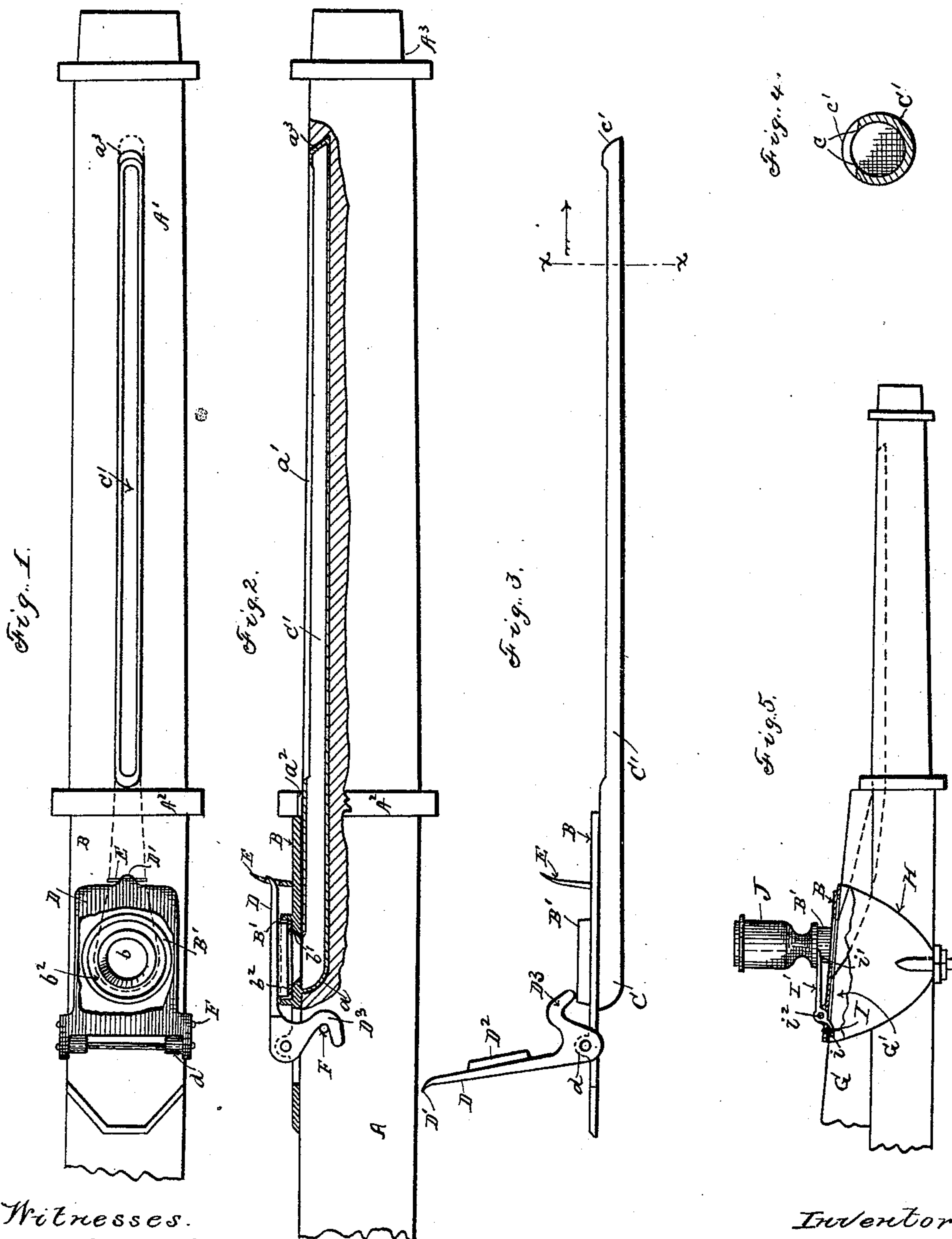


(No Model.)

