

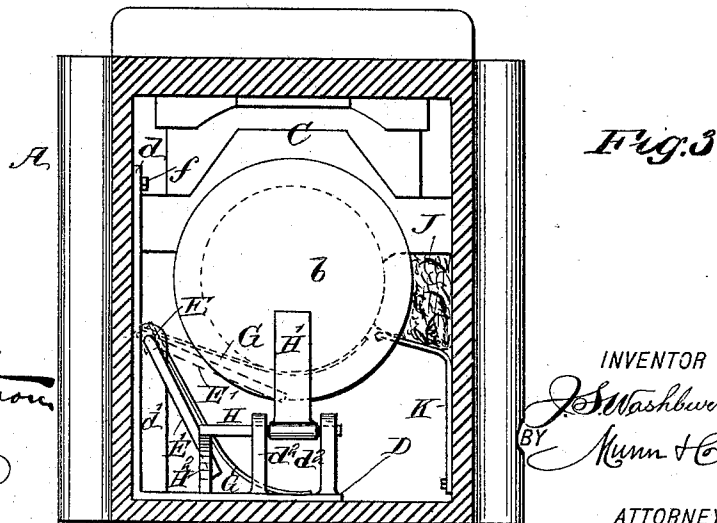
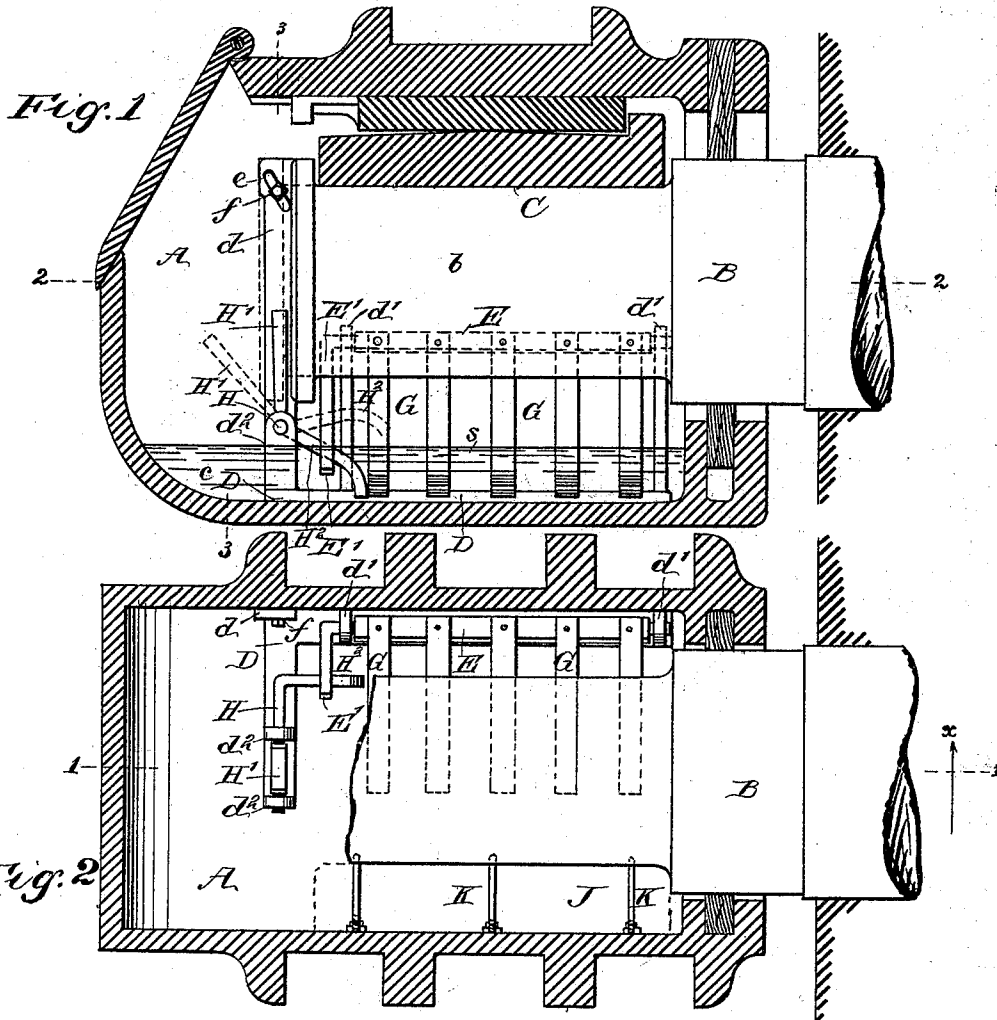
(No Model.)

J. S. WASHBURN.

LUBRICATING DEVICE FOR CAR OR OTHER AXLES OR SHAFTS.

No. 519,212.

Patented May 1, 1894.



WITNESSES:
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JOHN S. WASHBURN, OF HACKENSACK, NEW JERSEY.

LUBRICATING DEVICE FOR CAR OR OTHER AXLES OR SHAFTS.

SPECIFICATION forming part of Letters Patent No. 519,212, dated May 1, 1894.

