

H. R. PEIN.
LUBRICATORS.

No. 179,666.

Patented July 11, 1876.

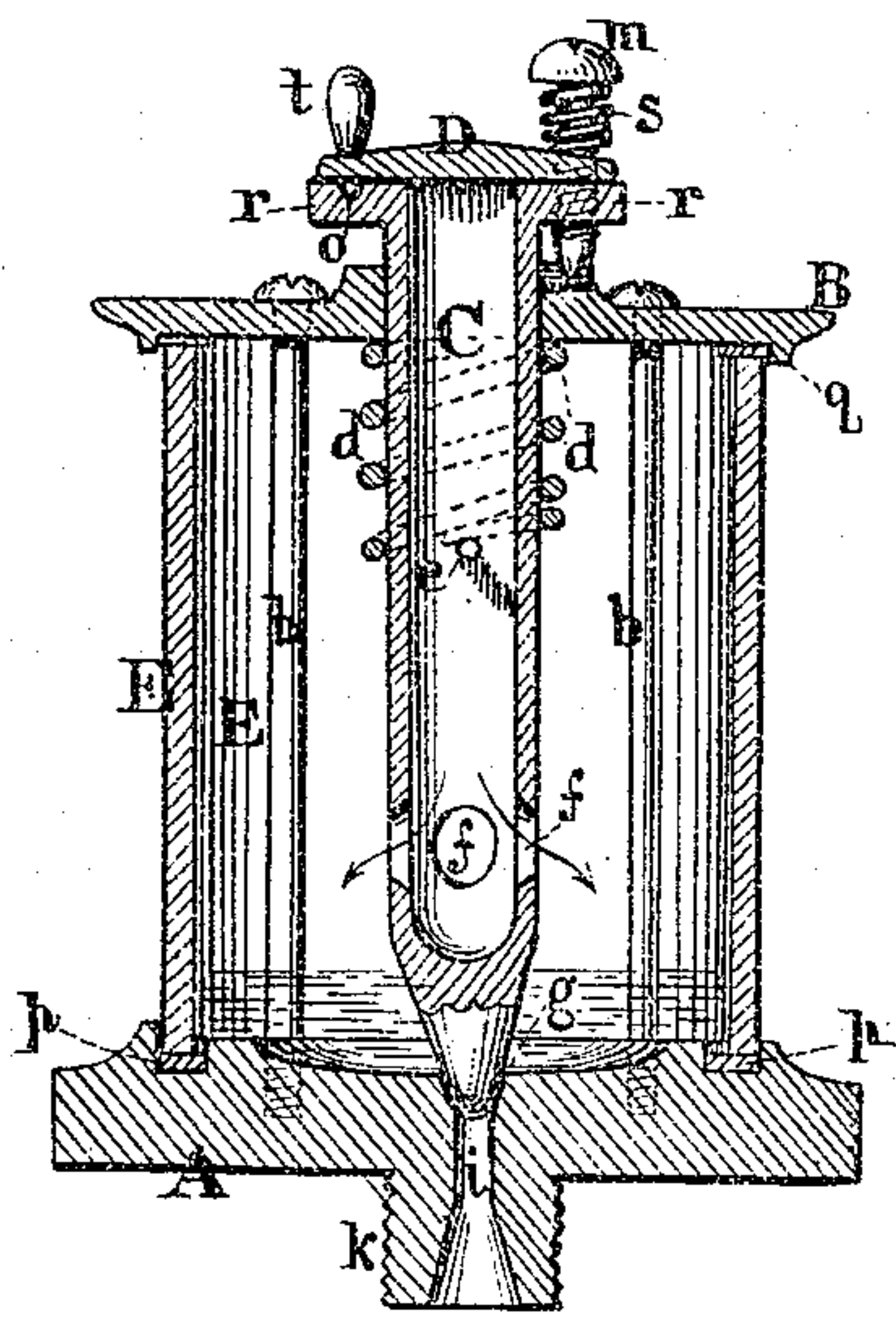


Fig. 1. (vert. sec.)