M. J. McARTHUR.  
AXLE LUBRICATOR.

No. 438,817.

Patented Oct. 21, 1890.



Witnesses.

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# UNITED STATES PATENT OFFICE.

MARY J. MCARTHUR, OF CLEVELAND, OHIO.

## AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 438,817, dated October 21, 1890.

Application filed August 8, 1890. Serial No. 361,477. (No model.)

*To all whom it may concern:*

Be it known that I, MARY J. MCARTHUR, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and  
5 useful Improvements in Axle-Lubricators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the  
10 same.

My invention relates to improvements in lubricating device for vehicle-axles, the object being to provide a lubricating device that will distribute the lubricant equally,  
15 that will collect whatever dust or dirt that may gain access to the axle-spindle, keeping the latter perfectly clean, and that for cleaning purposes may be removed from the axle without necessitating the removal of the  
20 wheel.

A further object is to provide suitable mechanism whereby the lubricating device can be securely locked in its position on the  
25 axle.

With these objects in view my invention consists in certain features of construction and in combination of parts, hereinafter described, and pointed out in the claims.

30 In the accompanying drawings, Figure 1 is a plan of my improved lubricating device in working position on an axle, a portion being broken away to more clearly show the construction. Fig. 2 is a central vertical section,  
35 partly in elevation. Fig. 3 is a side elevation of the lubricating device removed from the axle. Fig. 4 is a section on line  $x x$ , Fig. 3. Fig. 5 is a side elevation of a modification.

A represents the body of the axle;  $A^1$ , the  
40 axle-spindle;  $A^2$ , the collar on the spindle, and  $A^3$  the nut on the end of the spindle.

The body of the axle is grooved or recessed at  $a$ . Collar  $A^2$  has a lateral hole at  $a^2$ , and the axle-spindle is grooved, as shown at  $a'$ ,  
45 the hole  $a^2$  in the collar being in open relation with the respective grooves in the body and spindle of the axle. Groove  $a'$  in the spindle extends to near the forward end of the spindle, where it is slightly undercut, as shown  
50 at  $a^3$ .

The lubricating device comprises a plate B,

the latter having an opening  $b$ , preferably centrally located, and the plate has connected therewith at the bottom a duct C, that is in open relation with the opening in the plate. 55 Duct C has a long tubular extension  $C'$ , that part way of its length is flattened and open at the top, the flattened portion having comparatively sharp edges  $c$ , as shown more clearly in Fig. 4. The forward end of the  
60 tubular extension has a toe  $c'$  for engaging the undercut portion  $a^2$  of the groove in the axle-spindle. Plate B has an upwardly-projecting annular flange  $B'$  around opening  $b$  to enlarge the size of the opening. A ledge  
65  $b'$  between the opening and flange serves as a seat for a washer  $b^2$ .

For closing, the opening is provided with a lid or cover D, hinged to plate B in any suitable manner, preferably as shown at  $d$ , and cover  
70 D, at the forward end thereof, terminates in a tongue  $D'$ , for engaging a spring-latch E for locking the cover or lid in its closed position, catch E being secured to plate B in any suitable manner. Lid or cover D has at either  
75 or both sides thereof and preferably integral therewith a depending curved arm or hook  $D^3$ , the latter, in the locked position of the parts, being adapted to engage a pin F, projecting laterally from the axle. From the  
80 foregoing it will be observed that any tendency to back the device from the axle is effectively resisted. Lid or cover D has also an annular flange  $D^2$  depending from the inner or under surface of the cover, flange  $D^2$   
85 being adapted to press upon washer  $b^2$  when the cover is in its closed or locked position, thus preventing ingress of dust and dirt into the lubricating device at this point.

