

(No Model.)

C. G. Y. KING.
OIL CUP.

No. 553,991.

Patented Feb. 4, 1896.

Fig. 1.

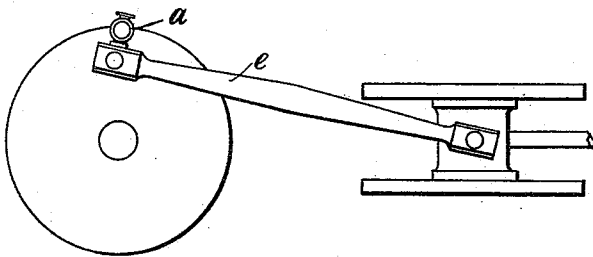


Fig. 2.

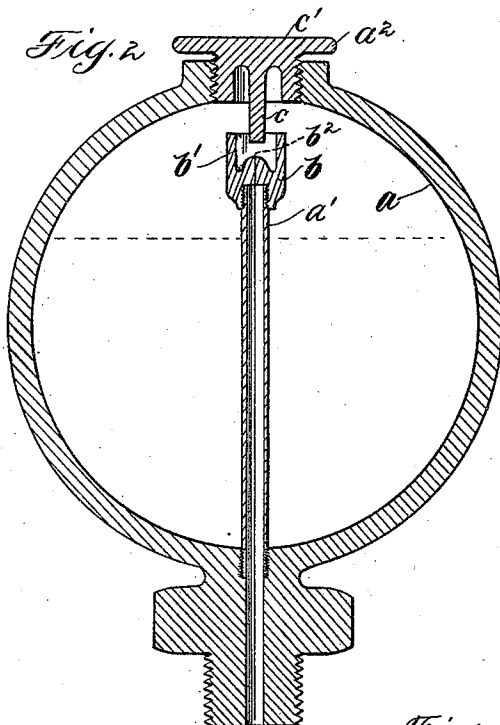


Fig. 5.

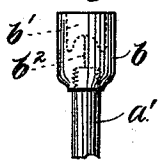


Fig. 6.

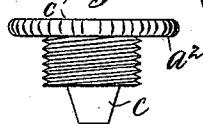


Fig. 3.

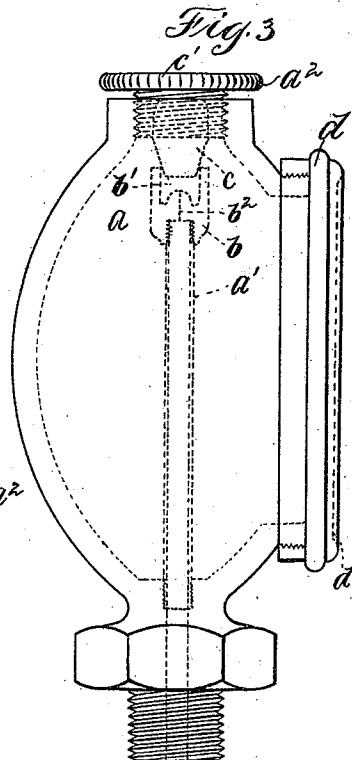


Fig. 4.

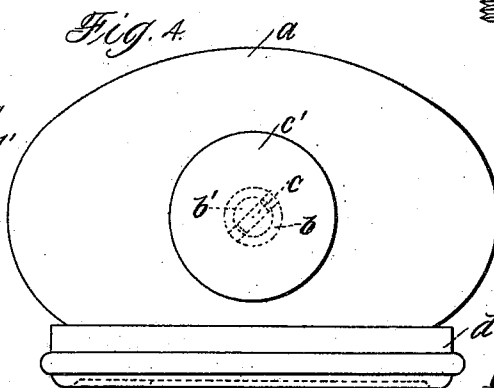
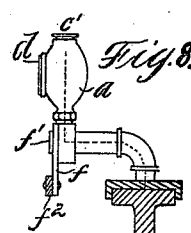
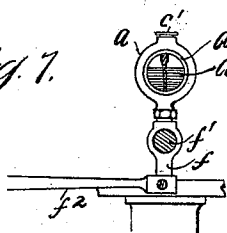


Fig. 7.



Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES G. Y. KING, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
SAMUEL INSULL, OF SAME PLACE.

OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 553,991, dated February 4, 1896.

Application filed April 30, 1895. Serial No. 547,622. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. Y. KING, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Oil-Cups, (Case No. 1,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part
10 of this specification.

My invention relates to an oil-cup for lubricating bearings, and its object is to provide a cup that will insure the passage of a definite amount of oil to the bearings or other
15 parts to be lubricated and to prevent the overflow of the cup or the clogging up of the oil-outlet, as frequently happens with oil-cups as heretofore constructed.

