

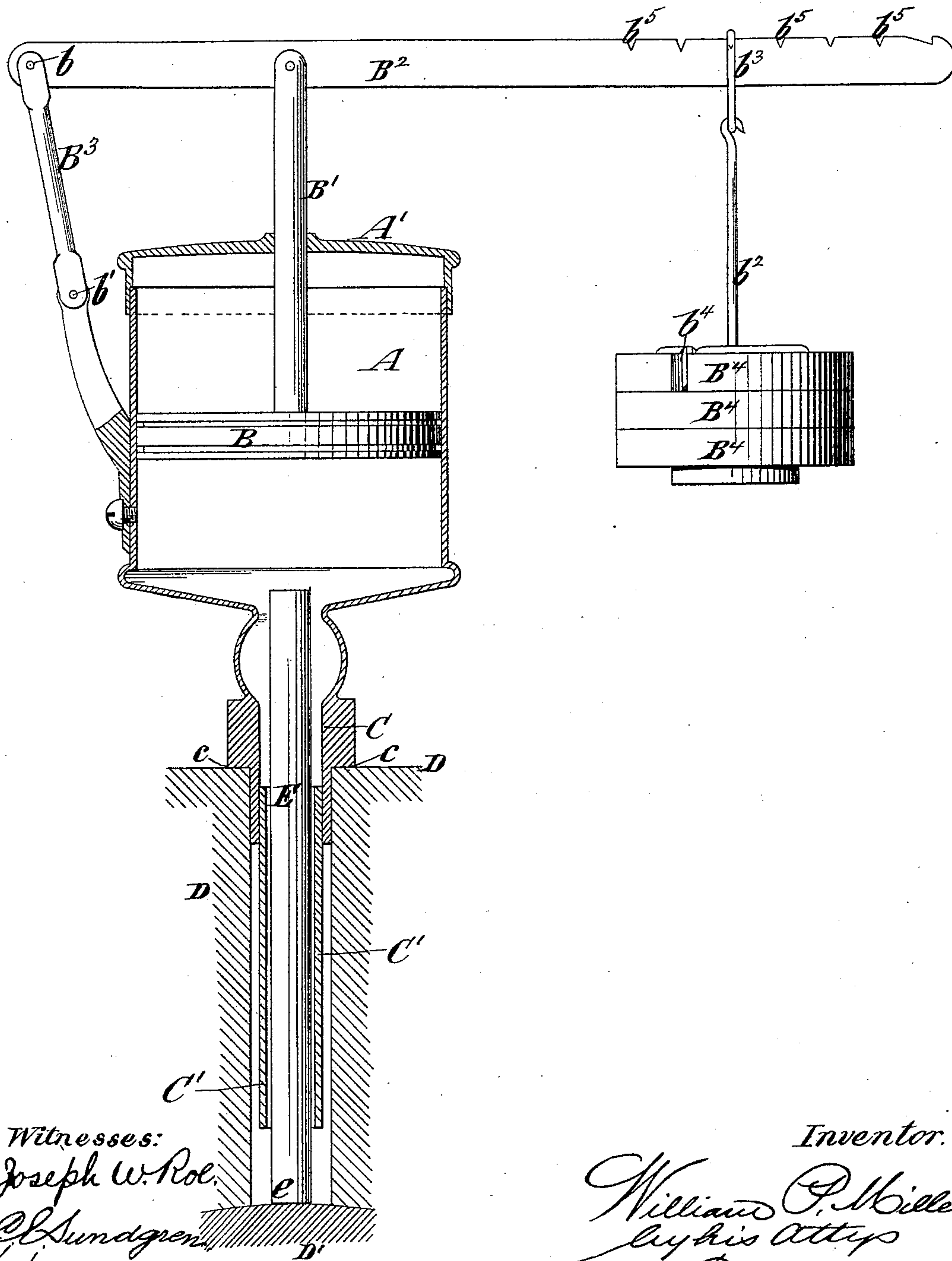
(No Model.)

W. P. MILLER.

LUBRICATOR.

No. 390,890.

Patented Oct. 9, 1888.





# UNITED STATES PATENT OFFICE.

WILLIAM P. MILLER, OF BROOKLYN, NEW YORK.

## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 390,890, dated October 9, 1888.

Application filed January 30, 1888. Serial No. 262,397. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM P. MILLER, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Lubricators, of which the following is a specification.

My invention is intended particularly for lubricators which are to be applied to large journals, and although it may be employed for oil, it is more particularly intended for solid grease.

The invention will be hereinafter particularly described, and pointed out in the claims.

The accompanying drawing is a vertical section of a lubricator embodying my invention, including a portion of the cap of the bearing to which the lubricator is applied, and representing, also, the surface of the journal fitted therein.

