(No Model.)

J. H. PORTER & P. MILLER.

OIL CUP.

No. 371,216. Patented Oct. 11, 1887.

Fig. 1.

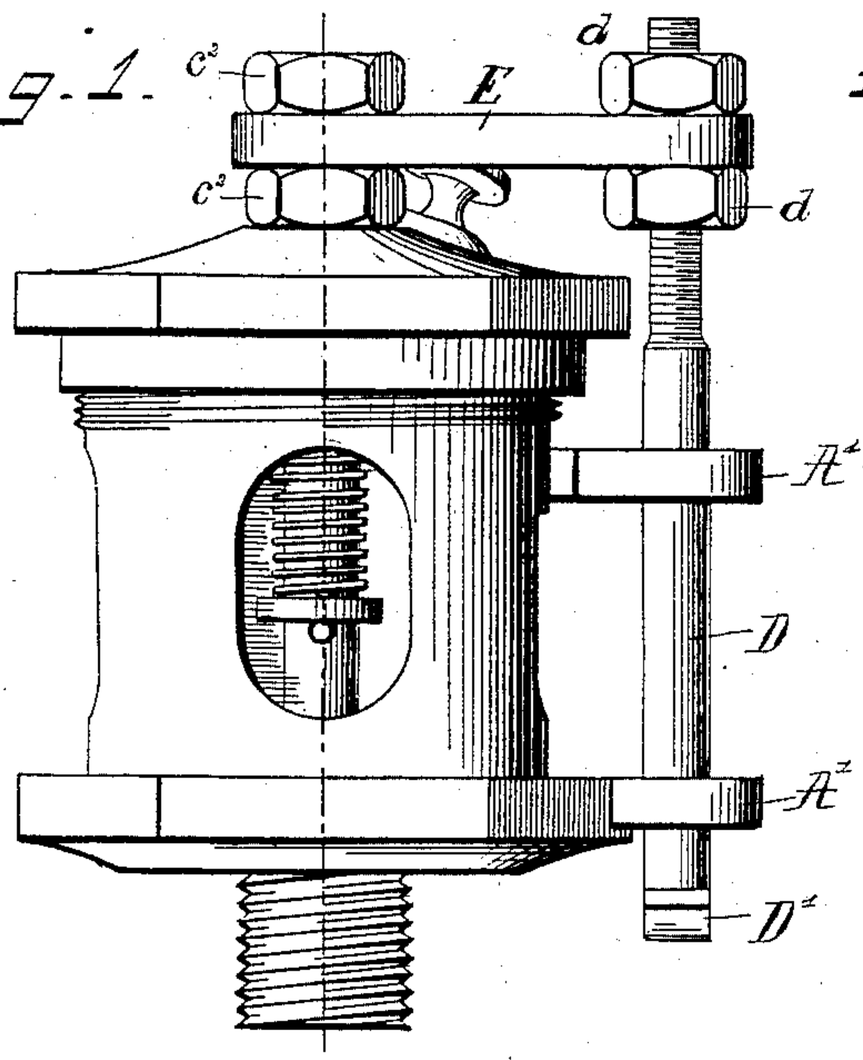


Fig. 2.

