

No. 810,999.

PATENTED JAN. 30, 1906.

R. THOMPSON & J. A. SHARMAN.

HYDRAULIC LUBRICATOR.

APPLICATION FILED APR. 6, 1903.

Fig. 1.

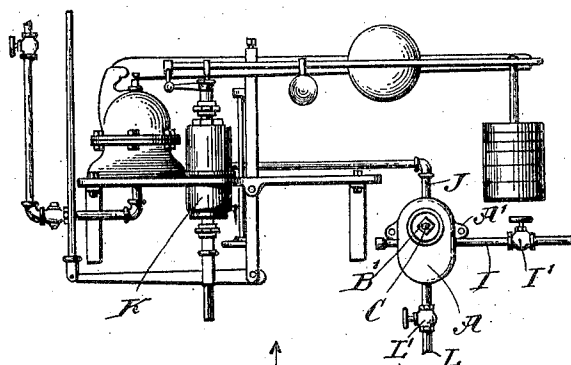


Fig. 2.

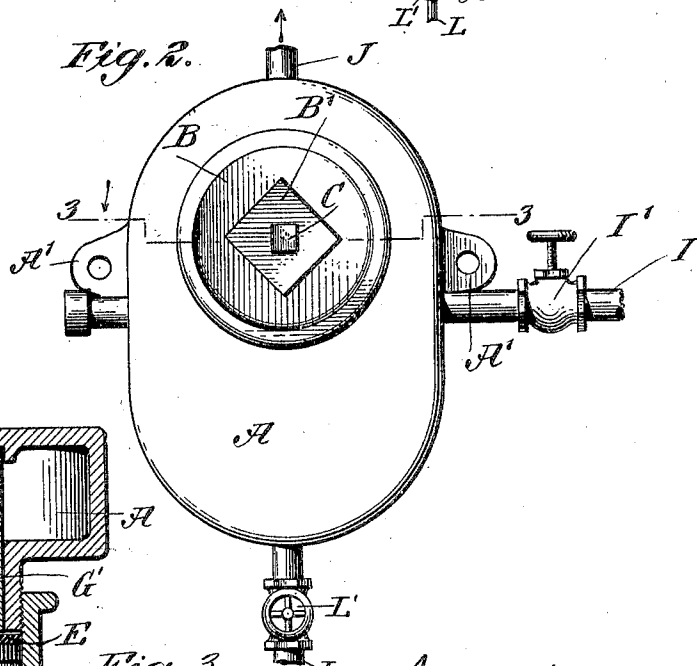


Fig. 4.

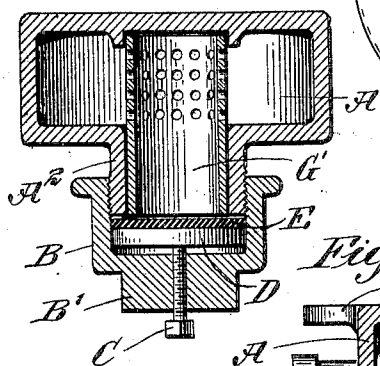
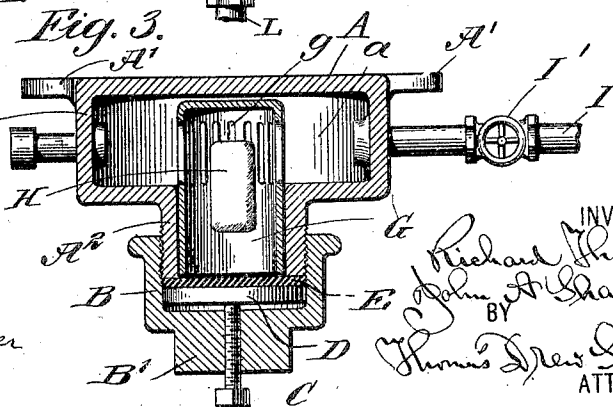


Fig. 3.



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HYDRAULIC LUBRICATOR.

No. 810,999.

Specification of Letters Patent.

Patented Jan. 30, 1906.

Application filed April 6, 1903. Serial No. 151,228.

To all whom it may concern:

Be it known that we, RICHARD THOMPSON, residing in the borough of Manhattan, in the city and State of New York, and JOHN A. SHARMAN, residing at East Orange, in the county of Essex, in the State of New Jersey, have invented a certain new and useful Improvement in Hydraulic Lubricators, of which the following is a specification.

The improved lubricator is intended more particularly for use with the hydraulic mechanism known as a "Spencer damper-regulator" set forth in a United States patent to J. E. Spencer September 29, 1885, No. 327,337, and it will be so described; but it may be useful in any cases where it is desired to give a lubricating quality to water by dissolving a small quantity of soap therein.