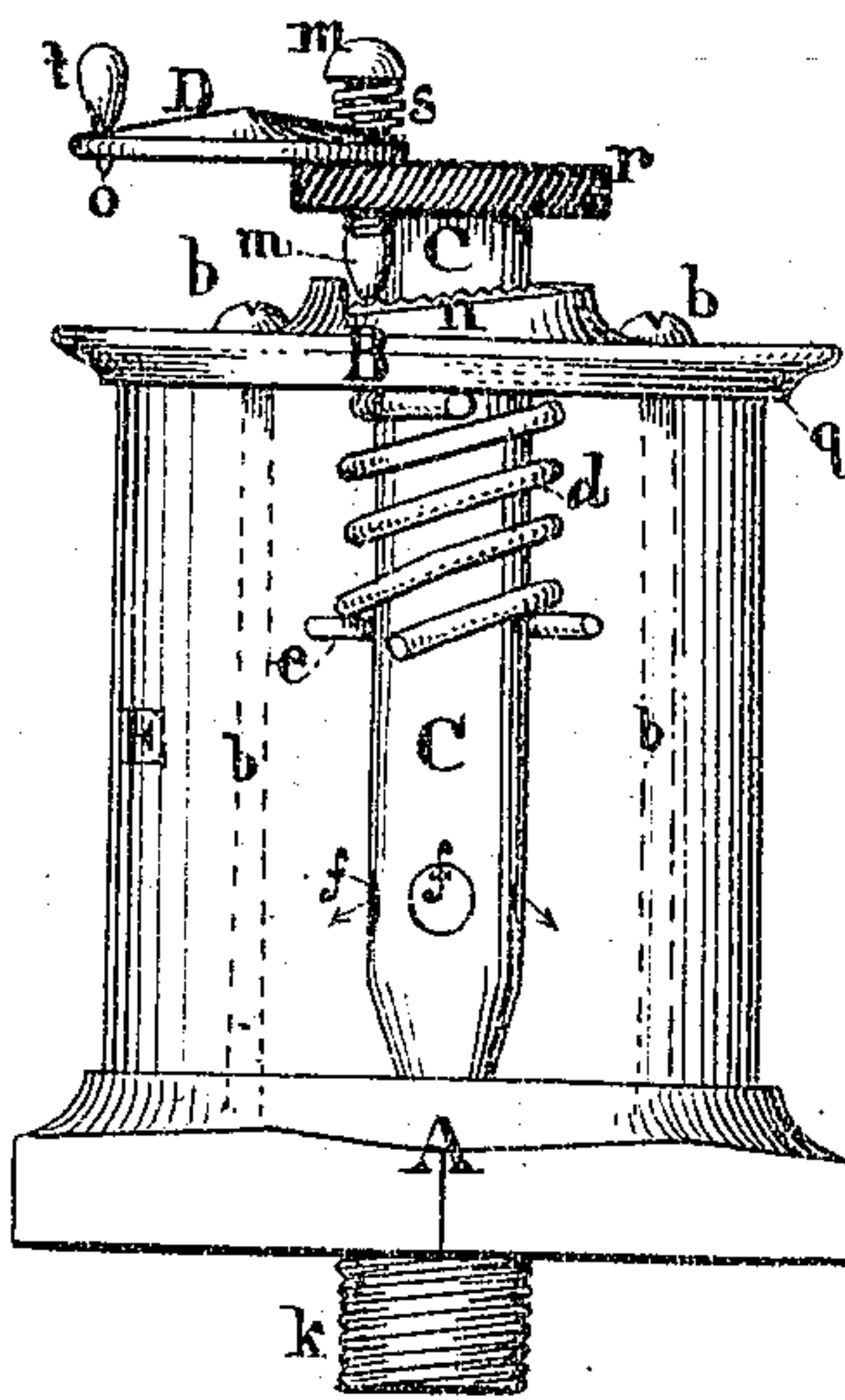


Fig. 2.

