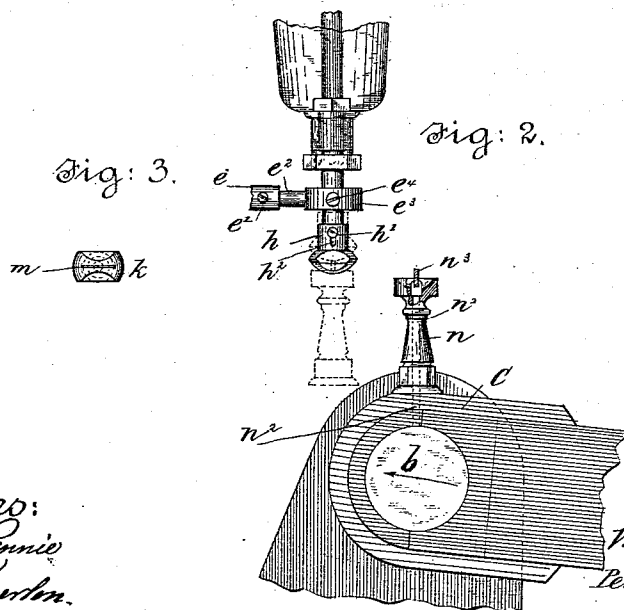
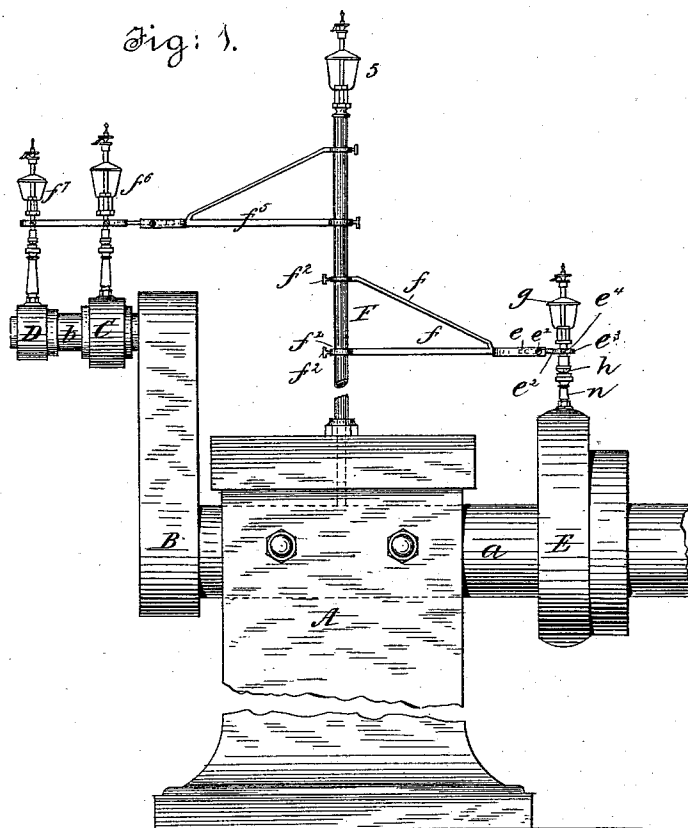


(No Model.)

W. P. PHILLIPS.
DROP FEED LUBRICATOR.

No. 350,212.

Patented Oct. 5, 1886.



Witnesses:
John S. Rennie
Arthur J. Gifford.

Inventor,
William P. Phillips
Per: Leroy A. Gray
his Attys.

UNITED STATES PATENT OFFICE.

WILLIAM P. PHILLIPS, OF REVERE, MASSACHUSETTS.

DROP-FEED LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 350,212, dated October 5, 1886.

Application filed February 3, 1886. Serial No. 190,711. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. PHILLIPS, of Revere, county of Suffolk, and State of Massachusetts, have invented an Improvement in Drop-Feed Lubricators, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

Heretofore in stationary and marine engines oil-cups have been attached to a holder and adjusted over or above the path of movement of an eccentric, wrist-pin, or other movable part of the engine, the said oil-cup being provided with a wicking at its lower end, which, saturated with oil that oozed from the cup, was intermittently struck by a wiper secured to such eccentric or other moving part of the engine to wipe oil from the wicking and convey it to the bearing-surfaces of such eccentric to lubricate the same.

This my invention has for its object to provide a hollow column or holder adapted to be secured to the support of an engine-shaft, and having an oil-cup from which oil may drip to and through the said column to oil the bearings of said shaft, the said column or holder being provided with an adjustable arm or bracket to extend over an eccentric or other moving part connected with the shaft, and to support a secondary oil-cup having a drip-nozzle in position above said eccentric, which latter is provided with a wiper of usual construction to convey oil from the drip-nozzle of the oil-cup to the bearings of said eccentric.