In applying my lubricating device the toe  
90 end of member  $C'$  is entered through the opening in the axle, and then the device is pushed or shoved along groove  $a$ , through hole  $a^2$ , and along groove  $a'$  until the toe  $c'$  of member  $C'$  has engaged the undercut portion  
95  $a^3$  of the groove in the axle-spindle, thus holding member  $C'$  securely to its seat in the axle-spindle. Lid D is then closed, and the device automatically locked by means of the mechanism already described. By gently pressing  
100 forward on the spring-latch E the cover or lid D may be readily lifted or opened and the



device removed from the axle. Member C' is flattened and opened practically the entire length of the wearing-surface of the axle-spindle, and by reason of the flattened portion of member C' presenting a comparatively sharp edge or edges toward the opening in member C' the latter, besides performing the functions of a feed-duct and lubricant-distributor, also acts as a scraper and dirt-collector, keeping the spindle of the axle free from dust and dirt by scraping and collecting the latter into its opening. Hence the dirt and dust that may have found access to the axle-spindle can be removed at any time by simply removing the lubricating device, and the latter, as aforesaid, can readily be removed without requiring the removal of the wheel from the spindle of the axle.

My improved lubricating device is simple in construction, and can be cleaned by a wire or almost anything at hand.

When a bolster G is attached to the body of the axle, as shown in Fig. 5, by means of a clip H, for instance, the clip and bolster are of course provided with openings, respectively, for the insertion of the lubricating device, and the upwardly-projecting annular flange of plate B may be screw-threaded, either internally or externally, for attaching an oil-cup J. In such case, of course, the locking mechanism would be somewhat modified, a construction well adapted to the purpose being shown in Fig. 5, wherein a portion of the clip is broken away to more clearly show the construction.

The locking device is hinged to plate B in any suitable manner, preferably as shown at *i*<sup>2</sup>, comprising two members I and I', one member I being adapted to engage the rear or top wall—in the present instance the top wall of the recess or chamber G' in the bolster, (or axle-body when no bolster is used,) as shown at *i*. While member I is thus engaged the other member I' engages a seat or recess in flange B' of plate B, as shown at *i*'. In such position of the locking device the oil-cup is attached, and, as shown, holds the device in its locked position, and member I effectually resists any tendency to withdraw the lubricating device from the axle.

What I claim is—

1. In an axle-lubricator, the combination, with a grooved axle, of an oil-conduct slotted or open at its upper surface and extending approximately the entire length of the journal of the axle, and having an opening or oil-cup at one end to receive the lubricating substance, substantially as set forth. 55

2. In an axle-lubricator, the combination, with a grooved axle, of a removable oil-conduct slotted or open and flattened at its upper surface and extending approximately the entire length of the journal of the axle, the flattened surface of the oil-conduct having a comparatively sharp edge presenting toward the opening or slot in the conduct, substantially as and for the purpose set forth. 65

3. In an axle-lubricator, the combination, with a grooved axle and a removable oil-conduct adapted to sit in the groove of the axle, said conduct being slotted or open at its upper surface and extending approximately the entire length of the journal of the axle and having an opening or oil-cup at one end to receive the lubricating substance, of suitable mechanism for locking the lubricating device to the axle, substantially as set forth. 75

4. In an axle-lubricator, the combination, with a grooved axle and a removable oil-conduct adapted to sit in the groove of the axle, said conduct being slotted or open at its upper surface and extending approximately the entire length of the journal of the axle, of suitable mechanism for locking the lubricating device to the axle, and an oil-cup for supplying lubricant, substantially as set forth. 85

5. A lubricating device for vehicle-axles, comprising an oil-conduct having a slotted and flattened upper surface and adapted to extend approximately the entire length of the journal of the axle, and having an opening or oil-cup at one end to receive the lubricating substance, and suitable mechanism connected therewith for locking the device to the axle, substantially as set forth. 95

In testimony whereof I sign this specification, in the presence of two witnesses, this 26th day of July, 1890.

MARY J. McARTHUR.

Witnesses:

C. H. DORER,  
WARD HOOVER.