In accordance with my invention I provide
20 within the retaining-vessel of the oil-cup and situated above the level of the oil when the vessel is at rest a small cup or receptacle open at the top and provided in the bottom with an outlet for the oil which communicates by
25 a duct with the bearing which is to be lubricated. The oil-cup is adapted to be reciprocated whereby the oil is thrown over the top of the receptacle at each stroke, first in one direction and then in the other. Above the receptacle is situated a deflecting-plate against
30 which the oil is adapted to strike, a small quantity of oil being thus deflected into the receptacle at each stroke, from whence it passes to the bearing. The reciprocation of
35 the oil-cup may be secured by mounting the cup upon some reciprocating portion of the engine or other mechanism to be oiled, or the cup may be mounted upon a pivot and connected with some moving part, whereby it is
40 caused to reciprocate.

I will describe my invention by reference to the accompanying drawings, in which—

Figure 1 illustrates an oil-cup embodying my invention as applied to the crank-pin of
45 a steam-engine. Fig. 2 is a sectional view of the oil-cup of my invention. Fig. 3 is an end view, the interior parts being indicated by dotted lines. Fig. 4 is a top view of the oil-cup. Fig. 5 is a detail view of the tip which
50 carries the small oil-receptacle. Fig. 6 is a detail view of the thumb-nut upon which the

deflecting-plate is carried. Fig. 7 is a view in elevation of an oil-cup embodying my invention as applied to the lubrication of a stationary surface. Fig. 8 is a side view thereof. 55

Like letters refer to like parts in the several figures.

Within the retaining-vessel *a* is provided a tube *a'* carrying upon its upper end a tip *b*, the tip being provided with a small receptacle *b'*, open at the top and communicating
60 with the tube *a'* at the bottom by means of a small port or opening *b²*. Above the tip *b* and extending for a short distance into the receptacle *b'* is mounted a deflecting-plate *c*,
65 the plate being carried upon the thumb-nut *c'*, adapted to be screwed into the top of the retaining-vessel *a* and carrying upon its outer end a knurled disk *a²*.

In order that the quantity of oil within the
70 retaining-vessel may be observed at any time I provide at one side of the cup a cap *d* adapted to be screwed upon one side of the retaining-vessel, the cap being provided with a face
75 *d'* of transparent celluloid, the remainder of the retaining-vessel being made of metal.

By the provision of a metallic retaining-vessel, with a celluloid face at one side, I am enabled to obtain a more serviceable cup than
80 can be secured by making the body of the retaining-vessel of glass, as has been the general practice heretofore.

When the body of the retaining-vessel is made of glass the breakage of the glass body necessitates the placing of a new body in
85 position before the cup can be used, and it often happens that extra bodies are not at hand. By the employment of the celluloid face immunity from breakage is secured and I am
90 enabled to use the cup in places where it is subjected to vibration or jar that would break glass.

In Fig. 1 I have illustrated the oil-cup *a* as mounted upon the end of a connecting-rod *e*
95 of a steam-engine to lubricate the crank-pin bearing. As the crank-disk rotates the oil-cup receives a reciprocating motion, which causes the oil within the cup to be thrown over the top of the tip *b*, first in one direction
100 and then in the other. A portion of the oil in its movement strikes the deflecting-plate *c* and is thus thrown into the receptacle *b'*,

from whence it passes through the port b^2 into the duct leading to the bearing. By rotating the thumb-nut c' the deflecting-plate may be moved into an oblique position, as illustrated in Fig. 4, in which case a less quantity of oil will be deflected into the receptacle b' . By the rotation of the deflecting-plate to cause it to assume a more or less oblique position I am enabled to regulate the quantity of oil passing to the receptacle b' , and consequently the amount fed to the bearing from the oil-cup. I preferably construct the tip b with the bottom of the receptacle b' somewhat elevated at the middle portion, at which the port b^2 is provided, the clogging of the port by dirt or other foreign matter being thus prevented.

The oil-cup of my invention is also applicable for lubricating a bearing-surface which does not partake of a reciprocating bodily movement—as, for instance, the guide of a steam-engine, against which the cross-head bears. In Figs. 7 and 8 I have illustrated the manner in which my invention may be applied to such stationary bearing-surface, the cup being mounted upon the end of a rocking arm f journaled to rotate about a shaft f^1 , the lower end of the rocking arm being connected by a connecting-rod f^2 with some moving part of the engine—as, for instance, the valve-rod. The arm f is thus rocked back and forth during the running of the engine, thus reciprocating the cup a and

causing the oil carried therein to be thrown over the top of the tip b and against the deflecting-plate c , and thus carried to the receptacle b' , from whence it may be conducted by a duct of any suitable construction to the bearing-surface, as indicated by the dotted lines in Fig. 8. My invention is thus not only applicable to moving parts, which themselves impart to the cup a reciprocating movement, but it is also applicable to other bearing-surfaces by the provision of means for imparting a reciprocating movement to the cup.

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

In an oil-cup, the combination with a retaining-vessel adapted to be mounted upon a suitably-moving part, of a small receptacle situated in the upper end thereof and communicating with the bearing or surface to be oiled, a deflecting-plate located above said receptacle, and means for adjusting the angle of the deflecting-plate to vary the quantity of oil deflected into the receptacle; substantially as described.

In witness whereof I hereunto subscribe my name this 20th day of April, A. D. 1895.

CHARLES G. Y. KING.

Witnesses:

JOHN W. SINCLAIR,
W. CLYDE JONES.