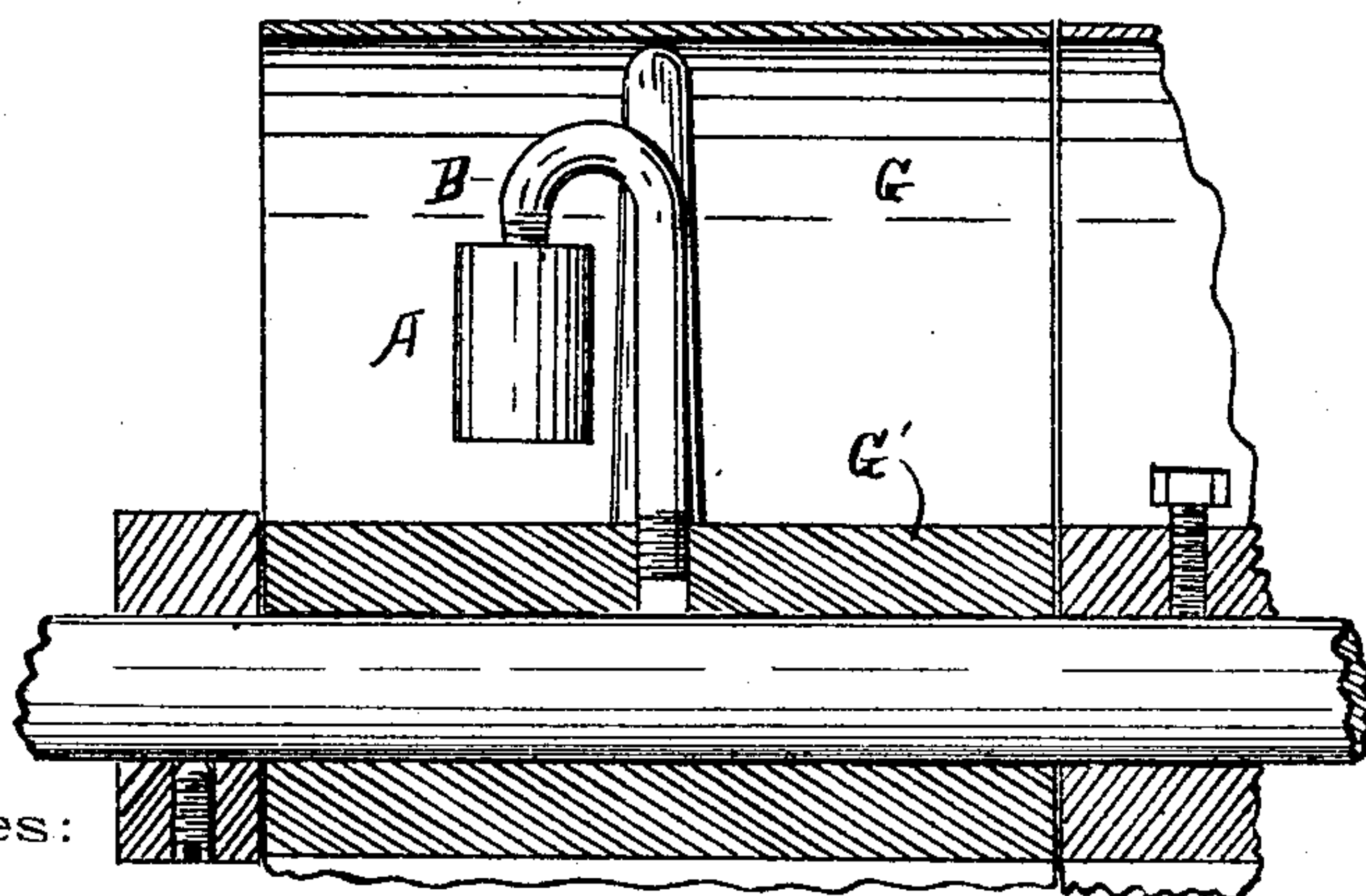