Figure 1 represents in elevation so much of the operative mechanism of a stationary engine necessary to illustrate the workings of my invention as applied thereto. Fig. 2 is a detail in elevation, showing part of the oil-cup with its movable oil-drip nozzle and the wiper-carrier with its wiper as applied to the crank-rod, the said figure showing in dotted lines the position of the wiper-carrier with its wiper and the loose nozzle of the oil-cup when the crank is at the highest point of its stroke; and Fig. 3 is a plan of the bottom of the oil-drip nozzle.

The shaft-support A has bearings to receive the crank-shaft *a*, provided with the crank B, having a wrist-pin, *b*, to which are connected the crank-rod C and pump-rod D, the said

shaft also having the eccentric E, all of which parts are common and well known, and need not be more fully described. I attach a hollow column or holder, F, to the top of the shaft-support A, the said column or holder having an oil-cup, 5, secured in its upper end to permit oil to ooze therefrom and, falling through the holder, lubricate the bearing-surfaces of said shaft-support A and shaft *a*, as indicated by dotted lines, Fig. 1. The holder is further provided with the bracket or arm *f*, provided with eyes or openings *f'*, to encircle said holder F and be retained in any desired altitude by means of the set-screws *f''* passing through the rings or sockets of the arms *f*, and engaging the holder F. The arm is provided at its outer end with a socket, *e*, and set-screw *e'*, the said socket receiving the stem *e''* of the cup-carrier *e'''*, which encircles a reduced portion of the cup and prevents it from movement by the set-screw *e'*. The stem *e''* being retained in the socket *e* by the set-screw *e'*, the oil-cup *g* may be arranged in the required position above the eccentric E, by reason of the adjustment vertically or horizontally of the arm *f* on the stand F, as specified, and also by the adjustment of the stem *e''* in the socket *e*, as set forth. The oil-cup *g* is or may be of usual or preferred construction to allow the oil to drip from the cup to the nozzle *h*, secured to the lower end of said cup by a set-screw, *h'*, passing through a slot, *h''*, in the sleeve portion of the said nozzle, and entering the end of the oil-cup, to thereby permit the nozzle to be moved or reciprocated on the end of the oil-cup. The nozzle has a rounded or partially spherical under surface or bottom, *k*, provided with a slit, *m*, which latter allows oil to ooze from said nozzle.

Referring to Fig. 2, the wiper-carrier *n* shown therein is secured to the crank-rod C, and is provided with a central bore, *n'*, (shown in dotted lines,) leading into an opening, *n''*, in said rod, which opening, as well known, is designed to permit flow of oil to the bearing-surface of the wrist-pin *b*, secured to the crank B. At the upper end of the wiper-carrier, and above the bore thereof, I secure a wiper or blade, *n'''*, which, as shown in dotted lines, Fig. 2, strikes against and wipes over the convex or rounded surface *k* of the nozzle *h* in the rotation of the crank B, the said nozzle

projecting, preferably, far enough into the path of movement of the wiper-carrier, so that when the wrist-pin reaches the highest point in its path of rotation the said blade or wiper n^3 may
 5 in passing over the surface of the loose nozzle h force said nozzle upward, as shown in dotted lines, Fig. 2, whereby the blade may wipe substantially the entire convexed or rounded under surface of said nozzle in the line of the
 10 narrow slit m . By this means the oil that may have oozed through said slit m of the nozzle and collected on the rounded or convexed surface thereof will, by the action of the blade, be wiped from the nozzle, so as to flow into the
 15 bore of the wiper-carrier, and thence through the opening n^2 , (shown in dotted lines,) to lubricate the bearing-surfaces of the crank-rod and wrist-pin. Thus in the rotation of the shaft a oil is intermittingly transferred from
 20 the nozzle of the oil-cup into the bore of the wiper-carrier to lubricate the bearing-surfaces of the eccentric and crank rod, thereby enabling the parts to be constantly and evenly lubricated without waste of oil.

25 As clearly indicated in the drawings, other parts of a stationary or marine engine or locomotive may be likewise provided with oil-cups and with carriers having wipers to lubricate the same. The hollow column or holder
 30 F is further provided with a second bracket or arm, f^5 , to support oil-cups f^6 f^7 for the

crank-rod C and pump-rod D , as shown in Fig. 1.

I claim—

1. A hollow column or holder adapted to be secured to the shaft-support of an engine, and having an oil-cup, as specified, to permit oil to flow through said column to the bearing-surfaces of the shaft, and further provided with a bracket or arm made adjustable thereon to extend over and support an oil-cup above an eccentric or other movable shaft connection, as and for the purpose set forth.

2. An oil-cup provided at its lower end with a drip-nozzle, h , having the rounded bottom k , provided with an opening or slit, m , as and for the purpose set forth.

3. An oil-cup provided at its lower end with the vertically-movable drip-nozzle h , having a slit, m , in its bottom, as and for the purpose set forth.

4. An oil-cup provided at its lower end with the drip-nozzle h , having a slit, m , in its bottom, as and for the purpose set forth.

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

WILLIAM P. PHILLIPS.

Witnesses:

B. J. NOYES,
 C. M. CONE.