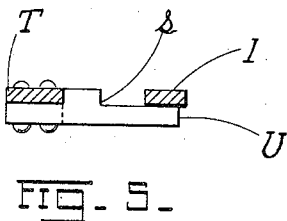
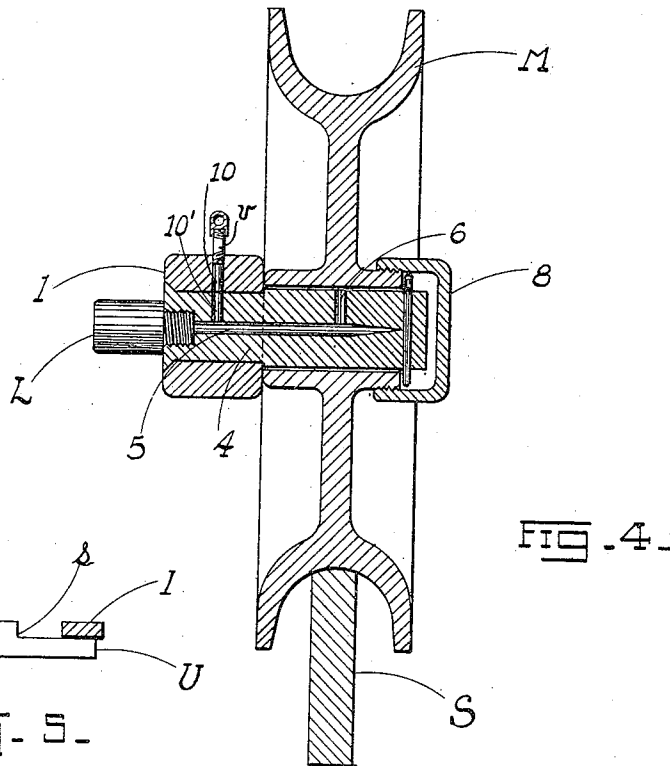
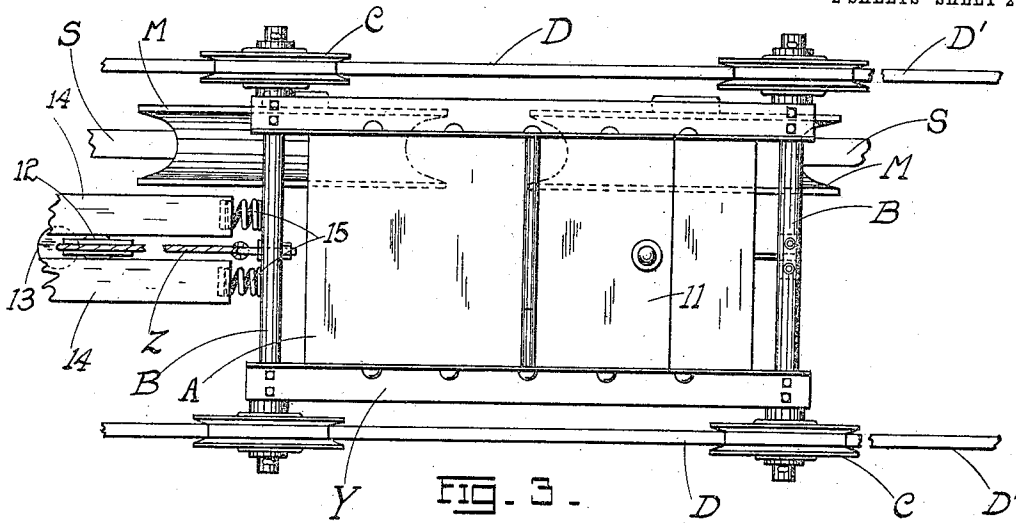


R. H. HALL.
 TRAMWAY OILER.
 APPLICATION FILED JAN. 27, 1909.

945,782.

Patented Jan. 11, 1910.

2 SHEETS—SHEET 2.



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TRAMWAY-OILER.