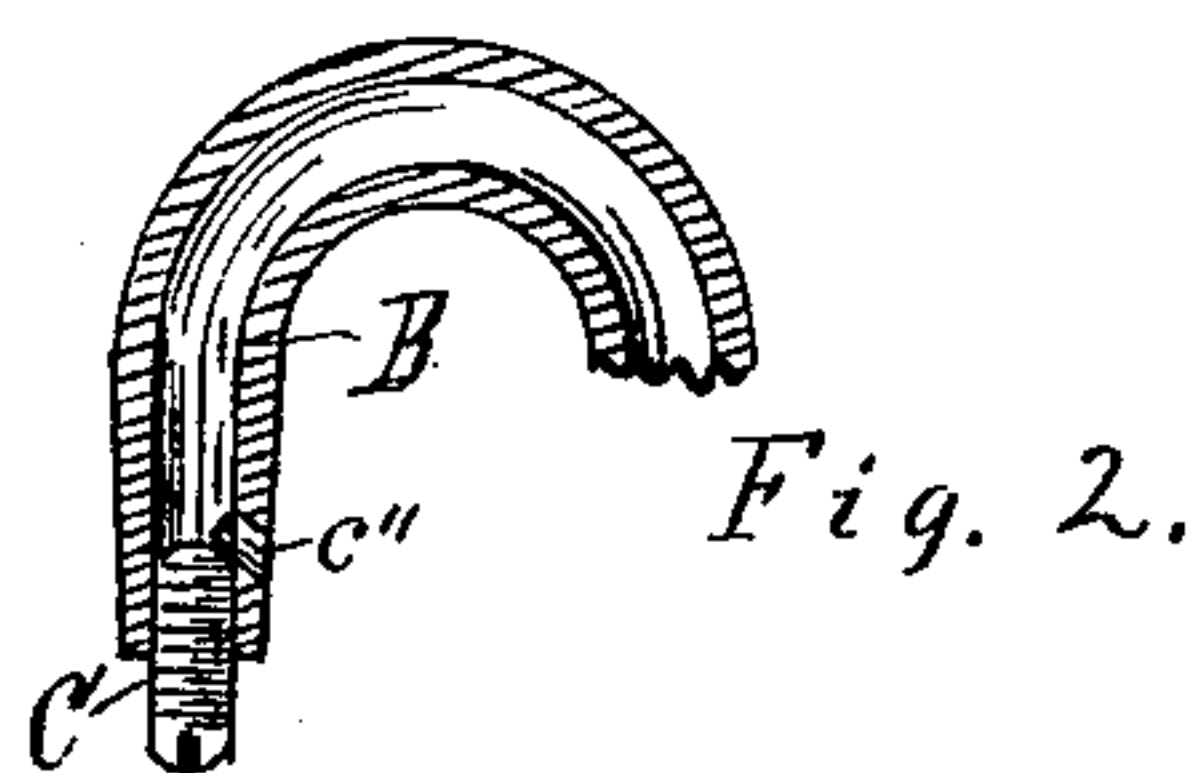
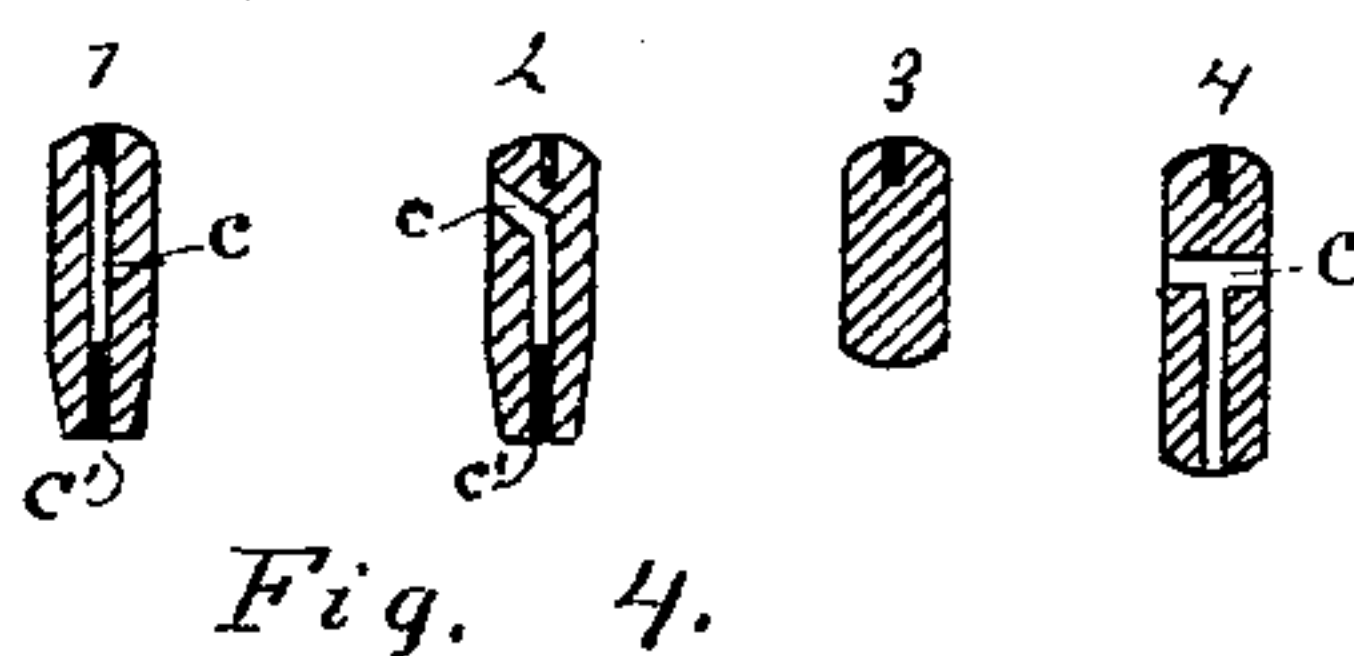