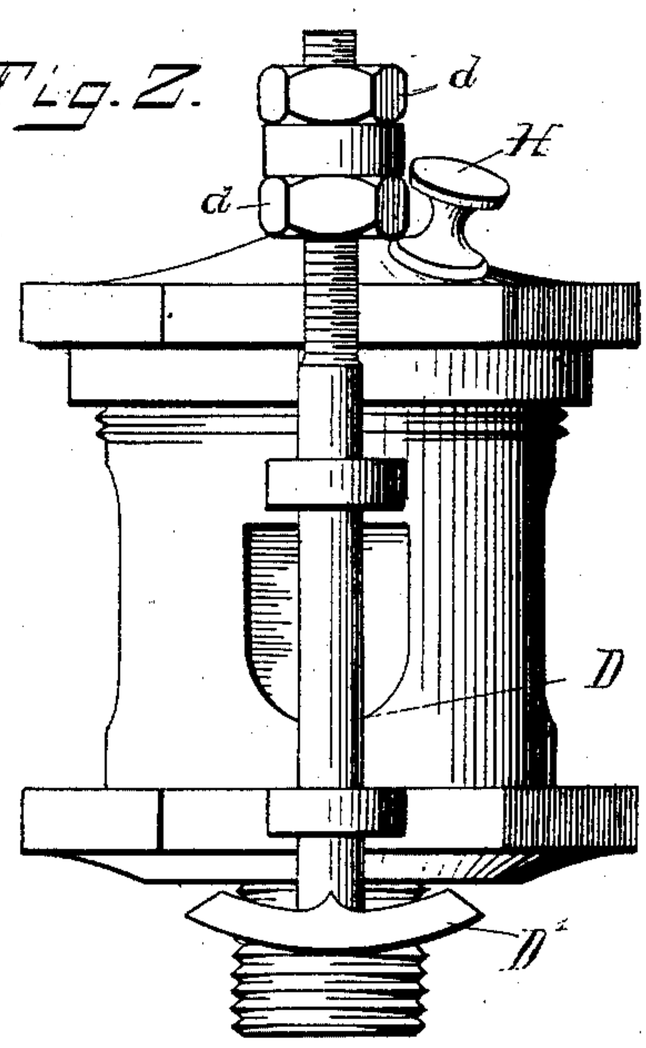


Fig. 3.

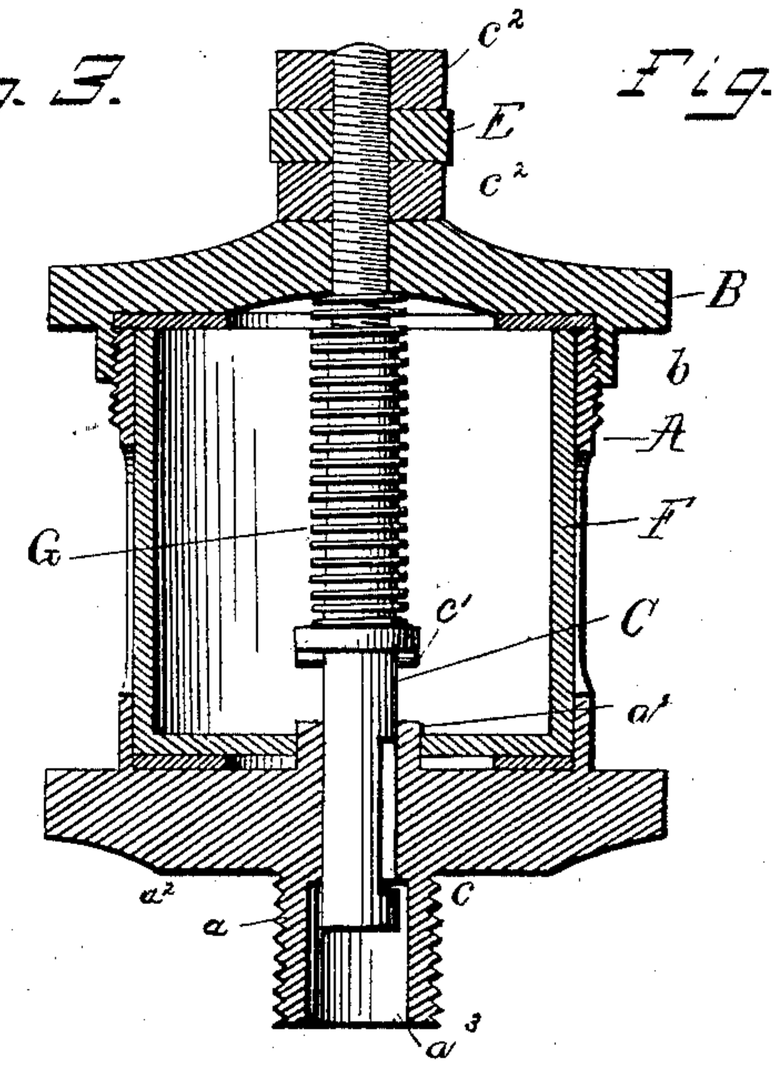
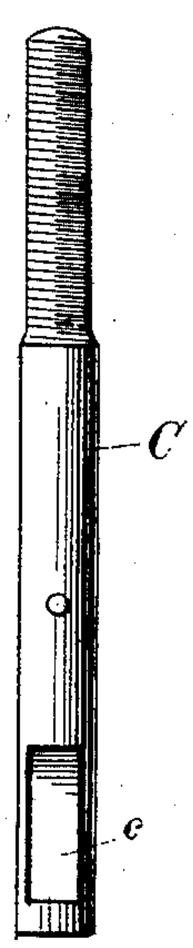


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

JOHN HARSON PORTER, OF JACKSON, AND PETER MILLER, OF YPSILANTI, MICHIGAN.

OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 371,216, dated October 11, 1887.

Application filed June 18, 1886. Serial No. 205,552. (No model.)

To all whom it may concern:

Be it known that we, JOHN HARSON PORTER and PETER MILLER, citizens of the United States, residing, respectively, at Jackson and Ypsilanti, in the counties of Jackson and Washtenaw and State Michigan, have invented certain new and useful Improvements in Oil-Cups; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to an improved lubricator; and it consists in the novel features more particularly hereinafter set forth and claimed, and shown in the annexed drawings, in which—

Figure 1 is a side view. Fig. 2 is a front view. Fig. 3 is a section on the line X X of Fig. 1, and Fig. 4 is a detail view of the plunger detached.

