Sept. 6, 1927. 1,641,269

H. A. HOKE

OIL CUP

Filed Nov. 2, 1925

FIG. 1.

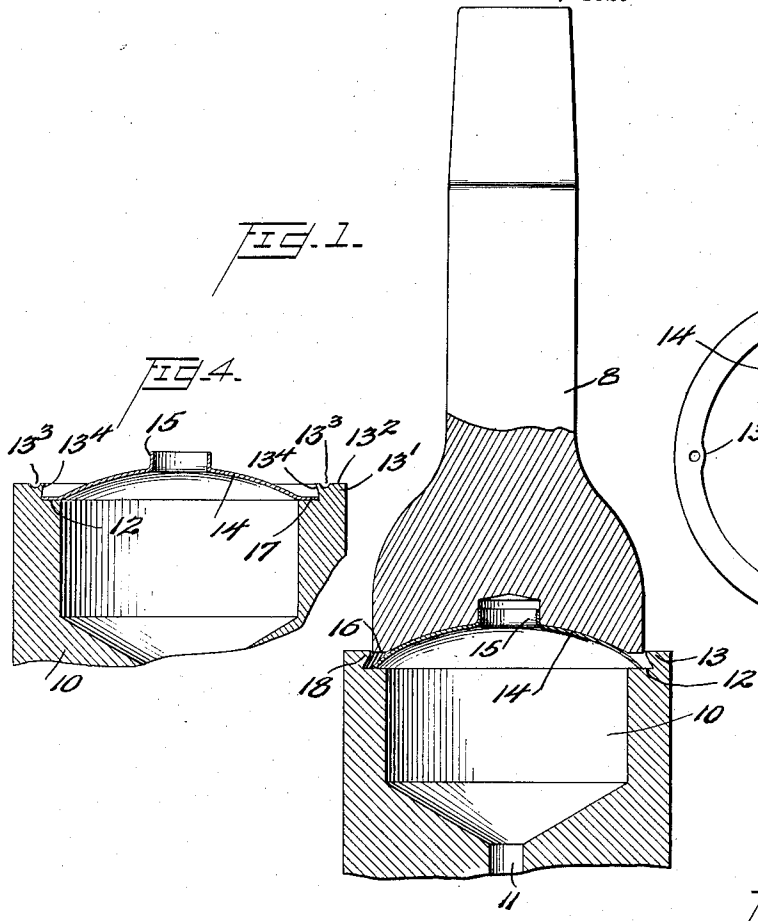


FIG. 4.

FIG. 5.

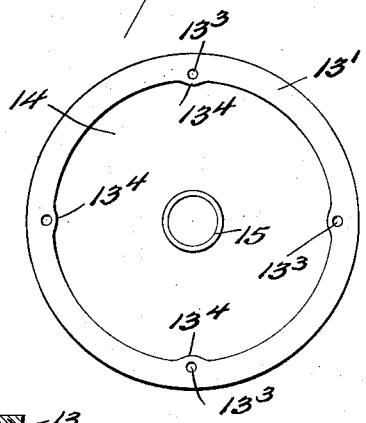


FIG. 2.

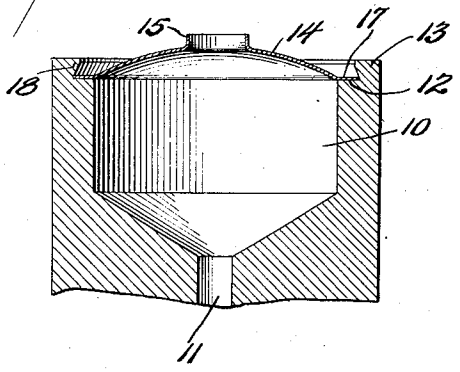
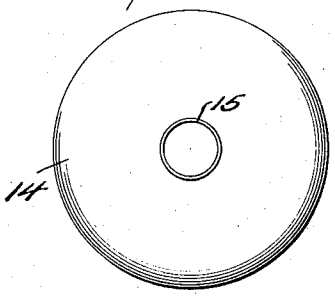


FIG. 3.



Inventor

H. A. Hoke,

By Watson, Coit, Morse & Grindle,

Attorney

Patented Sept. 6, 1927. 1,641,269

UNITED STATES PATENT OFFICE.

HARRY A. HOKE, OF ALTOONA, PENNSYLVANIA.

OIL CUP.