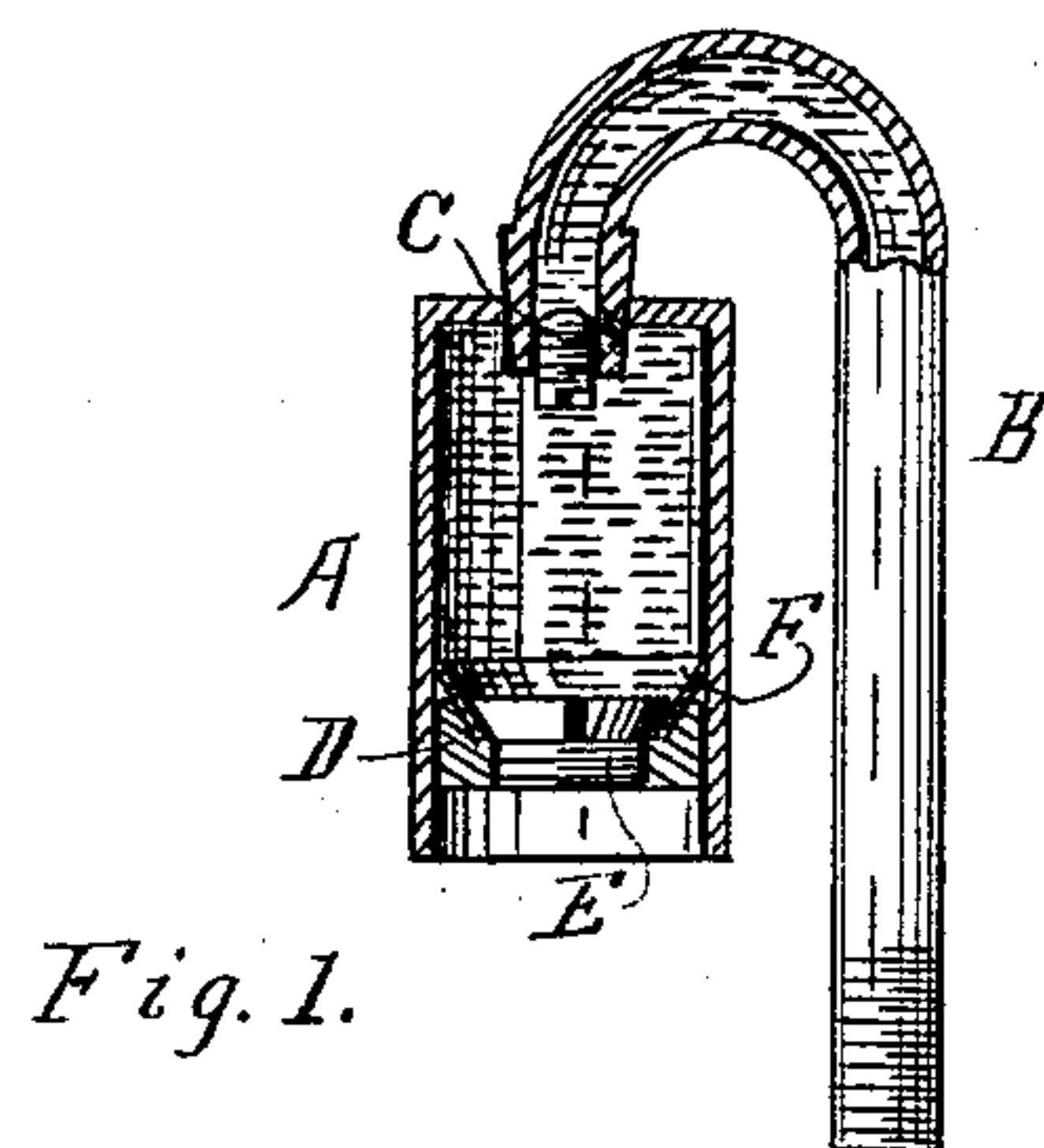