Application filed October 9, 1893. Serial No. 487,687. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. WASHBURN, of Hackensack, in the county of Bergen and State of New Jersey, have invented a new and useful Improvement in Lubricating Devices for Car or other Axles or Shafts, of which the following is a full, clear, and exact description.

My invention is more particularly designed to be applied to railroad car axles for use in connection with their boxes or bearings, and it will here be described accordingly, but it is also applicable to shafts of stationary machinery in mills or elsewhere, or wherever said shafts have an end motion or play in addition to their rotary motion.

The invention more especially relates to that description of lubricating devices which are actuated by the end motion of the axle or shaft; and it consists in a mechanical oiling device of novel construction, whereby the journal is positively, effectually, economically and automatically lubricated without waste and with but little or no friction, also without the use of a plunger, pump or valves, substantially as hereinafter described and more particularly pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a vertical longitudinal section, upon the line 1—1 in Fig. 2, looking in the direction of the arrow *x*, of a railroad car-axle box with one journal end of the car-axle therein, and with my improved lubricating device applied. Fig. 2 is a sectional plan view of the said box, upon the line 2—2 in Fig. 1, with the same portion of the axle in part, and lubricating device in place; and Fig. 3 is a vertical section upon the line 3—3 in Fig. 1.

A indicates a railroad car axle-box, B a car-axle in part, and *b* its one end journal arranged to work within said box, C being the bushing or bearing thereof. The box A is constructed internally in its bottom with an oil well, chamber or space *c*.

The mechanical oiler, which is seated within the box A, is represented as constructed in part of a base piece or frame D designed to sit along or near the bottom of the box and

having uprights *d d' d²*, the one *d* of which extends upward along the side of the box near its forward end and serves, by means of a slot *e* in it, to adjust and secure by a screw bolt or nut *f*, the frame in its proper position within the box. The uprights *d' d'* project upward to a less height along the same side of the box and serve to carry a longitudinal rock shaft E terminating at its forward end in a crank or arm E', and carrying in between said uprights *d' d'*, an oil lifting apron G, preferably made up of a series of curved spring metal or other spring fingers arranged side by side along the shaft E and inclining and resting at their lower ends, when down, within the oil well *c* or the bottom of the box A, leaving the crank or arm E' also similarly inclined. The uprights *d², d²*, which occupy a front end position on the frame D, carry a bell-crank-shaped rocker consisting of a rock shaft H, having an attached approximately upright arm H' opposite and near or touching the front end of the journal *b*, and having a downwardly inclined lifting arm or lever H², arranged to project under the arm E' of the oil lifting apron G, and of such weight that it will normally occupy a position, as for instance, by resting on the bottom of the box A, or on any other suitable stop, to keep the arm H' raised or in position to be struck by the end of the journal *b* in its end motion. In this way, the rocker H, H', H² forms a gravitating lifter for the oil lifting apron G. The end motion of the axle B, causes the front or outer and collared end of the journal *b* when moving outward, to throw the arm H' of the lifter back, as shown by dotted lines in Fig. 1 and to correspondingly elevate the arm H², thereby lifting the crank or arm E', as shown by dotted lines in Fig. 3, and causing the oil lifting apron to be raised out of the oil well *c*, as also shown by dotted lines in Fig. 3, and to be thrown up toward or against the journal *b* with the oil or lubricating material lifted up by it out of the well *c*, thus lubricating the journal and by the motion of the axle B lubricate the bushing or bearing C. When the axle B moves endwise in a reverse direction, the arm H' moves with it and the arm H² of the lifter drops and with it the arm E' of the oiler, carrying the oil lifting apron G down with it into the oil in the well *c*, ready for a repetition of

the oiling operation. In this way the oil is applied in a direct and positive manner to the journal, over which and the inner surface of the bushing C it will be distributed by the
5 constantly or frequently recurring longitudinal movement of the rotating axle.

To further secure the distribution of the oil along the axle journal and its bushing or bearing, and to keep up a constant supply of
10 lubricating material thereto, there may be arranged, on the opposite side of the axle box to that to which the mechanical oiler is attached, an elongated sponge or other absorbent wiper J carried by a spring or other frame
15 K and resting on or against the journal. This absorbent wiper will thus become saturated with the oil carried up to the journal by the mechanical oiler.

Both end journals of the axle have or may
20 have a similar box and lubricating device applied to them.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

25 1. In bearing boxes or supports for rotating

car axles or shafts having end motion or play, the combination, with the box having a lower oil chamber or space, of a free rocking oil-lifting apron carried by said box, and means substantially as described, for operation by
3 the end play of the axle or shaft, to raise the rocking oil-lifter and convey the oil or lubricating material from the well in the box to the journal of the axle or shaft, essentially as set forth.

2. In bearing boxes or supports for rotating car and other axles or shafts having an end motion or play, the combination, with the box A having a lower oil space and adapted to carry the journal of said axle or shaft, of the
4 free rocking oil-lifting apron G provided with a crank or arm E', and the bell-crank-like raising device H, H' H² for said apron arranged for operation by the end motion of the axle or shaft, essentially as set forth.

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Witnesses:

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