

No. 614,307.

Patented Nov. 15, 1898.

E. MCCOY.
OIL CUP.

(Application filed Mar. 2, 1898.)

(No Model.)

Fig. 1.

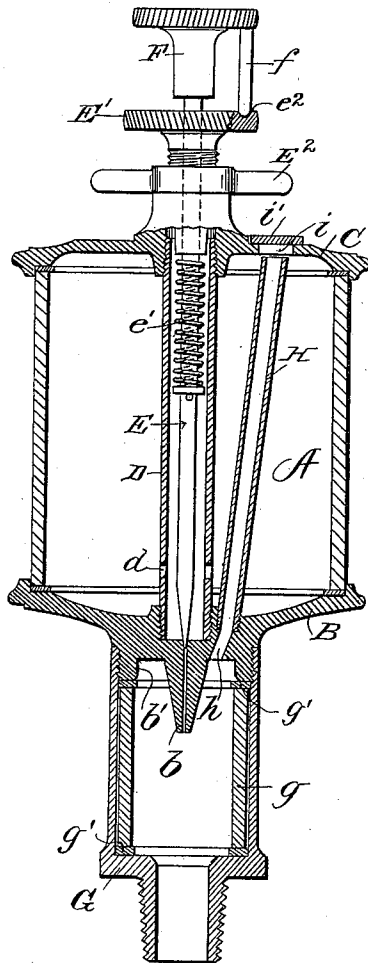
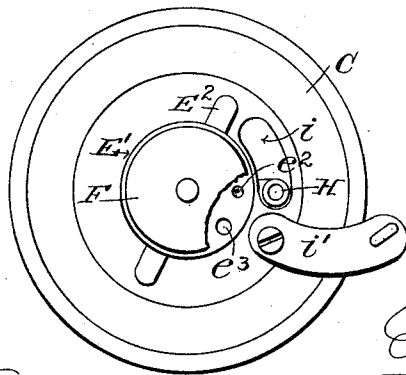
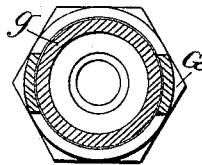


Fig. 2.

Fig. 3.



Witnesses,
H. Ross Edelen
A. W. Lewis

Inventor
Elijah McCoy by
John J. Mauro
his attorney

UNITED STATES PATENT OFFICE.

ELIJAH McCOY, OF DETROIT, MICHIGAN, ASSIGNOR TO THE DETROIT SHEET METAL AND BRASS WORKS, OF SAME PLACE.

OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 614,307, dated November 15, 1898.

Application filed March 2, 1898. Serial No. 672,280. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH McCOY, of Detroit, Michigan, have invented a new and useful Improvement in Oil-Cups, which improvement is fully set forth in the following specification.

This invention has reference to oilers or oil-cups for journal-bearings and the like in steam-engines and other machinery.

10 More particularly my invention has reference to what are known as "sight-feed" oilers, wherein the oil is fed through a suitable sight-feed chamber located beneath the oil-cup proper or reservoir and the flow of oil
15 from the latter controlled by a steam-valve passing downwardly through the reservoir and operating to close or open to the desired extent the oil-exit passage through the bottom of the cup. In such oilers it is essential
20 that provision be made whereby an ordinary hand-can may be utilized to oil the bearing in case the oiler becomes stopped up by foreign substance in the oil or inoperative for any other reason, it being usually impossible
25 and inexpedient to dispense with the oiling of the bearing during the time required to again put the oiler in operative condition.

In accordance with my present invention I provide a separate passage or tube, which I
30 will herein term the "emergency" feed-tube, extending upwardly through the oil-reservoir and terminating at its upper end below and preferably at one end of an opening through the top of said reservoir, through which the
35 latter is filled with oil. At its lower end said tube or passage leads through the bottom of the oiler into the sight-feed tube and to the bearing, thus providing an independent passage to the latter through which oil may be
40 fed if for any reason the oil fails to feed thereto from the reservoir. This emergency feed-tube, in addition to efficiently serving the purpose above indicated, also serves the additional purpose of an overflow for the oil
45 in case the oil-reservoir is filled too full, the overflow oil (instead of running down and spreading over the exterior of the reservoir, necessitating wiping of the latter and involving waste of oil, as in oilers of ordinary construction) passing to the bearing through the

emergency-tube. This feature of my improvement is particularly important in cases where there is a continuous supply of oil to the reservoir or cup from a pipe leading to a large supply-reservoir located at any suitable point in the factory or the like. Further, it is preferable to make the sight-feed glass dust-tight and also air-tight, so that in case the oiler is used on bearings near a rapidly-rotating part, such as a fly-wheel, creating a suction of air, spraying and scattering of the oil as it drops from the feed-nozzle are entirely avoided. In employing such an air-tight sight-feed chamber the formation of drops of oil on the oil-feed nozzle would be very sluggish without the provision of some communication to the atmosphere other than by way of the oil-tube, as the air displaced by the drops of oil would have to force its way up through the oil coming down the feed-nozzle. In my improved construction, however, this objection to the employment of an air-tight sight-feed tube is overcome, as the emergency feed-pipe and oil-overflow serves the additional purpose of an independent
75 communication from the sight-feed tube to the atmosphere, so that there is no interference with the free passage of oil through the feed-nozzle.

