mechanism of the engine for actuating the rotating device.

GEORGE M. LOMBARD.

Witnesses:

HOMER L. KRAFT,

HERBERT L. WEIDENBAUM.