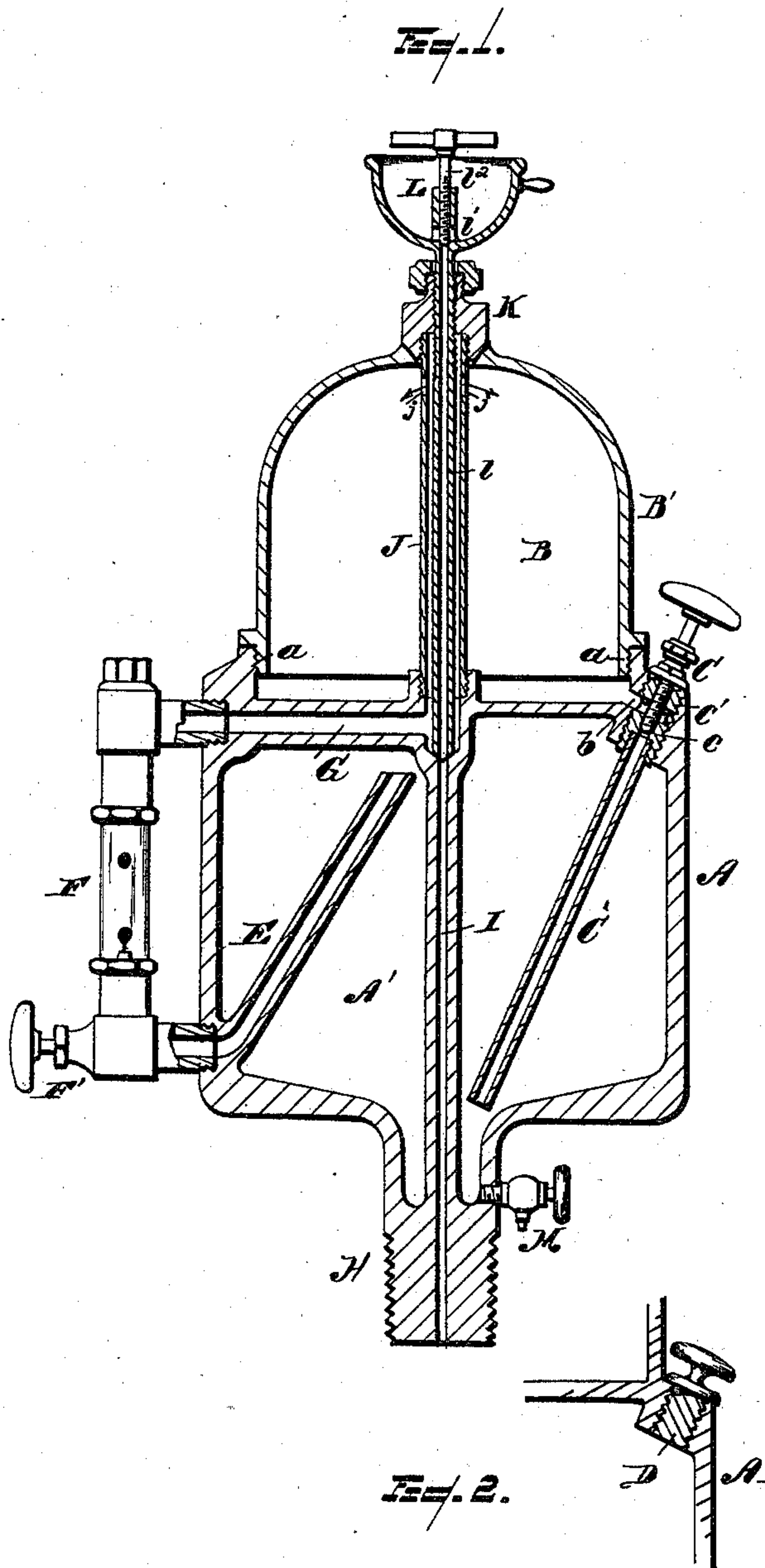


(No Model.)

E. McCOY.  
LUBRICATOR.

No. 383,746.

Patented May 29, 1888.



WITNESSES,

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# UNITED STATES PATENT OFFICE.

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## LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 383,746, dated May 29, 1888.

Application filed April 28, 1887. Renewed March 12, 1888. Serial No. 266,950. (No model.)

*To all whom it may concern:*

Be it known that I, ELIJAH McCOY, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Lubricators; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to certain new and useful improvements in lubricators, and is designed to accomplish results analogous to a device for which a patent was granted to me of date April 19, 1887, No. 361,435, the present invention being an improvement thereon. In said patent the oil is fed from a main reservoir through my "lubricator attachment." It is now my purpose to make the lubricator complete in itself without the necessity of a separate oil-reservoir being connected therewith to supply the oil, the lubricator in this instance being provided with an oil-chamber. As stated in said patent, in certain cases where a visible-feed lubricator has been used it has heretofore been found necessary to keep on hand one or more "blind-feed lubricators," for the reason that should the visible-feed glass be accidentally broken, resort would be necessary to such a blind-feed lubricator temporarily until opportunity is afforded to replace the visible-feed glass. This necessity has increased the expense. It is therefore my object in this instance, as well as in the patent referred to, to prevent this increased expense by providing a lubricator having in combination therewith a suitable device which may be employed instead of an extra "blind cup," should the sight-feed glass be broken, thus combining in a single device a sight-feed and a blind-feed lubricator having a condensing-chamber and an oil-chamber with their proper communications.