My invention will be better understood by 80 reference to the accompanying drawings, wherein—

Figure 1 is a vertical sectional view through an oil-cup embodying my invention. Fig. 2 is a top view of the same, and Fig. 3 is a horizontal sectional view through the sight-feed chamber. 85

Referring to the drawings, A represents the glass body of the cup or reservoir, and B and C the metallic bottom and top, respectively. 90

D is the inclosing tube for the valve-stem extending vertically through the center of the cup, screw-threaded into openings in the bottom B and top C and having openings *d* through its walls, near the lower end thereof, 95 through which oil passes to the nozzle *b*, depending from the bottom of the cup, and thence to the sight-feed chamber.

E is the stem of the valve for controlling the feed of oil, said stem being located in 100

the inclosing tube D and passing upwardly through the disk E', screw-threaded into the top C and carrying a head F on its projecting end. A jam-nut E², having suitable operating-arms, is provided for the disk E'. *e'* is a spring around valve-stem E, bearing at one end against a collar on said stem and at its other end against the lower end of the screw-threaded extension on disk E' and tending to force the valve-stem downwardly. *f* is a depending pin on the under side of the head F, adapted to engage at its lower end either against the plane upper surface of the disk E', to hold the valve open to its fullest extent, or in a recess *e*², to hold the valve open to a certain extent determined by previous adjustment, or through a perforation *e*³ through said disk for permitting the valve to be closed by the action of spring *e'*. The construction and operation of these devices for operating and controlling the position of the feed-valve are more fully described and claimed in my pending application, Serial No. 583,233, filed March 9, 1896.

The parts thus far described may be of any suitable or well-known construction and constitute no part of my present invention.

G is the supporting-arm for the oiler, internally screw-threaded at its upper end for engagement with a screw-threaded annular flange *b'*, depending from the bottom B around the feed-nozzle *b*. Said supporting-arm is preferably of a tubular form, cut away on opposite sides to expose the glass sight-feed tube *g*, which closely fits within the arm, its upper and lower ends being seated against packing-rings *g' g'* to form air and dust tight joints.

H is the emergency feed-tube, communicating at its lower end with the interior of the sight-feed tube through a passage *h* and extending upwardly through the oil-reservoir and terminating just below one end of an elongated opening *i* in top C, through which oil may be fed either into reservoir A for filling the same or into the upper end of tube H. A swinging cover *i'* is provided for closing opening *i*.

In the operation of my oil-cup the reservoir A is filled through opening *i* from any suitable source of supply, any overflow-oil passing down through tube H to the bearing. The feed-valve is then adjusted to its proper position and oil from the cup fed by nozzle *b* drop by drop through the air-tight sight-feed, the passage of the oil into and through the latter being facilitated by communication to the atmosphere through passage *h* and pipe H. If for any reason the oil fails to feed from nozzle *b*, the cover *i* is swung aside and the necessary quantity of oil fed into the upper end of pipe H by a hand-can until the other parts can be again put in working order. In case of filling the reservoir with a funnel the elongated opening *i* affords space alongside of the tube H for admission of the end of the funnel.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An oil-cup having a feed-passage leading from the oil-reservoir thereof, an oil sight-feed chamber into which said feed-passage discharges, and an emergency tube or passage extending upwardly within the oil-reservoir its upper end terminating just below the top of the cup, and its lower end communicating with the sight-feed chamber through a passage separate from said oil-feed passage, substantially as described.

2. An oil-cup having a feed-passage leading from the oil-reservoir thereof, a valve for controlling said passage, an oil sight-feed chamber into which said feed-passage discharges, and an emergency tube or passage extending upwardly within the oil-reservoir its upper end terminating just below the top of the cup, and its lower end communicating with the sight-feed chamber through a passage separate from said oil-feed passage, substantially as described.

3. An oil-cup having a filling-opening through the top and an oil-feed passage through the bottom, an oil sight-feed chamber into which said feed-passage discharges, a tube communicating with the oil sight-feed chamber by a second passage through the bottom of the cup separate from said feed-passage, said tube extending upwardly within the cup and terminating just below the filling-opening, substantially as described.

4. In an oil-cup, the combination with the oil-reservoir having a filling-opening through its top and a feed-opening through a nozzle on the bottom thereof, a valve for opening and closing said oil-feed passage, and means mounted on top of the reservoir for controlling and adjusting the position of said valve, of a sight-feed chamber beneath the oil-reservoir and into which the feed-nozzle projects, and a tube extending upwardly within the reservoir and terminating just below the top thereof, and at its lower end communicating with the sight-feed chamber by a passage through the bottom of the reservoir, substantially as described.

5. In an oil-cup the combination with the oil-reservoir having an elongated filling-opening through its top and a feed-opening through its opening, of a tube extending upwardly within the reservoir and terminating just below one end of said filling-opening, and at its lower end communicating with the bearing to be lubricated by a second opening through the bottom of the cup independent of the feed-opening, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ELIJAH McCOY.

Witnesses:

J. G. EDWARDS,
M. H. WILLIAMS.