

(No Model.)

E. G. FELTHOUSEN.
LUBRICATOR.

No. 405,543.

Patented June 18, 1889.

Fig. 1.

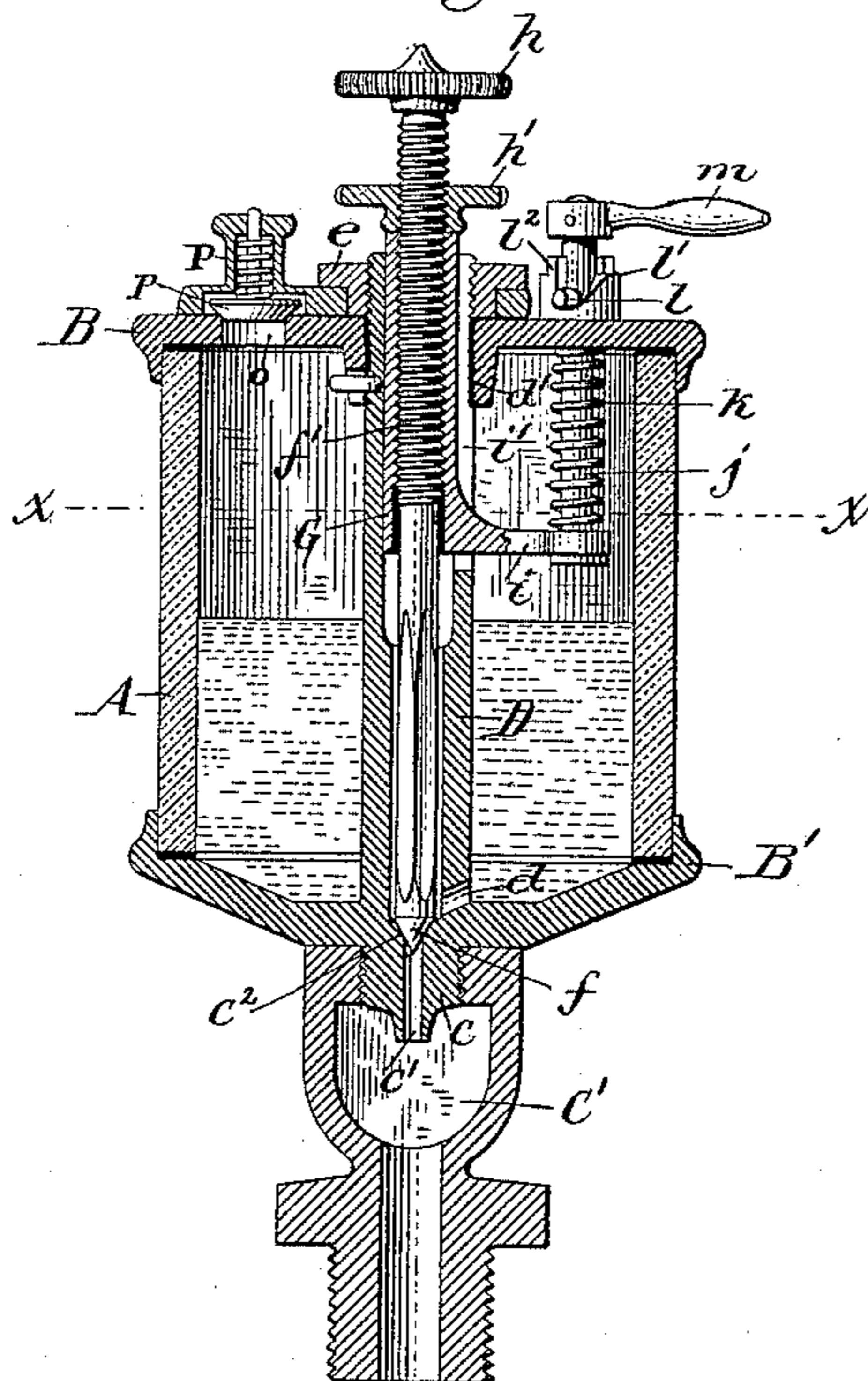
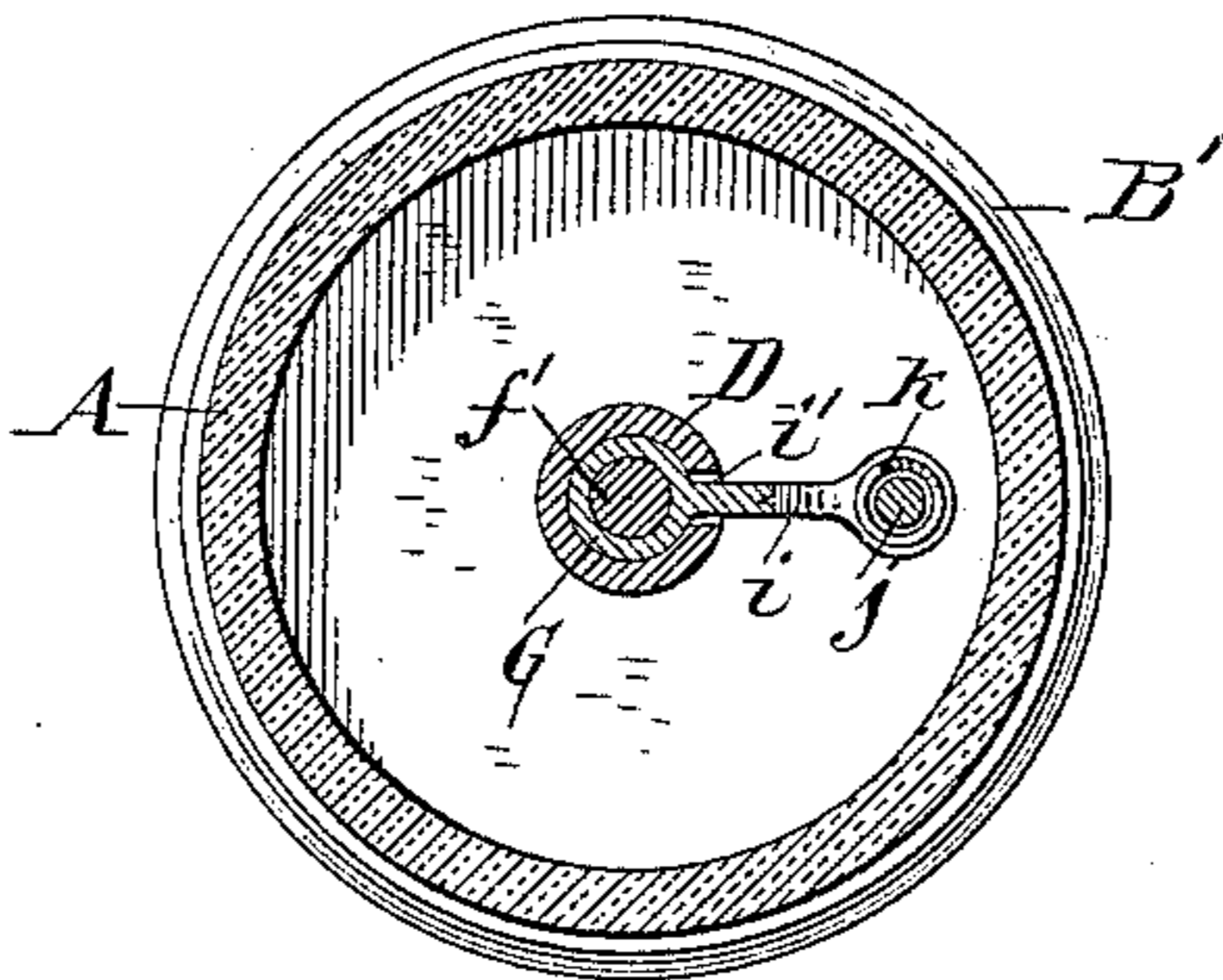


Fig. 2.



