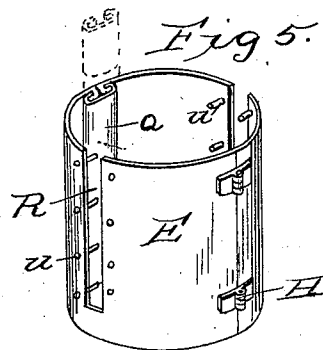
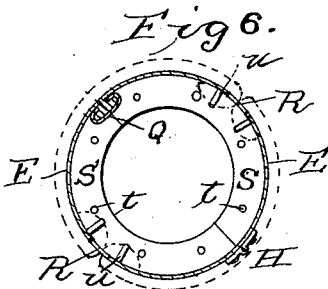
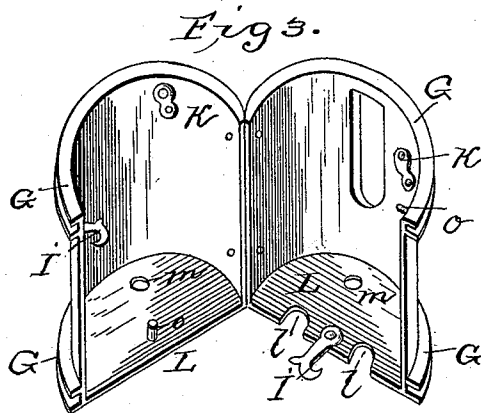
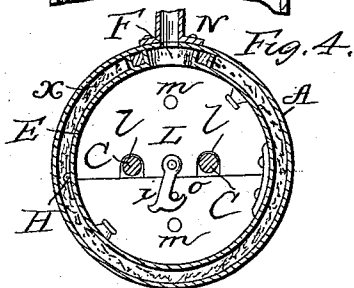
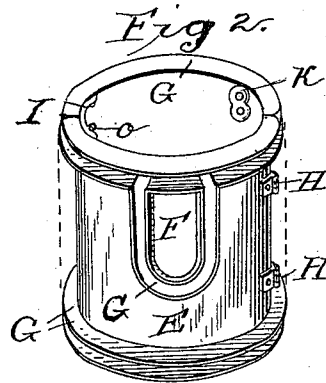
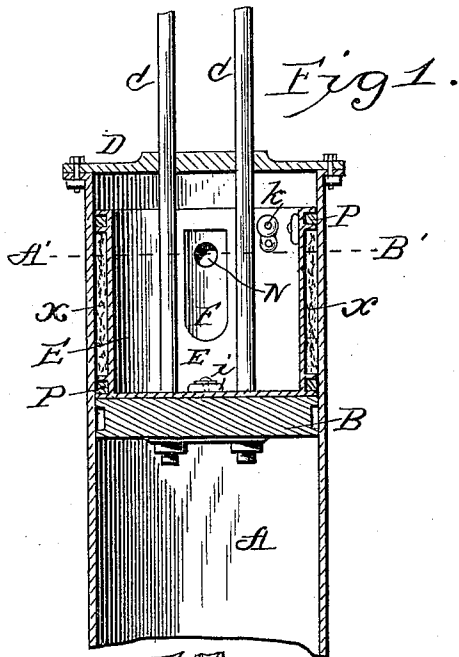


(No Model.)

R. LAWRENCE & J. BLACKFORD.
LUBRICATOR.

No. 518,257.

Patented Apr. 17, 1894.



Attest
Wm. F. Hall
Notary Public

Inventors.
Reuben Lawrence
James Blackford
by Richards & Co
ATTOR

UNITED STATES PATENT OFFICE.

REUBEN LAWRENCE AND JAMES BLACKFORD, OF ST. JOSEPH, MISSOURI.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 518,257, dated April 17, 1894.

Application filed July 24, 1893. Serial No. 481,378. (No model.)

To all whom it may concern:

Be it known that we, REUBEN LAWRENCE and JAMES BLACKFORD, citizens of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful improvements in lubricating devices for hydraulic-elevator cylinders, pumps, plungers, pistons, piston-rods, and all moving parts of all kinds of machines; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention comprises a two part cylindrical lubricator box to be combined with the piston and having lubricating material carried by its outer side so as to bear on the interior of the cylinder throughout the extent of said cylinder.

Our invention includes also other features hereinafter pointed out.

In the drawings: Figure 1, is a sectional view of a cylinder with a piston and lubricator therein. Fig. 2, is a perspective view of the lubricator cylinder or cup with the same closed. Fig. 3, is a similar view to Fig. 2, with the parts swung open. Fig. 4, is a sectional view on line A' B' of Fig. 1. Fig. 5, is a perspective view of a modification, and Fig. 6, a sectional plan view of the same.

The cylinder is shown at A, the piston at B and the piston rods at C.

The lubricator box or cup E consists of two sections hinged together at H so as to be swung apart in placing or removing the cup from about the piston rods, and having bottom portions L L with holes *l, l*, through which the piston rods pass. The sections are held together when closed by the hooks I and pins *o*. Holes *m* are formed in the bottom plates L L through which the air may escape when placing the cup in position against the piston.

The cup is provided with projecting portions on its outer side and these in the present instance consist of flanges G G between which the lubricating material X is placed to

bear on the interior of the lubricating cup. These flanges are doubled at top and bottom and packing P is placed between them. Eyes K are provided on the cylinder by which it may be removed for applying the lubricant or for any other purpose. The cylinder A has a port N for the admission and escape of water and the cup E is provided with an elongated slot F communicating with said opening for the admission and escape of water from the cup, and consequently from the cylinder.

In Fig. 5, a modification is shown, the cup however is hinged at H but instead of the hooks I of the previous arrangement a locking slide Q is used to hold the two edges of the cup together. Instead of the complete bottom portions L L we here use the flange S which is screwed to the head of the piston by screws through the holes *t*. R R are slots in the cup sides in order to allow the cup to pass the cross beams of a cylinder in order to lubricate the cylinder clear to the top on the inside. A woolen pad or other material is placed around the outside of the cup as shown in dotted lines, Fig. 6, and projections are used in this case to hold this absorbent lubricating material to the cup. These projections instead of being flanges consist of the pins *u* and these project inwardly and the pad edges extend through the slots R and engage the same.

We claim—

1. A lubricator for cylinders, consisting of a cup having a bottom portion to fit against the piston said bottom portion having an opening, cylindrical side portions, extending up therefrom and leaving the upper end of the cup open, and the lubricating packing around the outside of the cylindrical sides, substantially as described.

2. A lubricator for cylinders, consisting of a cup having bottom portions to fit against the piston, cylindrical side portions, extending up therefrom, and leaving the end of the cup open, the lubricating packing around the outside of the cylindrical sides and the means for retaining the packing in place consisting of the projections extending laterally from the cylindrical sides to engage the packing material, substantially as described.

3. A lubricator for cylinders comprising the
cylindrical cup having bottom portions to fit
against the piston with an opening therein
and the lubricating material extending about
5 the outside of the same, said cup having the
open side for the admission and escape of
water to and from the cylinder.

In testimony whereof we affix our signatures
in presence of two witnesses.

REUBEN LAWRENCE.
JAMES BLACKFORD.

Witnesses:

J. H. COOPER,
EDWARD DUTTON.