

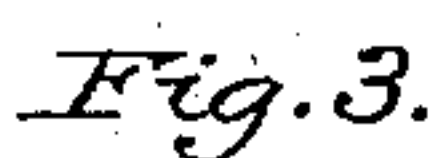
(No Model.)

L. F. MORISON & F. X. BERTRAND.

## CAR AXLE LUBRICATOR.

No. 341,386.

Patented May 4, 1886.



Witnesses:  
James P. Dufanel  
Walter S. Dodge

*Inventors:*  
*Louis F. Morison,*  
*Francois X. Bertrand,*  
*by Dodge & Son,*  
*their Atty's.*



# UNITED STATES PATENT OFFICE.

LEWIS FRANCIS MORISON AND FRANÇOIS XAVIER BERTRAND, OF ST.  
HYACINTHE, QUEBEC, CANADA.

## CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 341,386, dated May 4, 1886.

Application filed March 11, 1886. Serial No. 194,854. (No model.) Patented in Canada September 2, 1885, No. 22,365.

*To all whom it may concern:*

Be it known that we, LEWIS FRANCIS MORISON and FRANÇOIS XAVIER BERTRAND, of St. Hyacinthe, in the county of St. Hyacinthe, Province of Quebec, Canada, have invented certain new and useful Improvements in Car-Axle Lubricators, of which the following is a specification.

Our invention relates to lubricators designed more particularly for use in connection with car-axles, but likewise applicable to other journals or shafts which are provided with boxes for containing the lubricating material.

The invention consists in a novel construction and arrangement of the rollers or wheels, which, being immersed in the lubricant, lift the latter and deposit it upon the journal; in a novel construction of the arms by which said rollers or wheels are sustained, and in various features and details hereinafter described and claimed.

In the drawings hereto annexed, Figure 1 is a perspective view of our improved lubricator removed from the journal-box; Fig. 2, a side elevation of the same; Figs. 3 and 4, views illustrating certain details of construction, and Fig. 5 a view of the device prior to its insertion in place.

A indicates a metallic plate or frame of substantially rectangular form, and B B are studs or uprights secured to or formed upon the plate, at opposite ends thereof, and at diagonally-opposite corners, as shown.

From the base of each of the studs or uprights B are horizontal guides or ways C, which are grooved longitudinally in their opposing faces to receive and support sliding blocks D, each of which, as shown, is formed with two upright perforated ears or lugs, E.

In each of the plates or blocks D is pivoted, by means of a bolt, F, a divided arm, G, which is forked at its upper free end and carries a wheel or roller, H. The lower portion of the arm G is provided with a stem or spindle, I, which projects loosely through the lower end of the upper portion, and is riveted, or otherwise prevented from withdrawing therefrom. This stem or spindle I is cylindrical, so as to allow the upper portion of the arm G, carrying the roller H, to be turned about or upon said

spindle I. The portion of the arm G just above the pivot F is squared or made angular, and the upper forked portion is provided on one face with a flat spring, J, which extends downward and bears against one of the flat or angular faces of the lower part of the arm G, as shown. From this construction it follows that the outer end of the arm G, in which is hinged the roller H, may be turned upon the stem or spindle, as shown in Fig. 5, so as to bring the roller or wheel at right angles to the position it normally occupies. This is rendered necessary because of the difficulty of inserting the device in the oil-box when the rollers are in the position shown in Fig. 1. When the device is to be inserted in the box, the arms G are caused to lie nearly flat upon the plate, the wheels or rollers H and the forked portion of the arms G having been previously turned at right angles to their normal position, as shown in Fig. 5. The wheels are retained in this position by means of the flat springs J, which bear against the angular surface of the lower portion of arms G. After the lubricator is inserted beneath the journal the wheels H and those portions of the arms G carrying the same are turned a quarter of a revolution upon the spindle I, to bring the axle of the rollers H parallel with the journal, a very slight force only being required to overcome the resistance of the springs J. The arms G are each provided with a stop, K, to come into contact with the plate A, and thereby limit the downward movement of the arms G; and said arms are each further provided on the opposite face with a stud or eye, L, to which a spring, M, attached at one end to the upright B, is secured. The springs M serve to pull up on the arms G and keep the rollers H in contact with the journal.

The rollers H are preferably made of hard wood, and have their circumferences turned smooth. The rollers are each provided on their flat side faces with grooves N, which, as shown in the drawings, are tangential to a circle of small circumference concentric with the roller-axis, but may in some instances be made radial, the grooves extending from near the center outward toward the periphery, as shown. As will be clearly seen, the grooves are formed



with an upright narrow wall and a curved base terminating at the face of the wheel; and it will also be noticed that the grooves on the opposite faces of the roller alternate with each other. This last-mentioned feature is, however, a matter of no importance.

The purpose of providing the rollers H with the grooves N is to cause them to elevate the lubricant and place it upon the journal, and while the form of groove herein described and shown is found to give good results in practical use, we do not wish to limit ourselves to this particular form.

The shape, size, depth, or angle of the grooves may be varied as desired or as circumstances require, the only requisite being that the rollers should elevate the lubricant and place it upon the journal. The rollers, being on opposite sides of the journal, will, when the latter rotates, both turn in the same direction. The result of this is, that one of the rollers will lift the lubricant up, and by centrifugal action throw it well up on the surface of the journal, while the other roller will lift and deposit the lubricant upon the under side of the journal. Of course, if the motion of the journal or shaft be reversed the operation of the respective rollers will be also reversed. The plate A is slotted, so as to allow the rollers H to project downward into the lubricant. The rollers H will preferably be provided with metal bushings, as shown.

Having thus described our invention, what we claim is—

1. In an axle or journal lubricator, the combination, with a journal-box, of a plate or support, pivoted arms carried by said plate and extending on opposite sides of the journal, and wheels carried by said arms and bearing on the journal, said wheel having grooves in one or both faces, substantially as shown and described.

2. In an axle or journal lubricator, the combination, with a journal-box, of a plate or support, arms pivoted thereto, and wheels carried by said arms and projecting through the base of the plate, as and for the purpose set forth.

3. In an axle or journal lubricator, the combination, with a journal-box, of a plate or support, guides or ways thereon, blocks sliding in said slides, and roller-bearing arms pivoted to said blocks, substantially as shown.

4. In an axle or journal lubricator, the combination, with a journal-box, of a plate or support, guides or ways thereon, blocks sliding in said guides, arms pivoted to said blocks, rollers carried by said arms, and springs connecting the arms and the plate to hold the rollers against the journal.

5. In a lubricating device substantially such as described and shown, the combination of plate A and roller-supporting arms G, made in two parts adapted to turn one in relation to the other.

6. The roller-supporting arms G, made in two parts adapted to rotate one upon the other, in combination with a spring, as J, to hold said parts in their different positions, substantially as described and shown.

7. The herein-described lubricating device for application to and use in a journal-box, consisting of plate A, provided with studs B B, sliding blocks D, arms G, pivoted to said blocks and provided with rollers H H, and springs M, connecting the arms G G and the studs B B.

LEWIS FRANCIS MORISON.  
FRANÇOIS XAVIER BERTRAND.

In presence of--

O. DESMARAIS,  
G. C. DEPAULLES.