(No Model.)

J. KRIDLER.
LUBRICATOR.

No. 543,489.

Patented July 30, 1895..



Witnesses:

E. J. Kelley
George H. White

Fig. 3.

Inventor.

John Kridler

By

Isidore J. Kelley

Attorney.

UNITED STATES PATENT OFFICE.

JOHN KRIDLER, OF GRAND RAPIDS, MICHIGAN.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 543,489, dated July 30, 1895.

Application filed July 19, 1894. Serial No. 518,007. (No model.)

To all whom it may concern:

Be it known that I, JOHN KRIDLER, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Loose-Pulley Oilers, of which the following is a specification.

This invention has relation to that class of loose-pulley oilers in which the oil is fed by the upward motion of a piston actuated by the movement of the pulley; and it consists in the peculiar construction thereof, substantially as hereinafter described, and particularly pointed out in the subjoined claim.

The object of the invention is to produce an oiler of the type stated which will be advantageous over those heretofore proposed in the following particulars, to wit: first, more convenient access to the interior of the cup for the purpose of determining the amount of oil therein and for refilling; second, no waste of oil from its leakage around the regulating-screw; third, no feed and consequent waste of oil when the pulley is at rest; fourth, simplicity and cheapness of construction. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of my cup and a portion of the feed-pipe. Fig. 2 is a vertical section of the feed-pipe, showing the oil-hole entering through the side of the feed-pipe instead of through the regulating-screw, as in Fig. 4. Fig. 3 shows my cup upon a pulley. Fig. 4 shows sections of four several forms of regulating-screws.

Similar letters and figures refer to similar parts throughout the several views.

My cup A is made open its entire size at the lower end and closed at the upper end, as shown in Fig. 1, so that the piston D may be readily inserted or removed, as desired, and the amount of oil being used or remaining in the cup determined by simply inserting the finger or by looking into the end of the cup, so that the regulation of the flow of oil may be readily determined upon. The upper end of the cup is closed with a wall formed with a threaded perforation, into which the feed-pipe is screwed. I prefer to make the wall *a* integral with the side walls, instead of closing the upper end of the cup by a removable

cap having a threaded engagement therewith, as heretofore, because experience has demonstrated that when removable caps are employed there is a leakage and consequent waste of oil at that point. The necessity for using the removable cap is obviated by my construction, as the perforation in the top wall provides an opening through which the cup may be supplied with oil.

The feed-pipe is preferably made of the curved form shown in Figs. 1 and 3; but if the form of the pulley requires a different form of pipe the form may be varied to meet the demands of the particular case, it being only necessary that the feed-pipe extend laterally from the top of the cup, and thence downwardly to the pulley-axle. This form of feed-pipe is of the greatest importance, as it brings the cup to a place where it is more accessible, and also prevents flow of oil to the pulley when the latter is at rest.