Chas. J. Buckheit.
Theo. L. Popp. } witnesses.

E. G. Felthousen Inventor.
By Wilhelm Hornum.
Attorneys.

UNITED STATES PATENT OFFICE.

EDWARD G. FELTHOUSEN, OF BUFFALO, NEW YORK, ASSIGNOR OF ONE-HALF TO CHARLES A. SHERWOOD, OF SAME PLACE.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 405,543, dated June 18, 1889.

Application filed December 26, 1888. Serial No. 294,589. (No model.)

To all whom it may concern:

Be it known that I, EDWARD G. FELTHOUSEN, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Lubricators, of which the following is a specification.

This invention relates to that class of lubricators which have an internal regulating-valve and a transparent drip-chamber through which the flow of oil may be observed.

The object of my invention is to so construct the regulating-valve that it may be entirely closed to stop the feed without, however, disturbing the feeding adjustment of the valve, so that when the valve is again opened for feeding it will occupy the proper predetermined position for regulating the flow of oil without requiring to be readjusted.

The invention consists of the improvements which will be hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional elevation of my improved lubricator. Fig. 2 is a horizontal section thereof in line *x x*, Fig. 1.

Like letters of reference refer to like parts in both figures.

A represents the cylindrical oil-chamber of the lubricator, preferably constructed of glass. B is the flanged cap or cover closing its upper end, and B' the flanged head applied to the lower end thereof.

c is the screw-threaded nozzle or stem arranged on the under side of the head B', and *c'* the discharge-passage formed in said nozzle and provided at its upper end with a conical valve-seat *c²*.

C' is the transparent drip-chamber, of any suitable construction, secured to the nozzle *c*, and provided with the usual screw-stem for attaching the lubricator to a connecting-rod or other part.

D represents an upright tube arranged centrally within the oil-chamber A and formed on the head B'. The bore of this tube opens at its lower end into the discharge-nozzle *c*, and communicates with the oil-chamber by an opening *d*, formed at the lower end of the tube. The upper end of the tube is screw-

threaded and passes through an opening *d'*, formed in the cover B. A screw-nut *e* is applied to the upper end of this tube and bears against the cap B, so as to tightly clamp the latter and the head B' against the ends of the oil-chamber.

f represents the regulating-valve arranged within the tube D and having an externally-screw-threaded stem *f'*, which passes through an internally-threaded sleeve G, arranged in the upper portion of the tube D, the bore of which is enlarged at its upper portion to receive the sleeve. The sleeve G slides vertically in the upper portion of the tube D and carries the valve-stem *f'*, so that upon raising or lowering said sleeve the regulating-valve *f* will be moved toward or from the seat *c²* at the upper end of the discharge-nozzle *c*. The valve-stem *f'* is provided at its upper end with a knob *h*, for turning it, and with a jam-nut *h'*, bearing against the upper end of the sleeve G, whereby the stem *f'* is held against turning in the sliding sleeve G after being adjusted.

The sliding sleeve is provided with a lateral arm *i*, passing through a vertical slot *i'* in the upper portion of the tube D and attached to the end of a vertically-movable rod *j*, sliding in an opening in the cover B.

k is a spiral spring surrounding the rod *j*, and bearing with its lower end against the arm *i* and with its upper end against the under side of the cover B. The spring *k* presses the arm with the sleeve G downwardly and tends to hold the regulating-valve *f* in a dependent position.

l is a transverse pin secured to the upper exposed portion of the vertical rod *j* and resting upon a cam or incline *l'*, arranged on a circular rim *l²*, formed on the upper side of the cap B around the rod *j*. The latter is provided with a lever *m* for turning it. Upon turning the rod *j* the pin *l* rides up the incline *l'*, thereby elevating the sliding sleeve G and valve-stem *f'* and raising the valve *f* from its seat. The rod is held in this elevated position by the pin *l*, resting upon the horizontal upper edge of the rim *l²*. Upon turning the elevating-rod *j* in the opposite direction the pin *l* is caused to slide down the incline by

the spring *k* and the sleeve, with the valve *f*, is forced downwardly.

