No. 649,027. Patented May 8, 1900.

J. H. WOODARD.

TRAVELING OILER.

(Application filed Apr. 22, 1899.)

(No Model.)

Fig. 1.

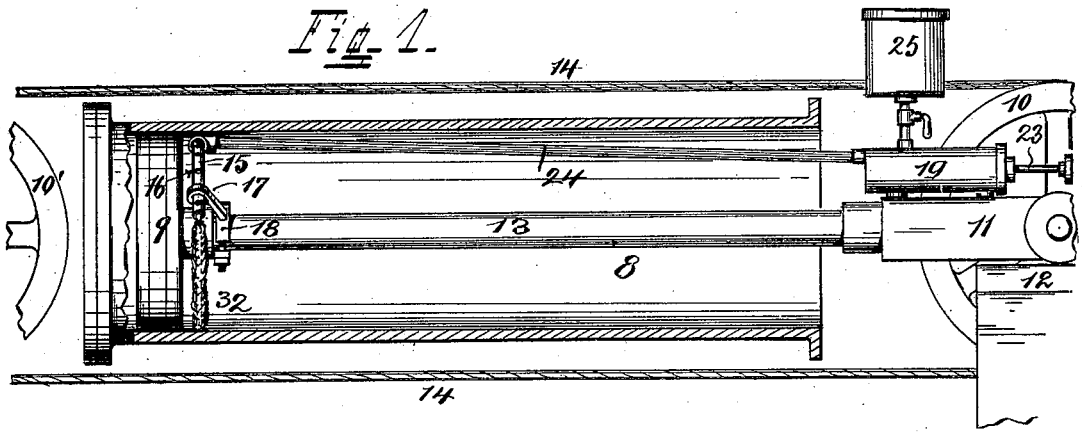


Fig. 2.

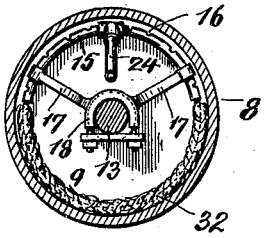


Fig. 3.

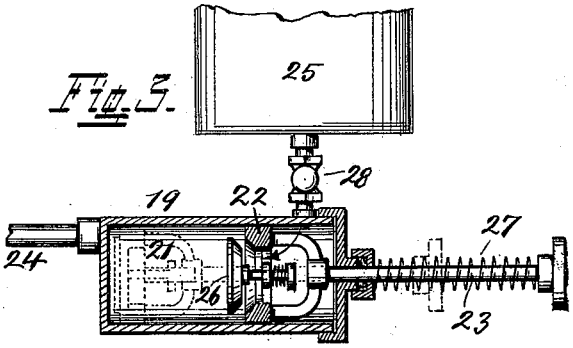


Fig. 4.

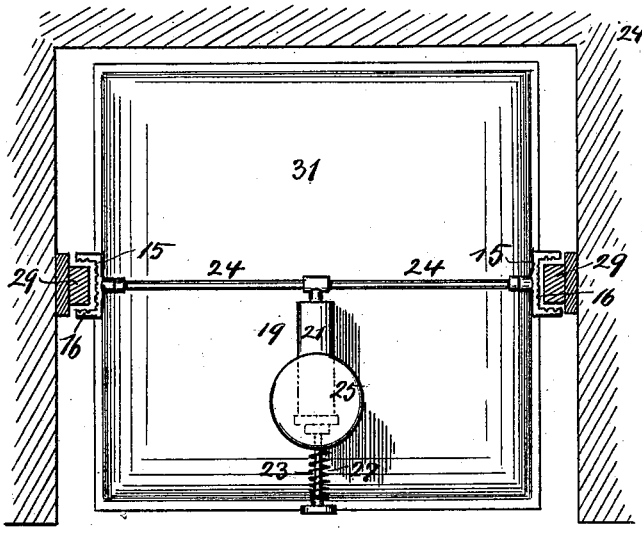
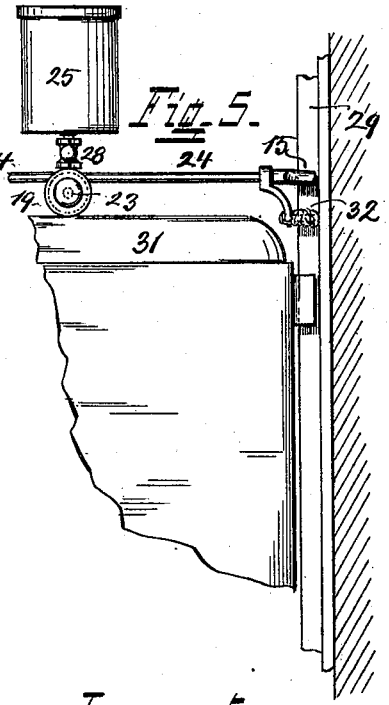


