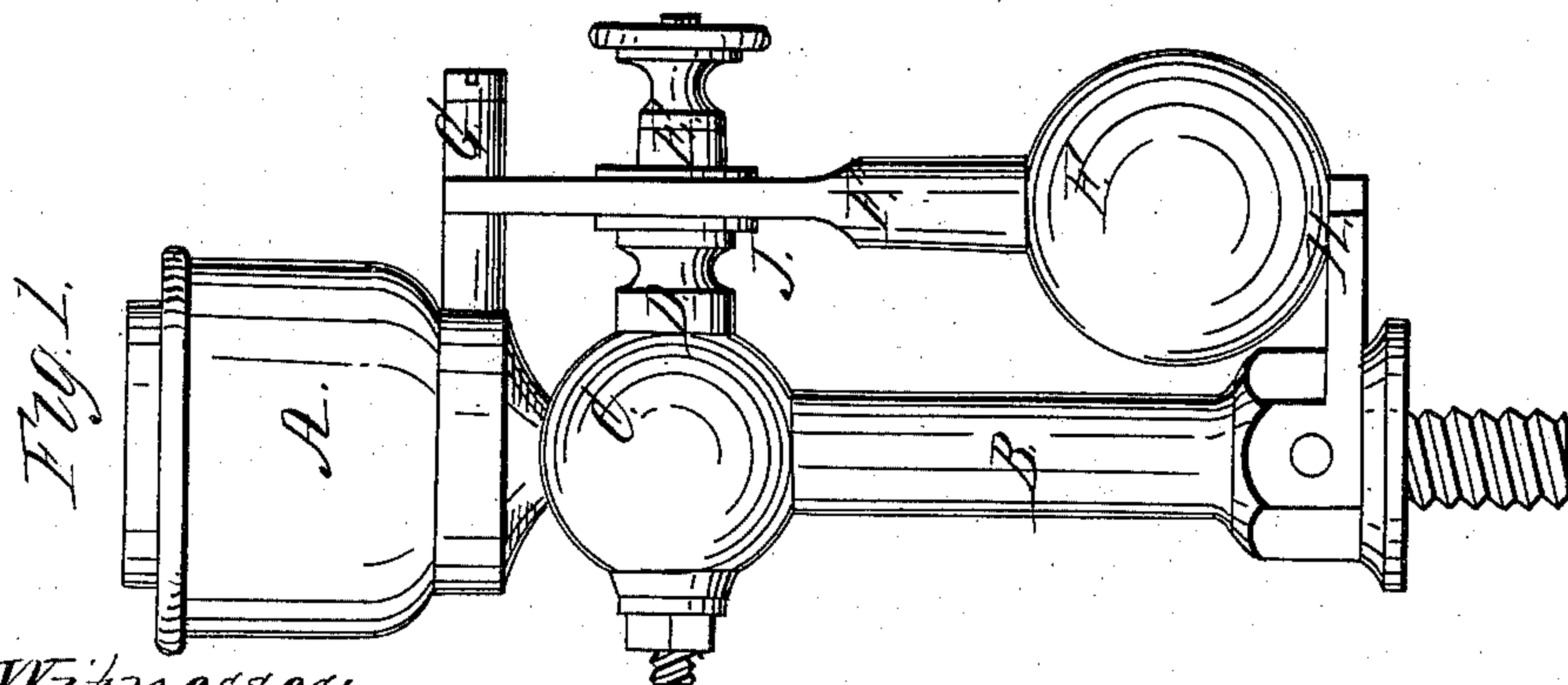
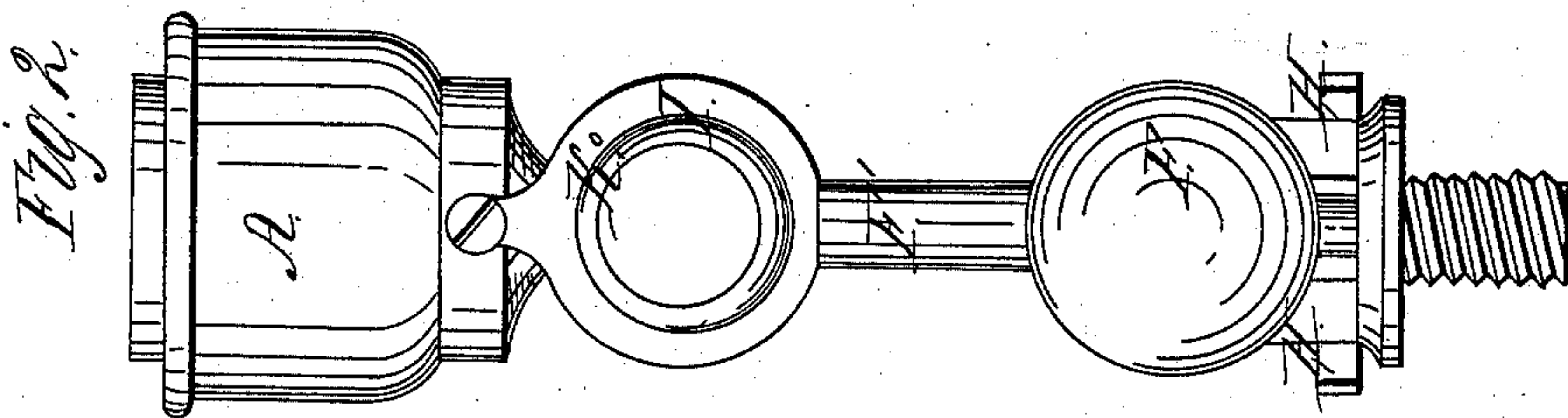