Application filed November 2, 1925. Serial No. 66,331.

The present invention relates to oil cups, more particularly for use on locomotives and other high speed machinery. An oil cup of this type, heretofore, has had its open end closed by a plug, threaded in the same. This plug was perforated centrally to provide an oil hole for supplying the cup with oil, and used to confine the usual hair packing in the cup.

In practice, it has been found that the plug occasionally works loose and becomes detached when the locomotive is in motion, thereby endangering persons along the right of way.

The principal aim of the present invention is to provide an oil cup with a cover secured thereto in such a manner that it can not become detached under any operating conditions. It is a further aim to provide an oil cup and cover such that the cover can be secured to the cup in a simple, practical and inexpensive manner.

In the drawings in which a preferred form of the invention is illustrated:

Figure 1 is a sectional elevation through the cup and cover constructed in accordance with the present invention, and showing the cover in position to be secured to the cup, the tool for effecting the locking of parts being shown in its position for this purpose;

Figure 2 is a vertical elevation through the cup, with the cover assembled in locked position;

Figure 3 is a plan view of the cover;

Figure 4 is a sectional elevation showing a modified means for securing the cover against removal; and

Figure 5 is a plan view of the assembly with the modified locking means as shown in Figure 4.

Referring to the drawings, the body 10 of the cup, in the main, is of usual form being provided with an open end and an oil outlet, 11, adapted to be connected to the bearings or journals to be lubricated. At its open end the cup is counterbored to provide a transverse seat 12, for the cover and an axially extending lip 13, as clearly shown in the drawings. The cover 14 is dished or bowed, and is formed with a centrally disposed, flanged, oil hole 15. Preferably the cover is made of soft sheet steel and the diameter of its periphery is slightly less than the greatest diameter of the transverse seat 12.

In assembling the device, the cover 14 is placed against the seat 12, as shown in Fig. 1. A tool 8, provided with a cover engaging surface conforming to the outer central surface of the cover, and having a flat annular expanding surface 16 is then driven or pressed into engagement with the cover, thereby flattening the marginal portion thereof, as indicated in Fig. 2 of the drawings. This operation expands the cover, increasing its outside diameter so that its peripheral edge is forced into contact with the lip 13. It also forms the cover with an annular, marginal, flat portion, 17, resting on the seat 12.

In order to prevent the cover from jarring loose or becoming detached while the machinery is in operation, the lip 13 is provided with an inwardly extending portion 18, as shown in Figs. 1 and 2. This inwardly extending portion is of smaller diameter than the periphery of the expanded cover so that outward axial movement of the cover is prevented. The means for preventing this axial movement may be of various forms. As shown in Figs. 1 and 2, it is provided by undercutting the lip 13.

In the form shown in Figs. 4 and 5 the lip 13^1 is of uniform thickness and at intervals, its end surface 13^2 is prick punched, as indicated at 13^3, to provide inwardly extending projections, 13^4, which hold the cover against outward axial movement. With this form of securing means, the cover may be first flattened at its margin and placed against the seat 12 and then the projections 13^4 formed, by prick punching, to hold the cover in position, or the projections, 13^4 may be formed first, and the cover expanded into position in the same way as described in connection with Figs. 1 and 2. The means for retaining the cover on the seat 12, may take other forms than those described.

If it is necessary to clean the oil cup or repack it, the cover may be detached by inserting a suitable tool through the oil hole 15, and pulling the cover away from the oil cup. Then a new cover is applied in the manner described above.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In an oil cup, in combination, a cup body having an open end counterbored to a slightly greater diameter to form a trans-

verse seat for a cover, an axially extending lip partially overhanging said seat, a dished cover having an opening therein, said cover adapted to be placed on said seat and expanded radially to bring its periphery beneath said lip, said opening being adapted for filling purposes and to admit a tool for removing the cover.

2. In an oil cup, in combination, a cup body having an open end counterbored to a slightly greater diameter to form a transverse seat for a cover, an axially extending lip partially overhanging said seat, a cover of malleable material having a dished form and an aperture therethrough, the diameter of said cover being initially less than the diameter of the smallest part of said counterbore, said cover being expanded radially by reducing its curvature to cause its edges to engage under said lip, said opening being flanged and serving as a filling opening and for the insertion of a tool for removing said cover.

In testimony whereof I hereunto affix my signature.

HARRY A. HOKE.