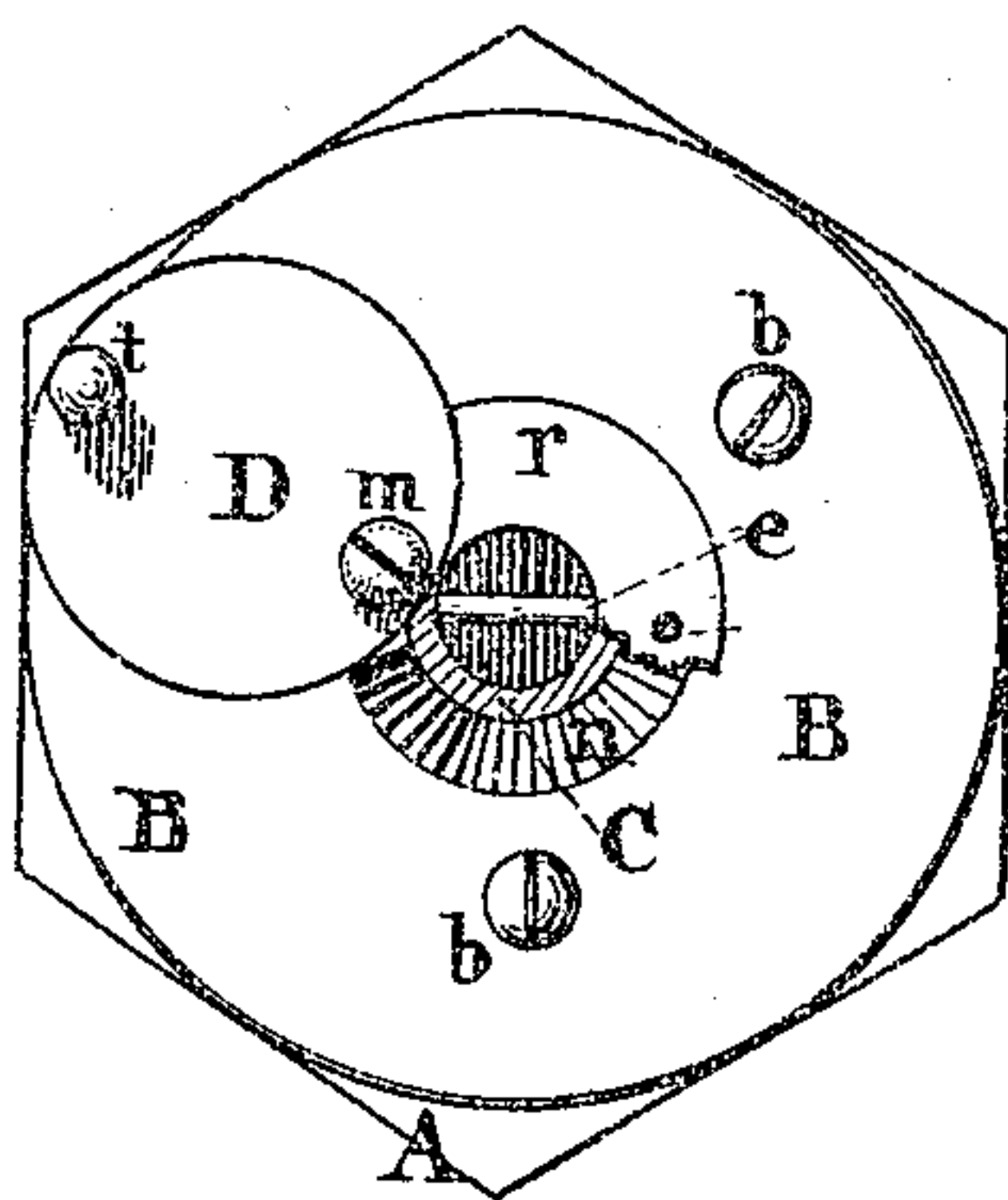


Fig. 3.

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UNITED STATES PATENT OFFICE.

HERMANN R. PEIN, OF PEORIA, ILLINOIS.

IMPROVEMENT IN LUBRICATORS.

Specification forming part of Letters Patent No. 179,666, dated July 11, 1876; application filed May 1, 1876.

To all whom it may concern:

Be it known that I, HERMANN R. PEIN, of the city of Peoria, in the county of Peoria, and in the State of Illinois, have invented an Improvement in Lubricating Devices for Machinery; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a vertical central section, but with lid closed; Fig. 2, an elevation, with lid open; Fig. 3, a superficial view, lid open.

The object of this invention is, first, to regulate to great nicety the supply of oil, even to one drop an hour, if necessary; second, to prevent waste from slopping over of the oil, or supplying the same to the oil-duct too plentifully, and to exclude dust and dirt. It consists as follows: A vertical tube, perforated around its sides, (within the cup,) terminating in a conical or blunt end below, sits in the mouth of the oil-duct which leads to the part of the machinery required to be oiled. The tube is supported above in a circular perforation in the cover of the cup, which fits snugly to said tube. The form of the cover is not essential, but it must be provided around and next to the tube with a spiral incline, upon which travels the lower end of a vertically-set adjustable screw or pin in the rim or horizontal flange of said tube, and on which pin the tube cover may be pivoted. The tube is retained in its seat on the funnel-formed entrance of the supply-duct by means of a spiral spring, which abuts on a horizontal pin or other shoulder on the tube, and against the cover or top of the cup above in such a manner as to press the lower end of said tube downward, and is simply raised to allow oil to pass below it by clasping with the hand the flange of the tube on the outside of the cup, so as to press the lower end of said pin or screw up said incline to the required extent, and to close the duct the tube is turned onward in the same direction along the level platform until the point of the screw falls into the initial notch in the incline at the commencement of said ascent. The cover or lid of said tube may be pivoted

upon the screw or other point, and be provided with a spiral spring between it and the head of its pin or pivotal screw to force it into close contact with the top of the tube. The base of the cup does not differ from ordinary lubricators, being provided with a threaded nipple pierced with the oil-duct *i*.