We provide a closed vessel with connections for allowing the water to traverse through it and provide for mounting in the upper portion of such casing a perforated box for holding the soap and allowing a just sufficient flow of water therethrough. The turning of a screw-cap and of a screw tapped through such cap will open widely or close tightly the vessel, and this treatment of the vessel also opens widely or closes loosely the inclosed perforated box or cage. Our construction allows the core-sand in the interior of the vessel to be thoroughly removed when new and allows the entire interior to be cleaned as often as may be required afterward.

The following is a description of what we consider the best means of carrying out the invention.

The accompanying drawings form a part of this specification.

Figure 1 is a face view of our lubricator with an outline of an ordinary Spencer regulator with which it is shown as serving. Figs. 2 and 3 represent our lubricator alone on a larger scale. Fig. 2 is a face view, and Fig. 3 a horizontal section on the line 3 3 in Fig. 2. Fig. 4 is a horizontal section corresponding to Fig. 3, showing a modification.

Similar letters of reference indicate corresponding parts in all the figures where they appear.

A is the main vessel, A' A' are lugs by which it is bolted, and A² a projecting front nozzle screw-threaded on its periphery and smoothly finished on its front end.

B is a cap screw-threaded internally to match and having a squared boss B' on its outer face performing the double function of a head by which it may be turned and a support for a screw C, which is tapped through its center.

D is a disk of metal, and E a corresponding disk of soft vulcanized rubber.

G is a cylindrical casing having liberal slots, or they may be simply perforations, *g*, which is adapted to be introduced and removed easily through the nozzle or neck A² and to extend across the vessel.

H is a piece of hard soap inclosed.

In applying the parts together the casing G is thrust in through the neck A², the soap H placed within it, and the cap B, with its attachments, is applied and screwed down to a gentle bearing, not so severe as to involve any risk of roughening the rubber by the friction, after which a smaller wrench applied on the screw forces the disk D farther and makes a tight joint on the rim of the neck.

L is a pipe controlled by a cock L', through which the casing can be drained at any time when required.

The water entering through a horizontal pipe I, controlled by a valve I', circulates in the interior of the vessel A and, maintaining a gentle circulation through the slotted apertures *g*, rises and escapes through a pipe J at the top, by which pipe it is led to the cylinder K of the regulator and is caused to perform its usual functions.

Our arrangement provides a complete perforated protection for the soap, allowing a just sufficient circulation of the water. The water can move freely up past the casing G without directing any current upon the cake or other lump of soap; but it is certain with the ordinary slow movement to wash out and mingle a little, and but a little, of the stronger soapy water. When the water in G has reached a condition of saturation, it ceases to dissolve the hard soap, and the arrangement insures a practically uniform slightly-soapy condition. The casing G is easily removed and replenished and the whole interior of the vessel A may be thoroughly cleaned with little trouble. In the form shown in Figs. 3 and 4 the casing may be resupplied without removal. The lump of soap when first introduced may nearly fill the case G.

Modifications may be made without departing from the principle or sacrificing the advantages of the invention. We have shown two nozzles, one on each side, for the connection of the pipe I, either of which may serve. We have in Fig. 3 shown the inner end of the casing G as closed and the opposite, the outer end, as open; but these conditions may be reversed, or both ends may be open. The inner end lies so near to the back face of the vessel A that the soap will be certainly retained. In Fig. 4 the inner end of the soap-casing G' is further supported by a circular ridge cast in the back of the vessel. In this form the casing is open both at the front and back, except as it is closed by lying near the back and the screw-cap, respectively.

We claim as our invention—

1. In a lubricator, a closed vessel having a connection for bringing in a current of water, a connection for leading away the same, and a lateral aperture with a neck A² in the upper portion, in combination with a removable perforated casing adapted to be supported in such aperture and to be inserted and removed through the same, a removable cap and means carried by the cap adapted to bear strongly against the casing and to tightly seal the aperture in the vessel.
2. In a lubricator, a closed vessel A having a lateral connection I for bringing in a current of water, a top connection J for leading away the same and an aperture in the upper portion of the front with a projecting neck A²

screw-threaded on its exterior, in combination with a removable perforated casing G extending from such aperture across the interior and a removable cap B screw-threaded for strongly attaching to said neck and having provisions for making a tight joint, the cap serving as a means for holding and closing such casing and liberating it when required, and also means for tightly closing the vessel, all substantially as herein specified.

3. In a lubricator a closed vessel A having a lateral connection I for bringing in a current of water, a top connection J for leading away the same and an aperture in the upper portion of the front, in combination with a removable perforated casing G extending from such aperture across the interior, and with a gasket E of yielding material covering said aperture, a stout metal disk D over the same carrying a cap B and screw C arranged to exert pressure on the metal disk and subject the soft material to simple compression without abrasion between such disk and the edges of the aperture, all substantially as herein specified.

In testimony that we claim the invention above set forth we affix our signatures in the presence of two witnesses.

RICHARD THOMPSON.
JOHN A. SHARMAN.

Witnesses:

THOMAS DREW STETSON,
M. F. BOYLE.