

UNITED STATES PATENT OFFICE.

SILAS F. WOODWORTH, OF CLIPPER GAP, CALIFORNIA.

LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 507,397, dated October 24, 1893.

Application filed October 6, 1892. Serial No. 448,059. (No model.)

To all whom it may concern:

Be it known that I, SILAS F. WOODWORTH, a citizen of the United States, residing at Clipper Gap, in the county of Placer and State of California, have invented a new and useful Lubricating-Machine, of which the following is a specification.

My invention relates to improvements in lubricating devices, employed to reduce friction between the flanges of car wheels, and the sides of the rails upon which these flanges impinge while rounding curves in the track or rails upon which they run, and the objects of my invention are first, to lubricate the flange, the instant it comes in contact with the rail, to continue to lubricate it while it remains in contact, and to cease lubricating it the instant it ceases to be crowded by the curvature of the rail; second, to make the foregoing action entirely automatic, and consequently unailing. I attain these objects by mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top view of the machine as applied to one pair of wheels of a locomotive or car truck. Fig. 2 is a vertical section of the device, as applied to one flange, and Fig. 3 is a vertical section of the chamber G containing the lubricator A and spring S and movable jaw B, on the line O Fig. 2 and showing the stop C cut at the line p Fig. 2.

Similar letters refer to similar parts throughout the several views.

The known tendency of a car or locomotive to move in a straight line, is interfered with by a curve in the rail deflecting it from this straight line, by impinging upon the flange of the outer wheel, which wheel in turn, crowds against the truck frame L to which the car is attached, thus causing the moving mass to conform in its course to the curvature of the rails; and the oscillation or lateral "play" of the axle J under the truck frame L, affords me the means of obtaining a still greater side movement of the cross-bar D, which carries the lubricators, and acts invariably and automatically in the following manner:

In Fig. 1 the flange M M of the wheel N N coming against the inner wall of the outer rail, upon a curve, moves the axle J laterally, about an inch before the wheel hub strikes the truck frame L. The lever or arm F being

pivoted at h to the truck frame L, is carried laterally about one inch at g by the collar k k acting upon the pin, S, in the arm F, and therefore moves the cross bar D, in the same direction. The chambers G G, (attached to the cross bar D by the clips a a) contains the lubricator A; and when the vertical arm of the movable jaw B (see Fig. 2) strikes the horizontal arm of the stop C C, its pointed tooth b is withdrawn from the moppings of the lubricator A (see dotted line B Fig. 2) thus releasing the lubricator A, and allowing the spiral spring S to force it out against the flange M M and hold it against the flange; lubricating it during its contact with the rail. A reverse curve will impinge upon the flange of the wheel N, and the axle J and arm F are thrown in the opposite direction, carrying the bar D with them, and bringing the movable jaw D of the chamber G against the stop C, thus releases the lubricator A, and it is driven by the spring S against the flange M of the wheel N, precisely as above described, while acting upon wheel N N. As soon as the vertical arm of the jaw B is withdrawn from the stops C and C' C'' the pointed tooth b is driven into the mopping of the lubricator A by the pressure of the spring H, and prevents the spring S from throwing the lubricator A out of the chambers G and G G.

Upon straight portions of the track where the flanges run idly between the rails, seldom touching either rail; the lever F remains in a position parallel to both rails, and holds both lubricators away from the flanges; thus economizing the use of the lubricating material.

I am aware that prior to my invention, solid lubricating materials have been employed to lubricate revolving surfaces, and were held in constant pressure against such surfaces, by springs. I therefore do not claim such a combination broadly but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a lubricator, the combination of a truck frame L, the lever or arm F pivoted at one end thereto, the cross bar D pivoted to the other end, lubricant chambers G and G G attached to the ends of said cross bar, the axle J, and connections between the axle and the lever adapted to give a lateral movement to

said lever and cross bar, whereby the lubricant chambers are carried to, and from the wheel flanges, substantially as described.

2. In a lubricator, the combination with the truck frame L of the lever or arm F pivoted at one end thereto; the collars K so secured to the axle J as to form a groove between them, the rim or bearing g working in said groove, whereby a lateral movement is given to the free end of the lever or arm F, the cross bar D pivoted to the free end of the arm F, the lubricant chambers G and G G attached to the ends of said cross bar, and means for forcing the lubricant contained in said chambers, against the wheel flange substantially as described.

3. In a lubricator, the combination of the

lubricant chambers G secured to each end of the cross bar D; springs S arranged in said chambers and adapted to force the lubricant forward against the wheel flange, the movable jaw B holding in its bight said lubricant, the spring H for holding said jaw in place, the stops C adapted to come in contact with an arm of said jaw, whereby it is opened and the lubricant is permitted to be forced against the wheel flange by the springs "S" and means for operating the parts whereby the movable jaw B is brought in contact with the stops C all substantially as described.

SILAS F. WOODWORTH.

Witnesses:

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ED. F. TAYLOR.