For the purpose of preventing waste of the oil leaking around the regulating-screw, I prefer to place the latter inside of the cup directly into the end of the feed-pipe, as shown at C in Fig. 1, and, ordinarily, make the oil-supply hole *c* through the screw, as in Fig. 4, at 1 or 2, and regulate the flow of oil by lessening the opening in one of the following ways, to wit: The end of the screw may be split, as at *c'* in Fig. 4, and as shown in Fig. 1, and screwed against or into a tapering opening, so that when the screw is forced into the opening the points of the screw are forced together and the opening closed to lessen the flow of the oil, and to increase the flow of the oil it is simply necessary to reverse the direction of the screw. When the oil-supply hole is made through the sides of the screw and thence lengthwise of the screw to the point, as at 4 in Fig. 4, the turning of the screw to cover the holes that pass through the sides, more or less, will regulate the flow of the oil, and the same is true where the oil-supply hole is made through the wall of the feed-pipe, as at *c''* in Fig. 2.

My appliance for forcing the oil from the cup to the shaft consists of a piston constructed with an outer body D, made to fit closely but freely in the cup, and an inner body or screw E, that is fitted to screw into the outer body with a flanged or tapering

joint at the top for the reception of the packing F, which is so inserted as to draw out closely against the sides of the cup when the pulley is revolving and the piston is being
5 thrown toward the outer end of the cup to force the oil through the oil-pipe to the pulley and will close together to slide freely when the piston is drawn or pushed back out of the cup. When forcing the oil to the shaft, the
10 packing is forced against the walls of the cup closely enough so that no oil can escape by it to leak out of the cup, and yet the piston can be easily taken out at any time when the pulley is not running.

15 The inner body E may be made solid, as shown in Fig. 1, or of other suitable construction.

In Fig. 3, I show the cup attached to a pulley G by screwing the pipe B into the hub
20 G'. It will be seen that the cup is here fully protected from danger of injury from outside elements, and also that it is located in a different horizontal plane from the exit end of the feed-pipe, whereby it is more accessible
25 and at the same time not liable to feed when the pulley is at rest, because air will not be capable of forcing the oil through the laterally and downwardly extending feed-pipe, which is not the case with the oilers of this
30 type heretofore proposed.

To insure an oil-tight joint I taper the end of the pipe where it screws into the top of the cup, as shown in the several views, so that the joint is constantly tightening as it is
35 screwed together, and immediately releases when being unscrewed, so that while the joint is capable of being made absolutely tight it is much more convenient of adjustment than a straight joint would be.

40 One of the principal advantages possessed by my improved oiler is in the facility with which the cup may be refilled with oil when desired. In order to do this it is only necessary to detach the cup (which, as above stated,
45 is in a very accessible place) from the feed-pipe and force the piston back by any proper device, after which the cup may be filled through the perforation in its top wall and

again attached to the pipe. It will be observed that there are no passages whatever
50 exterior to the main oil-chamber of the cup when the latter is detached from the feed-pipe. Thus it will be seen that there is no necessity for detaching the entire device from the pulley in order to fill the cup, and no
55 manipulation of a plug or valve required in order to prevent waste of oil when the device is detached from the pulley.

From the above it will be apparent that I have provided an oil-cup which is not only
60 simpler and cheaper than the one heretofore proposed, which contains some feature similar to mine, but also possesses very many other important advantages thereover.

I find that this cup feeds thick heavy grease
65 equally as well as light oil, and vice versa, the only change necessary being to open or close the oil-hole by means of the regulating-screw, to correspond with the consistency of the lubricant used, which is one advantage I
70 claim for this cup over that shown in my application, Serial No. 503,356, filed March 12, 1894, which cup is designed exclusively for use with light grades of oil.

Having thus fully described my invention,
75 what I claim as new, and desire to secure by Letters Patent of the United States, is—

The herein described loose-pulley oiler, consisting of a cup open at the bottom and closed
80 at the top, said cup having a perforation in its top wall, a feed pipe removably attached to said top wall and extending thence laterally and downwardly, said feed pipe being also adapted to be secured to a pulley-hub, a piston within said cup, and a plug for controlling
85 the supply opening to the feed pipe, said plug being located within the end of the feed pipe contiguous to said cup, substantially as shown and described.

Signed at Grand Rapids, Michigan, this
90 16th day of July, A. D. 1894.

JOHN KRIDLER.

In presence of—

GEORGE H. WHITE,
ITHIEL J. CILLEY.