The lubricator comprises the case A, cover B, plunger C, operating-rod D, and arm-connection E. The bottom of the case is centrally provided with a depending threaded shank, *a*, and an internal tubular extension, *a'*. A glass cup or vessel, F, snugly fitted within the case receives and holds the lubricant. Apertures formed through the case permit the observance of the lubricant. The tubular extension *a'* projects through the bottom of the glass vessel and is ground to fit the sides close. The plunger C works through the cover B and tubular extension *a'*, and is surrounded by a coil-spring, G, located between the cover and a pin or stop, *c'*. The lower end is cut away on one side part way only, forming a recess, *c*. The upper end is threaded and, projecting beyond the cover, is provided with nuts c^2, between which one end of the arm E is clamped. The outer end of the arm is held on the operating-rod D, between nuts *d* on its upper threaded end. The operating-rod is held in lugs A', projecting from the side of the case in such manner that it may have a vertical movement. The lower end is provided with a shoe, D', convexed on its under side to track upon the cross-head or boss on shafting.

The cover is provided with the usual screw-cap, H, for closing the opening through which the lubricant is supplied to the vessel.

Packing interposed between the bottom of the vessel and the case and between the cover and top of the vessel cushions the latter and prevents fracture when screwing home the cap, besides forming air-tight joints.

The recess *c* in the lower end of the plunger is of such length relative to the length of the bore a^2 of the extensions *a a'* that at no stage or position of the plunger will a communication be established between the vessel and the exterior or mouth of the extension *a*. The bore a^2 is expanded near the lower end to permit the lubricant delivered into the recess discharging onto the parts to be lubricated.

The position of the plunger may be regulated to bring the recess *c* in proper adjustment relative to the bore or opening a^2 in the bottom of the vessel by adjusting the nuts c^2. To regulate the amount of feed of lubricant, the position of the operating-rod D may likewise be varied by adjusting the nuts *d*.

In practice the lubricator is secured to the moving part to be lubricated, and a projection is located in the path of travel of the lower end of the rod D or shoe in such manner that it will lift the rod and plunger, bringing the recess in the lower end of the plunger in communication with the interior of the vessel from which the lubricant is deposited into the recess. The part continuing its movements, the lower end of the rod is disengaged from the projection, when by the reaction of the spring G the plunger is lowered, cutting off communication between the interior of the vessel and establishing communication between the recess and the mouth of the shank *a*, from which the lubricant escapes onto the parts to be lubricated.

The device is entirely automatic in its operation, and requires no attention after being filled with a lubricant which is fed only when the machine or the part to which it is attached is in motion, and when the machine stops the feed of lubricant ceases. The lubricant is fed only at each downstroke of the plunger. The upstroke permits the recess *c* to receive its

supply, and the downstroke permits it to discharge the supply received. The recess being shorter than the bore or opening a^2, the flow of the lubricant is shut off at each up-and-down stroke of the plunger and at a point neither up nor down. By this construction it is immaterial at what point the machine may stop the flow of oil will be cut off, and the moment the machine starts the oil will again feed.

We are aware that an operating rod and spring is not broadly new, hence do not claim such as our invention.

We are also aware that it is old to construct an oiler with a perforated neck extending from its bottom having a plunger or stem working through the perforation in the neck and provided with a valve located above and below the neck for alternately closing the upper and lower ends of a passage-way or groove cut in the side of the stem, and which extends from one valve to the other. We lay no claim to such construction as forming a part of our invention. By our construction it is impossible to have a continuous feed, and if the machine should stop in such position that the plunger would be midway of its stroke, neither up nor down, the supply of oil would be effectually cut off at each end of the tubular extension. This feature is peculiar to and is the soul of our invention, and in this respect is materially different from any device heretofore constructed for a like purpose.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The combination of the lubricant-receptacle having oppositely-disposed openings or bearings in its top and bottom, with a plunger or rod mounted in said bearings and provided with a longitudinally-disposed oil-receiving chamber of less length than the bottom bearing, whereby the flow of oil may be cut off irrespective of the point at which said plunger may cease its movement, as and for the purpose set forth.

2. The lubricant-receptacle having coincident openings or bearings in its top and bottom and lateral lugs, an automatic plunger or rod mounted in said bearings, and provided with a longitudinal oil-chamber of less length than the bottom bearing, in combination with an operating-rod mounted in said lugs, and an adjustable arm connecting the plunger with the operating-rod, as and for the purpose set forth.

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

JOHN HARSON PORTER.
PETER MILLER.

Witnesses:
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