In regulating the valve the sleeve *G* is first raised to its highest position by turning the rod *j*, and the valve-stem *f'* is then turned in the sleeve to properly adjust the valve for obtaining the desired discharge. In this raised position the sleeve *G* acts as a stationary support in which the valve-rod may be raised and lowered. When it is desired to close the valve to entirely shut off the feed, the rod *j* is turned in the proper direction to release the pin *l* from the rim *l'*, when the spring *k* will depress the sleeve and force the valve against its seat. When the lubricator is again desired to feed, the sleeve *G* is elevated and locked in position. In this manner the regulating-valve is raised and lowered to open or close the discharge-passage of the lubricator without interfering with the vertical adjustment of the valve by simply swinging the lever of the rod *j* in either direction.

If it is desired to discharge a large quantity of oil from the cup without disturbing the adjustment of the regulating-valve, this is readily done by lifting the valve *f*, with the sliding sleeve *G*, upwardly against the pressure of the spring *k* by means of the knob *h*. The discharge-passage will now be fully opened and the greatest possible quantity of oil allowed to escape. Upon releasing the knob of the valve the spring *k* will return the sleeve and valve to their depressed position in which the discharge is regulated.

The oil is introduced into the oil-chamber through an opening *o*, formed in the cap *B*, which opening is closed by a spring-valve *p*. The valve *p* is carried by a swinging arm *P*, which is pivoted to the cylindrical contracted neck of the screw-nut *e*, and is held in place by the head of the nut.

In my improved lubricator the valve *f* serves the double function of a cut-off and a regulating-valve, thus dispensing with the use of a separate cut-off valve and greatly simplifying the construction of the lubricator.

I claim as my invention—

1. In a lubricator, the combination, with the oil-chamber provided with a discharge-passage, of a vertically-movable sleeve or support arranged within said oil-chamber, a spring whereby said support is held in a de-

pressed position, and a regulating-valve arranged in said discharge-passage and made vertically adjustable in said sleeve or support, substantially as set forth.

2. In a lubricator, the combination, with the oil-chamber provided with a discharge-passage, of an upright tube arranged within said oil-chamber, a sliding sleeve arranged in said upright tube, a spring whereby said sleeve is pressed downwardly, and a regulating-valve arranged in said discharge-passage and provided with a stem which is made vertically adjustable in said sliding sleeve, substantially as set forth.

3. In a lubricator, the combination, with the oil-chamber provided with a discharge-passage, of a vertically-movable sleeve or support arranged within said oil-chamber, a spring whereby said support is held in a depressed position, an elevating-rod attached to said sleeve and provided with a pin or projection, a cam or incline against which said pin engages, whereby the rod is elevated upon turning the same, and a regulating-valve carried by said stem and capable of being adjusted vertically in the same, substantially as set forth.

4. In a lubricator, the combination, with the oil-chamber provided with a discharge-passage, of an upright tube arranged within said oil-chamber, an internally-threaded sliding sleeve arranged in said upright tube and provided with an arm projecting through a slot in said tube, an elevating-rod attached to said arm, provided with a pin or projection and with a hand-lever, a cam or incline arranged at the top of the lubricator, against which said pin engages, a spring whereby said sliding sleeve and elevating-rod are held in a depressed position, and a regulating-valve arranged in the discharge-passage of the oil-chamber and provided with an externally-screw-threaded stem engaging with the internal thread of the sliding sleeve, substantially as set forth.

Witness my hand this 19th day of December, 1888.

EDWARD G. FELTHOUSEN.

Witnesses:

JNO. J. BONNER,

CARL F. GEYER.