A designates the lubricator-cylinder, which is bored out so as to receive snugly therein a piston, B. The cylinder A is vertical, and is closed at the upper end by a cover, A'. From the bottom of the cylinder extends a discharge-tube, C, which has secured to it an extension, C', and this tube and extension may be considered as the discharge-tube of the lubricator, whether they are formed in one or two pieces.

D designates the cap of the bearing, to which the lubricator is applied, and on the discharge-tube is a shoulder, c, which, by resting upon the top of the cap, serves to sustain the lubricator, it being understood that the cylinder A is supported upon the discharge-tube C.

D' designates a portion of the journal to which the lubricator is applied, and which is fitted in the bearing of which D is the cap.

Within the discharge-tube C C' is placed a spindle, E, the lower end, e, of which rests on the journal D', and which is usually of copper, so as not to scratch or mar the journal, and by the rotary motion of the journal a slight but continuous vibration or movement is given the spindle.

The piston B has a rod, B', which extends upward through the cover A', and to which is applied a loaded lever, B<sup>2</sup>. The lever B<sup>2</sup> has a fulcrum, b, upon a link or swinging support, B<sup>3</sup>, the lower end of which is pivoted at b'. This fulcrum-support B<sup>3</sup> swings slightly as the piston is moved upward and downward in the cylinder, and prevents the piston or piston-rod from binding.

Upon the lever B<sup>2</sup> are applied weights B<sup>4</sup>. As here represented, a rod, b<sup>2</sup>, is hung by a stirrup, b<sup>3</sup>, from the lever B<sup>2</sup>, and the weights B<sup>4</sup> are notched at b<sup>4</sup>, and may be placed upon the rod b<sup>2</sup>, similarly to the adjustment of scale-weights. As many of the weights B<sup>4</sup> are hung upon the lever B<sup>2</sup> as are required to sufficiently load the piston, and the same weights may be made more effective by shifting them away from the piston-rod B', the lever B<sup>2</sup> being provided with a series of notches, b<sup>5</sup>, for this purpose, the number of which may be varied, according as more or less pressure upon the piston is desired.

Whenever it is desired to fill the lubricator with grease, the weights B<sup>4</sup> are removed and the lever B<sup>2</sup> is lifted, thereby withdrawing the piston B from the cylinder A and removing the cover A'. The cylinder A is then packed with grease, the piston B is reintroduced therein, and the cover A' closed down over the cylinder, and then, when the weights B<sup>4</sup> are hung upon the lever B<sup>2</sup>, the piston is pressed downward by a constant load, and gradually forces the grease from the lubricator-cylinder A downward through the discharge-tube C C' and to the journal D'.

It is desirable to have the lubricator-cylinder A supported entirely by its discharge-tube, because then the lubricator may be very easily applied to any bearing. All ordinary machinery bearings are provided with holes in their caps for lubrication, and it is only necessary that the hole in the cap shall be of sufficient size to receive the discharge-tube C', and all that is necessary to apply the lubricator to the bearing is to insert the discharge-tube in such oil-hole and fill the lubricator-cylinder and apply the weights to its piston. When the lubricator is filled with solid grease and the journal D' is in motion, the grease is worked down from the cylinder A through the tube C' and around the spindle E to the journal by the combined action of the suction produced in the bearing by the rotation of the journal, the vibration of the spindle E, and the pressure produced by the loaded piston.

I may in some cases dispense with the spindle E, but prefer to use it, because with it much less weight is necessary on the piston. I find by practical use of the same device, both with and without the spindle E, that nearly or

quite four times as much weight is required without the spindle as is needed when the spindle is used, and the loaded piston and spindle therefore form a new combination to insure  
5 the proper feed of grease from the cylinder.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a lubricator, the combination, with a cylinder, of a discharge-tube leading from the  
10 lower end of the cylinder and upon which the latter is supported, a spindle in the discharge-tube adapted to make contact with a journal to which the lubricator is applied, a piston within the cylinder serving to force grease  
15 therefrom, a weighted lever for operating said piston, and a swinging support upon which said lever is fulcrumed, substantially as specified.

2. In a lubricator, the combination of a cylinder, a discharge-tube leading from the lower  
20 end of said cylinder and upon which the cylinder is supported, a spindle in said discharge-tube adapted to make contact with a journal to which the lubricator is applied, a piston within the cylinder, a lever for operating the  
25 piston journaled upon a swinging support, and detachable weights hung from said lever and adjustable thereon toward and from the fulcrum of the lever, substantially as specified.

WM. P. MILLER.

Witnesses:

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FREDK. HAYNES.