By this invention (the spring and tube C) the ordinary screw-tube for the same purpose is obviated, for the latter form of adjustment soon becomes useless by reason of the wearing away of the thread of the tube and that of the cover, so allowing oil to spill out or exude around the neck.

In the drawing, which represents one of the forms in which I construct this lubricator, A represents the base; *g*, the funnel-shaped mouth of the oil-duct *i*; *k*, the screw-nipple, by which the cup is set in its proper place; *p p*, grooves to admit packing and the edge of the glass cylinder E; *b b b*, screws which hold down the top B of the cup upon the cylinder E, packed, as before, at the junction within the shoulder *q* of said top B. Said top B is pierced in the center with an annular opening to admit the tube C, partially surrounded with a graded incline, *n*, leading up to a horizontal surface or track for the point of the graduating adjustable screw *m*, (presently described.) C is the vertical oil-tube, with an imperforate point, exactly fitting the funnel-mouthed opening *g* of the duct *i*. Passages *f* lead out of the tube, above its point, into the cup E, where it is held in reserve. Above this is a horizontal pin or lug, *e*, projecting from the tube, upon which the spiral spring *d* presses above, the upper end of said spring abutting against the inferior surface of the cover B, by which means said tube is kept in its seat *g*. To overcome the pressure of said spring *d*, and raise the tube from said seat, a screw, *m*, passing through the rim or flange *r* of said tube, holds said tube at any height on the graded incline *n* before described. Said screw is adjustable in said flange to set or adjust the tube C properly in its seat (when or after the cup is constructed) with relation to the foot of the incline *n*, for when the pin *m* is at the bottom of said incline the tube closes the oil-duct *i*. D is the terminal lid, swinging horizontally on the screw *m*, with a press-

ure-spring, *s*, coiled around the screw, between the lid and the head of the screw, to keep the same down, and retain the little nipple *o* in a corresponding recess in the said rim *r* of said tube C. A knob, *t*, is placed on the lid, by which to manipulate it, and said catch *o* may be the lower extension of the same.

The operation of the lubricator is as follows: The central tube C receives the oil, its outlet *f* being within the cup A E C, and its lower end sits in the seat *g* of the oil-duct *i*, in which it is held by the spiral spring *d*, and is unseated (for the outflow of oil) by turning the rim *r* by hand, so as to force the screw *m* up the incline *n*, and when enough oil has escaped continuing the rotation of the same along the horizontal track until the screw drops into the notch or foot of the incline.

The advantages of this lubricator are many: first, not only can the working of it be observed through the glass, but the tube can be delicately adjusted to supply as small a quantity as one drop of oil per hour, if necessary; second, oil is saved—*i. e.*, it cannot be spilt by the careless wiper, whose rag too often drags off the cover of lubricators unprovided with proper detents, and allows the jerking of the locomotive or other machine to throw out the oil; third, there are no parts

liable to wear, so as to impair the effectiveness of the cup—a great advantage over such cups in which the central tube is adjustable in the supply seat or duct by means of a thread around it working in a similar thread in the cup.

What I claim as my invention is—

1. The rotary oil-inducting tube C, when provided with a spring, *d*, swivel-cover, D, and adjusting-screw *m*, in combination with the cup A E B, the top B being provided with a spiral incline, *n*, substantially as and for the purposes described.

2. The combination of the tube C, provided with spring *d*, cover D, and screw *m* with the incline *n* of the top B, the base A, and the cylinder E, substantially as and for the purposes described.

3. The combination with the tube C or its rim *r*, or its screw *m*, the swivel-cover D, and spring *s*, substantially as and for the purposes described.

In testimony that I claim the foregoing oil-cup I have hereunto set my hand this 24th day of April, 1876.

HERMANN R. PEIN.

Witnesses:

HENRY W. WELLS,
JAMES M. MORSE.