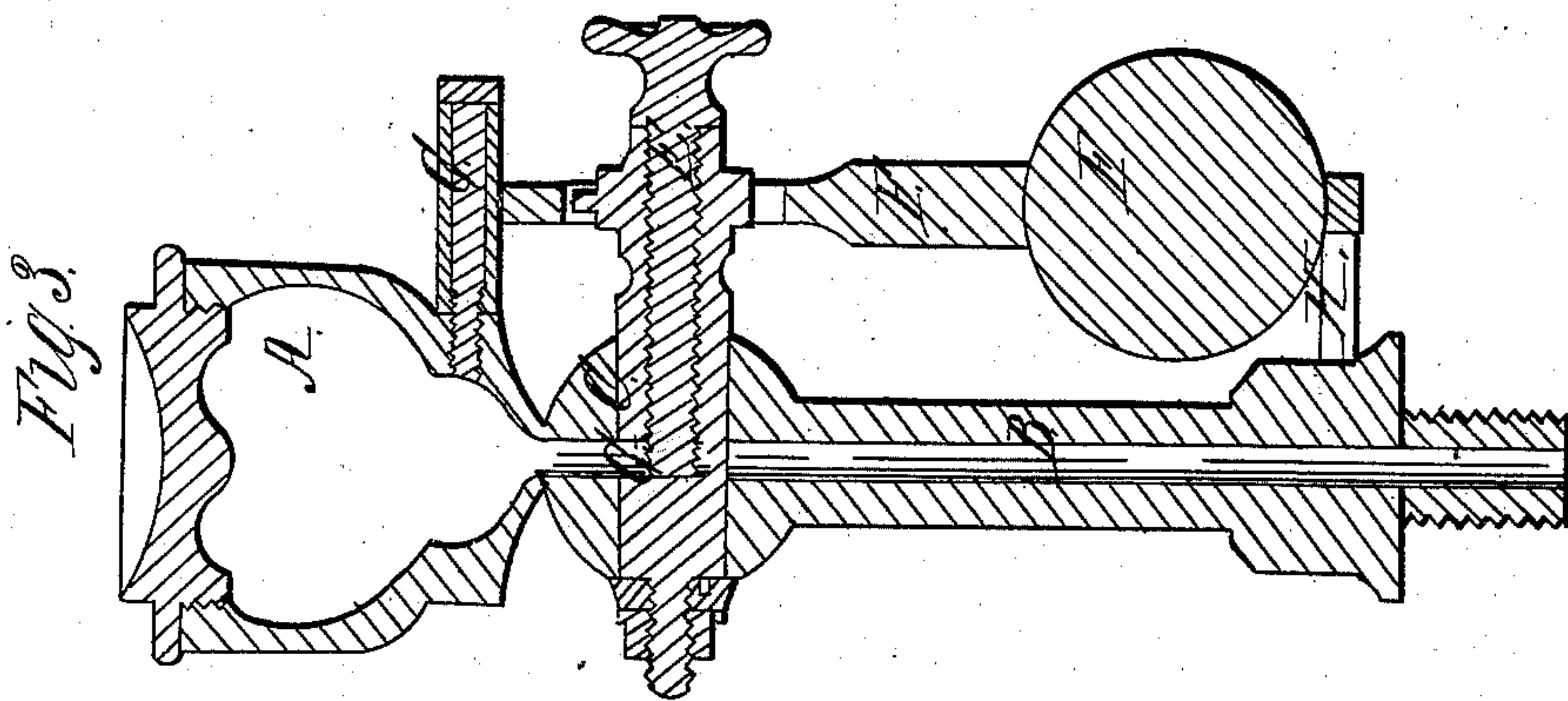