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To all whom it may concern:

Be it known that I, ROBERT H. HALL, a citizen of the United States, residing at Blair, in the county of Esmeralda and State of Nevada, have invented certain new and useful Improvements in Tramway - Oilers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in tramway oilers; and it consists in the novel combination of parts more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of my invention with pendant for the bucket shown dotted; Fig. 2 is a front elevation thereof with pendant omitted; Fig. 3 is a top plan; Fig. 4 is an enlarged vertical section on the line 4-4 of Fig. 1; and Fig. 5 is a sectional detail on the line 5-5 of Fig. 1.

The object of my invention is to provide an oiler which will automatically deliver oil to the axle-bearings of the trucks which carry the buckets for transporting ore and mineral on aerial tramways, every truck as it passes the "terminal" of the tramway being supplied with the necessary quantity of oil. This method does away with all hand labor, resulting in an economy of material, is quick and sure, and dispenses with personal attention to the truck from which the bucket is suspended. It is of course understood without going into a detailed description, that the buckets are drawn back and forth from one terminal to the other, the trucks carrying the same going around a loop at such terminal so as to always travel with the same end forward. It is at one of such terminals where the oiling of the truck-sheaves takes place, each truck receiving its proper quantity of oil at it reaches a terminal.

The advantages of the invention will be clearly apparent from a detailed description thereof which is as follows:—

Referring to the drawings, S, represents the rail at the terminal over which the wheels M of the truck 1 pass, it being understood that at the center of the truck is attached the pendant 2 from which the bucket (not shown) is suspended. This of course is well understood in the art and a bare reference thereto is sufficient at this point. The

sheaves or wheels M of the truck are mounted on spindles 4 which are firmly driven into the bearings at the ends of the truck, each spindle being provided with a longitudinal passage or perforation 5 tapering toward one end of the spindle, the inner end of the passage-way 5 communicating with a port 6 which terminates at the periphery of the spindle between the opposite faces of the sheave M. The outer end of the passage 5 of the forward spindle is closed by a projecting screw plug L which serves as a tap-pet in effecting the discharge of the oil as presently to be seen. The outer end of the passage of the rear spindle is likewise closed by a plug 7, this plug however not projecting materially beyond the end of the spindle. Opposite the outer terminal of the spindle there is screwed to the sheave a cap or cup 8 into which a portion of the oil finds its way and there lodges, the cup serving as a reservoir for the oil whence it works its way in time between the spindle or axle 4 and the walls of the passageway formed in the sheave for the reception of the spindle.

Mounted centrally on the truck 1 and carried on brackets 9, 9, is an oil distributor or vessel O the bottom of which slopes downward from a central ridge or apex in the form of an inverted V, thereby forming two distinct compartments from the bases of the terminal walls of which lead oil conducting pipes *v*, *v*, said pipes terminating at the truck bearings in which the hollow journals or spindles 4 are mounted, and communicating with the longitudinal passage-ways 5 of the spindles through ports 10, 10' formed in the bearings and spindle-walls respectively. So that any oil or lubricant flowing from the distributor O through the pipes *v*, *v*, will find its way into the passage-ways 5 and ports 6 of the spindles, into the space between the spindles and the sheaves M, thereby lubricating the surfaces about which the sheaves are obliged to rotate. The distributor O is normally closed by a hinged lid P provided at one end in an upwardly curved lip or arm Q for a purpose to presently appear.

Immediately over the terminal rail S, there are disposed a pair of rails D, D, over which travel the wheels C of a frame or truck Y, the terminals of the rails D forming raised extensions D'. The truck or frame Y supports an oil tank or container A preferably of conical design, the top