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES H. WOODARD, OF DAYTON, KENTUCKY, ASSIGNOR OF FIVE-SIXTHS TO JAMES H. HINTON, OF NEWPORT, KENTUCKY, AND SAMUEL B. GRIMES, OF CINCINNATI, OHIO.

TRAVELING OILER.

SPECIFICATION forming part of Letters Patent No. 649,027, dated May 8, 1900.

Application filed April 22, 1899. Serial No. 714,001. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. WOODARD, a citizen of the United States, and a resident of Dayton, Campbell county, State of Kentucky, have invented a certain new and useful Traveling Oiler; and I do declare that the following is a clear, full, 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, attention being called to the accompanying drawings, with the reference-numerals marked thereon, which form a part of this specification.

The object of this invention is to provide an oiler to apply lubricant to the wearing-surfaces of machine parts while such parts are in motion and where such surfaces are not readily accessible either on account of location or on account of the motion of the parts to which they belong or on account of both causes combined. It is principally designed for use in connection with elevator machinery to lubricate the interior wearing-surfaces of the pressure-cylinder where such is used. It is quite difficult to apply oil to the inside of such cylinder, since it must be done while the moving head is farthest inside, for which purpose a swab at the end of a rod or pole is used. The objection to this manner of oiling is that the work to be done cannot be seen, for which reason it is often done imperfectly either by insufficient application of the lubricant or by an excessive one, causing waste of the same.

My invention consists of a device constructed in a certain manner, as set forth in the following specification and particularly pointed out in the claim at the end thereof, the whole containing a full description of my invention, together with its operation, parts, and construction, which latter is also illustrated in the accompanying drawings, in which—

Figure 1 shows in a longitudinal section the customary pressure-cylinder of a hydraulic elevator, the same being fitted out with my traveling oiler. Fig. 2 is a cross-section of Fig. 1. Fig. 3 is an enlarged longitudinal section of the ejecting device. Fig. 4 shows my invention applied to an elevator-cab, the latter being shown in top view. Fig. 5 shows a part of the cab in side view.

In Figs. 1 and 2 of the drawings, 8 indicates the pressure-cylinder of a hydraulically-operated elevator. 9 is the piston-head, and 10 traveling sheaves, of which there are a number mounted side by side in a bearing 11, which is supported on a track 12. Bearing 11 is connected to head 9 by means of a piston-rod 13 for the purpose of moving the former, with sheaves 10, alternately in opposite directions. 14 is part of the hoisting rope or cable, which passes repeatedly around the sheaves, of which there is also a stationary set 10′, the other part of such rope passing up the elevator-shaft, where it finally connects to the cab therein. By admitting water to the cylinder back of head 9 the latter is caused to move out, whereby the distance between the traveling and stationary sheaves is increased, taking up a correspondingly-increased amount of rope, which comes from the part within the elevator-shaft, with the ultimate effect of lifting the cab. The reverse takes place by permitting the water to discharge from cylinder 8. Lubrication of the interior of this latter is rather difficult, since it must be done when the piston-head is farthest inside, at which time the distance from the open end of the cylinder, where access may be had, to the point where the lubricant is to be applied is seldom less than ten feet.