My invention has therefore for its object a convenient and economical device of this class, complete in itself, adapted for various uses—such as a steam-cylinder lubricator, an air-brake lubricator, and upon portable, locomotive, and other engines.

My invention consists of the combination of devices and appliances as hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a vertical section of a device embodying my invention. Fig. 2 is a separate view in section.

A represents the shell of the lubricator, forming an oil-chamber, A'.

B is a condensing-chamber, the shell B' of which may have a screw-tapped engagement with the shell A, as shown at *a*. The condensing-chamber has any suitable communication with the oil-chamber—as, for instance, through a passage, *b*, controlled by a valve, C, having its seat *c* in a plug, *c'*, screw-tapped into the case of the oil-chamber, and preferably provided with an inwardly-extended tube, C', engaged with said plug, the communication of the passage *b* with said tube being controlled by the valve C, the arrangement being such that condensed water may descend from the condensing-chamber into the oil-chamber through said passage *b* and tube C' and be regulated as desired.

The case of the oil-chamber is provided with a plug, D, which may be removed for filling the oil-chamber with oil. The oil rising to the top of the condensed water in the oil-chamber is permitted to escape therefrom through an exit-tube, E, communicating with the sight-feed glass F, its communication therewith being controlled by a valve, F'. The upper end of the sight-feed glass communicates also with a passage, G, cored out laterally in the construction of the oil-chamber at the upper portion thereof.

H is the stem of the lubricator, whereby it may be engaged in place upon a steam-cylinder, steam-pipe, or other proper location.

I represents a steam and oil conduit cored out in the construction of the lubricator and extending upwardly in the oil-chamber, communicating at its lower end through the stem H, as shown, and at its upper end communicating with the inner end of the passage G, as shown.

J is a tube extending through the condensing-chamber, communicating with the inner end of



the passage G at its lower end, and held at its upper end in any suitable manner, as by a screw-threaded engagement with a nipple or plug, K.

5 L is a slush-cup provided with a tubular stem, *l*, extended downward through said nipple and through said tube J in the condensing-chamber, this latter tube being of sufficiently broader diameter to permit the steam to ascend through the same and about the stem of the slush-cup and find its admission into the condensing-chamber through orifices toward its upper end, as shown at *j*. The stem of the slush-cup is arranged to seat upon the inner end of the passage G and in line with the conduit I, so as to afford a continuous passage from the slush-cup through the conduit I to the parts to be lubricated when seated. When the said stem is unseated, the oil from the sight-feed glass has a continuous passage through the passage G, opening into conduit I, and thence to the parts to be lubricated. The slush-cup is provided with a valve, *l'*, seated therein, its seat being perforated, as shown at *l'*, to admit oil from said cup into its stem when the valve *l'* is adjusted for this purpose. M is a stop-cock at the base of the oil-chamber.

The operation of the device will now be understood. When the sight-feed glass is intact, the stem of the slush-cup is lifted from its seat, permitting the oil to feed through the passage G into the conduit I; but should the sight-feed glass be broken the stem of the slush-cup is seated, the oil cut off from wasting from the oil-chamber by the valve F', when, by opening the valve *l'*, oil may be fed readily to the parts to be lubricated, the slush-cup, with its hollow stem, when seated and communicating with the conduit I, serving every function of a blind cup. The whole device is economical and simple. Steam enters through the pipe I, and when the slush-cup is inoperative it ascends through the pipe J to the condenser.

45 The plug K has, preferably, a ground-joint engagement with the shell of the condenser. The pipe J may first be entered in said plug, leaving the lower end then to be entered into its place in the pipe G.

50 Either or both of the pipes G and I may be tapped into the shell of the oil-chamber, if preferred.

Beside the advantages already described, it will be noticed that should the condensing-chamber fail for any reason to supply water of

displacement in the oil-chamber, as by reason of the stoppage of the passage *b* C', the stem of the slush-cup may be seated and the device used as a blind cup. When the stem of the slush-cup is seated, there will be no necessity of drawing off the water from the condensing-chamber before feeding oil by means of said slush-cup, and the feeding being direct from the slush-cup into the conduit I the condensing-chamber does not have to be first filled with oil to near its top before the oil will feed to parts to be lubricated, as in devices heretofore employed of this class.

What I claim is—

1. The combination, with a lubricator provided with an oil-chamber, and a condensing-chamber communicating therewith, of a steam and oil conduit, a sight-feed glass communicating with the oil-chamber and with said conduit, a slush-cup constructed with a hollow stem arranged to seat in conjunction with said conduit, said stem traversing a fixed steam-pipe, J, whereby steam is admitted to the condensing-chamber, substantially as described.

2. The combination, with a lubricator provided with an oil-chamber, a condensing-chamber communicating therewith, and a visible-feed glass, of a steam and oil conduit extending upward in the oil-chamber, a laterally-extended pipe communicating with the sight-feed glass and with said conduit, a perforated pipe, J, traversing the condensing-chamber, and a slush-cup provided with a hollow stem traversing said pipe, the construction being such that said stem may be seated in conjunction with said conduit, thereby to cut off the feed from the visible-feed glass and afford a continuous passage from said slush-cup through said stem and conduit to the parts to be lubricated, substantially as described.

3. The combination, with the oil-chamber, of a condensing-chamber engaged directly therewith, a plug, *c'*, through which communication is afforded from the condensing-chamber to the oil-chamber, a valve engaged in said plug to regulate said communication, and the pipes C' E, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

ELIJAH McCOY.

Witnesses:

N. S. WRIGHT,

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