F. H. Furniss,

Lubricator.

N^o 67,867.

Patented Aug. 20, 1867.



Witnesses;

*W. H. Furniss
Frank Alden.*

Inventor,

F. H. Furniss

United States Patent Office.

F. H. FURNISS, OF CLEVELAND, OHIO.

Letters Patent No. 67,867, dated August 20, 1867.

IMPROVEMENT IN STEAM-ENGINE OIL-CUPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, F. H. FURNISS, of Cleveland, in the county of Cuyahoga, and State of Ohio, have invented a certain new and useful Improvement in Oil-Cups; and I do hereby declare that the following is a full and complete description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of the cup.

Figure 2, a view of the front.

Figure 3, a vertical transverse section.

Like letters of reference refer to like parts in the several views presented.

In fig. 1, A is the cup in which the oil is placed; B, the tube or stem by which it is attached to the pitman, cross-head, crank, &c., of the machine. At the upper end of the stem, immediately below the cup, is an enlargement or chamber, C, in which is fitted a key or plug, D, said plug and chamber being constructed in the same manner as an ordinary stop-cock, with the exception that the outer end of the plug is fitted with a screw, E, fig. 3, which penetrates the key to the centre of the chamber, the purpose of which will hereafter be shown. F is a weight suspended by a link, F', from the arm G, and upon which it vibrates between the checks H, fig. 2. The upper portion of the link F' forms a ring or yoke, I, through which project the plug and screw above referred to, in such way as to surround the ratchet-wheel J, secured to the plug, as shown in fig. 1. To the inner side of this yoke is pivoted a pawl, K, fig. 2, which falls upon and engages in the teeth of the wheel, and operates the same as and for a purpose hereafter shown.

Having thus described the several parts of the cup, the practical application and operation of the same are as follows, viz:

The cup is supposed to be screwed into the cross-head of a steam engine, but which may be attached to any other part of the machine having a reciprocating movement, or such movement as will cause a vibration of the pendulum or weight F. Now it will be evident that as the ball is made to oscillate by the reciprocating action of the cross-head the plug will be made to turn by the action of the pawl and ratchet-wheel. If the wheel contains twenty teeth then ten strokes of the piston will produce one half turn of the plug, which will bring the transverse port *a*, fig. 3, which corresponds in size with the bore of the stem, in an opposite position from that shown in the drawing, and which being charged with oil from the cup, it will flow from the plug, thence down the stem into the journal-box or seat, and thus supply it with oil. Now on ten more strokes of the piston the port *a* will be brought again in relation to the cup, and from which it will receive a new charge of oil, to be again discharged through the tube to the journal as before; and so on, at each revolution of the wheel the plug is charged with oil above from the cup, and discharges the same below through the tube into the journal-seat, and thus it is kept constantly supplied with oil by the continuous operation of the cup. The purpose of the screw E, referred to, is for gauging the amount of oil to the journal; thus, the plug being hollow, its holding capacity will be governed by the distance that the screw is worked into the plug, thus filling the hole more or less, as the distance that it may be screwed in or out. By this means a large or small quantity of oil can be supplied to the journal. The pendulum may be hung to the plug, and will thus operate in the manner substantially as described. The weight or ball F is hollow, for the purpose of adding more weight to the pendulum, and thereby cause a more immediate vibration when the action of the engine is slow, or to lighten the same when the vibration is rapid, and thus prevent the weight from striking too hard against the checks H, which are for the purpose of restricting the distance of the vibration.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with an oil-cup, a pawl and ratchet, so arranged as to operate the key or plug of said oil-cup, substantially as set forth.
2. The pendulum F, ratchet-wheel J, and pawl K, in combination with the plug D, substantially as and for the purpose set forth.
3. The gauge or regulating-screw E and plug D, in combination with the oil-cup, substantially as and for the purpose described.

F. H. FURNISS.

Witnesses:

J. H. BURRIDGE,
FRANK ALDEN.