My improved lubricating device contemplates, first, a discharge-pipe 15, shaped on a circle parallel to the interior of the cylinder, but of smaller diameter, so as not to touch this latter. It is provided with a number of ejecting-orifices 16, disposed so as to discharge against the inside surface of the cylinder, and may be supported in any suitable manner—as, for instance, by braces 17, projecting from a clamp 18—whereby this device is attached to the piston-head or, as shown, to the piston-rod 13. In a horizontal cylinder, as shown, it is not necessary that pipe 15 follow all around the interior of the cylinder, and a limited discharge against the upper part of

the surface only is sufficient, since the oil readily flows down and covers also the lower part. On the outside—that is, in a position never obstructed by the cylinder or any other part and in a position so as to be always readily accessible—there is an ejecting device 19, secured in position in any suitable manner—as, for instance, by attachment to bearing 11. This ejecting device is substantially a force-pump consisting of a cylinder 21, adapted to contain lubricant, a plunger 22, and an operating-rod 23, provided with a convenient handle. This ejecting device is connected to the discharge-pipe 15 by a conduit in shape of a pipe 24, which conveys the oil from the former to the latter. The operation is now readily understood, and if lubrication is desired it is only necessary to expel the oil in front of plunger 22 by pushing the latter toward the discharge end of cylinder 21. This can be done conveniently at any time, and particularly when head 9 is farthest within cylinder 8. The oil is supplied to the ejecting device from an oil-reservoir 25, mounted above it, and the supply from which is controlled by a suitable cut-off device. Such supply proceeds automatically, for which purpose reservoir 25 is connected with cylinder 21 back of plunger 22, and this latter is provided with a spring-actuated valve 26, seated therein and opening outwardly. A spring 27 is provided around rod 23 of the operating-handle, whereby after ejection the parts are restored to operative position, in which condition they normally remain. With this automatic oil-supply added the operation of the parts is now as follows: When the plunger is pushed outwardly to discharge the contents of cylinder 21, oil from reservoir 25 follows, filling the space back of the plunger. When the latter is returned to its normal position by spring 27, valve 26 opens, permitting the oil to pass to the other side in front of the plunger. Return of oil during this movement to reservoir 25 is prevented by an interposed check-valve 28. Valve 26 closes as soon as plunger 22 comes to a rest, thereby preventing further discharge from reservoir 25. With this arrangement it is now only necessary when lubrication is desired to give operating-rod 23 a push, which not only effects discharge of the oil, but also provides for a return of the parts to an operative position with a fresh charge in readiness for subsequent use.

In Figs. 4 and 5 my device is shown as applied to an elevator-cab to lubricate the slides and the guides of the runway in the shaft. 29 indicates these latter, and the ejecting device 21 and reservoir 25 are located on top 31 of the cab. Discharge-pipe 15 is shaped, as shown, to surround the three sides of guides 29. The handle of the ejecting device may be readily operated either directly or by means of a suitable intervenient construction. To obtain a thorough and uniform distribution of the oil over the surfaces to be lubricated, I provide absorptive retainers 32 below the discharge-pipes in each case. For cylinder 8 it consists of part of a ring, completing the circle of which pipe 15 forms the other part. In case of guides 29 it consists of a depending bracket or frame shaped like the discharge-pipe above it and surrounding the guides. In both cases these parts are covered or wrapped with absorptive material, like felt or cotton-waste, to a thickness sufficient to cause this material to come in contact with the surfaces to be lubricated. These retainers retard the oil and prevent the same from running at once off from the surfaces to be lubricated and move it repeatedly over them.

Having described my invention, what I desire to protect by Letters Patent is as follows:

A traveling lubricating device for oiling the interior of a horizontal cylinder, being shaped to conform substantially to the interior shape and size thereof, its upper part, opposite the upper part of the interior surface of the cylinder, consisting of an oil-discharge pipe, substantially semicircular and provided with ejecting-orifices, directed against the cylinder and its lower part, opposite the lower part of the interior surface of the cylinder, forming an absorptive oil-retainer, also semicircular and being in contact with such lower surface, serving to distribute over the latter the oil discharged against the upper part of the surface, a source of oil-supply and an oil-conduit connecting it with the oil-discharge pipe, the whole secured close to the outer side of the piston of the cylinder and traveling therewith.

In testimony whereof I hereunto set my signature in presence of two witnesses.

JAMES H. WOODARD.

Witnesses:

C. SPENGEL,

WILLIAM LIEBISCH.