thereof being provided with a hinged lid 11. To the rear truck axle B of the frame is attached a cable Z which passes over a sheave or pulley 12, the outer end of the cable having secured thereto a weight 13. Mounted over the rails D in proper position are beams 14 from which project buffer springs 15 against which may impinge the adjacent axle B when the truck Y is released after impact with the tappet L as presently to be seen. Leading from the bottom of the oil tank A is a discharge pipe F provided at the lower end in a curved discharge nozzle or spout R which nozzle is turned in a direction so as to come directly in the path of travel of the upturned lip or arm Q of the lid P of the distributor vessel O. Immediately above the nozzle or spout R in the pipe F is a gate-valve E of any conventional design, the stem J thereof being loosely coupled to the long arm of an operating lever I pivoted at a convenient point to the outer end of a bracket-arm H rigidly secured to and projecting from the pipe F. The arm H is coupled to the lower end of a brace T extending from the adjacent axle B of the truck Y. Interposed at a point below and adjacent to the oil tank, in the pipe F is a gate-valve E which is normally forced to an open position by an expansion spring K coiled about the stem J of the valve, and confined between a collar 16 on the stem and the base of the stuffing-box of the valve-casing through which the stem operates. The stem J of the upper gate-valve likewise has a bearing in the brace-bar T, the outer end of the stem being pivotally secured to the end of the short arm of the operating or valve-controlling lever I. The lever I is limited in its oscillation after impact by a bracket U projecting from the brace T, the short arm of the lever I being limited by an arresting shoulder s, formed on the bracket (Fig. 5). This precaution is taken so as not to strain any of the parts, particularly the valve-stems J, spring K and the like. Any ordinary gate-valve E may be used in the pipe F, and consequently there is no occasion for illustrating the details of such valve. Leading from the oil discharge pipe F at a point between the casings of the gate-valves is an air-pipe W to admit air while the oil pipe is discharging and to allow for its escape when the oil-pipe is filling. Normally the upper gate-valve is forced to an open position and the lower valve closed by the action of the spring K, the lever I assuming a downwardly inclined position as shown. This position of the valves insures the filling of the pipe F with oil between the two valves. Depending from the ends of the outer axle B of the oil-truck Y are bent bracket-arms X whose lower bent terminals serve to support anti-friction rollers 17 which are adapted to en-

gage the bottoms of the rails D over which the wheels C of the oil-truck run, said bracket-arms serving to arrest the oil-truck against accidental derailment or dislodgment in the event of a too violent impact by the truck 1 of the tram-car against the free end of the long arm of the operating lever I, as will appear from a description of the operation of the apparatus which is as follows:—

When the oil-truck Y is at rest, it occupies a position about twenty feet to the rear of the raised extensions D' of the rails D. As the tram-truck 1 approaches the oil-truck, the tappet-plug L strikes the end of the long arm of the lever I, (which before the impact assumed a position to close the lower gate-valve E and open the upper gate valve E) tripping the lever to a position (dotted position Fig. 1) to cause the same to open the lower gate-valve E and close the upper gate-valve E. Before the impact actually takes place the tapering nozzle or spout R has passed under the guiding lip Q of the hinged lid P of the distributor vessel O, and raised the lid to open position, the spout at the moment of impact occupying a position directly over the ridge formed by the sloping bottom walls of the vessel O. The contents of the pipe F thus included between the valves E, E is thus discharged into the vessel O directly over the ridge aforesaid, one-half of the oil flowing through one of the pipes v to the chamber of the front journal of the truck 1, and the other half to the rear journal. The discharge from the pipe F continues after impact long enough to drain the contents of the pipe F between the valves E, E, it being understood that the oil-truck and tram-truck travel together until the oil-truck passes over the raised extensions D' of the rails, in which passage it is elevated sufficiently to release the lever I from the tappet plug L, the lever resuming its original position under the action of the spring K, the lower gate valve closing and the upper one opening to allow more oil into the pipe F. Upon release of the lever I from the tappet L the truck 1 continues on its journey, and the oil-truck is pulled back by the weight 13 to its first position of rest, or until it strikes the buffer springs 15. The oil-truck lever is then ready to be struck by the tappet of the next tram-truck, when the operation is repeated, each tram-truck being thus automatically oiled by the tripping of the lever I, said lever remaining tripped until disengaged by the elevation of the front wheels of the oil-truck in their passage over the raised extensions D' of the rails D. Since the two trucks travel together for at least twenty feet, the oil has ample time to discharge itself into the vessel O. As the truck 1 continues on its journey the spout R passes from under the lid P of

the distributor O and the lid thus released closes automatically to be again opened by the spout of the next succeeding truck passing under the guiding lip Q. The oil thus
 5 finally delivered to the passages of the respective journals finds its way to the sheaves and the oiling is accomplished with no waste and no handling. In cold weather, an electric or other form of heater may be mounted
 10 on the oil-truck to keep the oil in condition to flow readily.

Having described my invention, what I claim is:—

1. In combination with a tram-truck provided with journal-bearings, an oil-truck, a valve thereon, a valve-controlling member on the oil truck positioned to be impinged by the tram-truck for opening the valve and allowing the oil to discharge, means on
 20 the tram-truck for receiving said discharging oil and delivering the same to the journal-bearings aforesaid.

2. In combination with a tram-truck provided with a pair of journal-bearings, an oil-truck, a valve thereon, a valve-controlling member on the oil-truck positioned to be impinged by the tram-truck for opening the valve and allowing the oil to discharge, a distributor on the tram-truck for distributing the oil thus discharged, and means for
 30 conducting the oil from the distributor to the journals.

3. In combination with a tram-truck provided with journal-bearings, an oil-truck, a valve thereon, a valve-controlling member on the oil-truck positioned to be impinged by the tram-truck for opening the valve and allowing the oil to discharge, means on the tram-truck for receiving said discharging
 40 oil and delivering the same to the journals, means for disengaging the valve-controlling member after impact with the tram-truck, and means for closing the valve aforesaid.

4. In combination with a tram-truck provided with journal-bearings, a traveling oil-truck, a valve thereon, a valve-controlling member on the oil truck positioned to be impinged by the tram-truck and carry the oil-truck along a suitable distance after impact, connections leading from the member to the valve for opening the latter upon the impact with the tram-truck and allowing the oil to discharge, means on the tram-truck for receiving the oil and conducting the same to
 55 the tram-truck journals, the supporting surface over which the oil-truck travels being inclined upwardly at a suitable point whereby the oil-truck member is raised out of engagement with the tram-truck and the valve
 60 closed.

5. In combination with a tram-truck, a reciprocating oiler, a discharge pipe leading

from the oiler, cut-off valves in said pipe spaced a suitable vertical distance apart, a lever pivoted in connection with the oiler and
 65 having its arms respectively coupled to the valves aforesaid, a vessel on the truck, the lever on the oiler being positioned to be impinged by the truck and tripped in proper direction to close the upper valve and open
 70 the lower whereby the contents of the discharge pipe included in the length between the valves is discharged into the vessel on the truck, pipes for conducting the oil from the vessel to the truck-journals, means for
 75 effecting a disengagement of the lever from the truck upon conclusion of the discharge of the oil from the pipe of the oiler, and a device for returning the lever to its original position for closing the bottom valve and
 80 opening the upper valve of the discharge pipe.

6. In combination with a reciprocating oiler provided with a discharge nozzle, a tram-truck, a valve for controlling the discharge of the oil from the oiler to the nozzle, a lever coupled to the valve and positioned to be impinged by the truck and tripped in proper direction to open the valve, a vessel on the truck for receiving the oil from the
 85 nozzle of the oiler, a hinged lid on the vessel, and a device on the lid for guiding the nozzle under the lid and raising the latter to permit the nozzle to discharge into the vessel, the lid dropping to a closed position
 90 upon the passage of the truck beyond the point of disengagement between it and the lever.

7. In combination with a tram-truck, a reciprocating oiler positioned in the path of the truck and adapted to be successively impinged thereby and released therefrom, and devices for effecting the discharge of a predetermined quantity of oil from the oiler to the truck upon the impact aforesaid, and
 105 cutting off the oil upon the release of the oiler from the truck.

8. In a truck provided with journal-bearings, an oil vessel provided with bottom diverging or sloping walls, pipes leading from the vessel to the respective bearings, a reciprocating oiler located in the path of travel of the truck, and adapted upon impact therewith to discharge a certain quantity of oil into the vessel on the truck, and means for
 110 disengaging the oiler from the truck and simultaneously cutting off the flow of oil from the oiler.

In testimony whereof I affix my signature, in presence of two witnesses.

ROBERT H. HALL.

Witnesses:

GEO. O. BRADLEY,
 EDW. JUSSEY.