(No Model.)

T. T. WATTS.

AXLE LUBRICATOR.

No. 589,451. Patented Sept. 7, 1897.

FIG. 1.

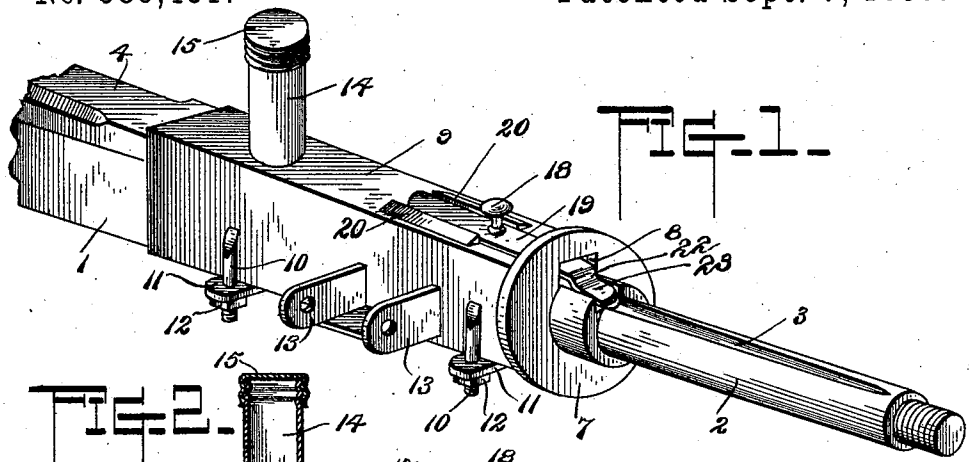


FIG. 2.

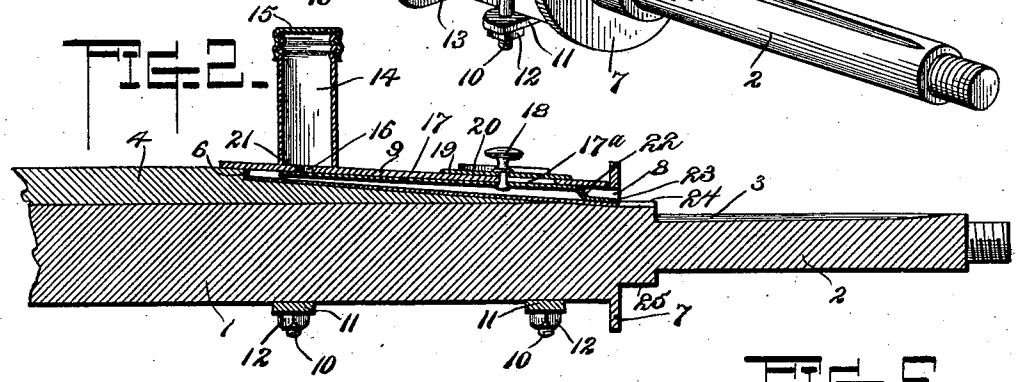


FIG. 3.

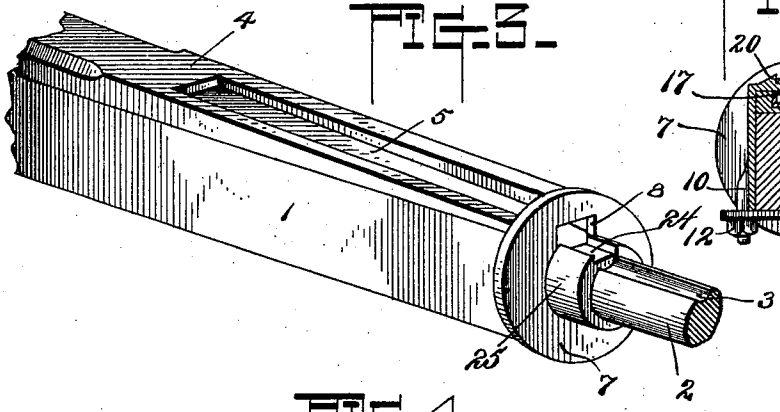


FIG. 5.

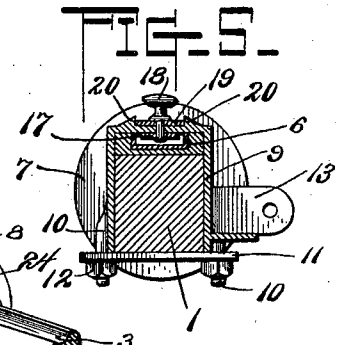
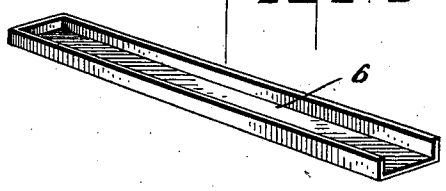


FIG. 4.



Inventor

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UNITED STATES PATENT OFFICE.

THEODORE T. WATTS, OF LYSANDER, OHIO, ASSIGNOR OF ONE-HALF TO A. C. BURSON AND SAMUEL K. BURSON, OF SAME PLACE.

AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 589,451, dated September 7, 1897.

Application filed October 3, 1896. Serial No. 607,786. (No model.)

To all whom it may concern:

Be it known that I, THEODORE THOMAS WATTS, a citizen of the United States, residing at Lysander, in the county of Athens and State of Ohio, have invented a new and useful Axle-Lubricator, of which the following is a specification.

This invention relates to axle-lubricators, and has for its object to provide, in connection with the ordinary vehicle-axle and spindle, a lubricating device which will contain a supply of oil or lubricating material and in which provision is made for feeding said oil to the spindle in any desired quantity and at such times as may be convenient.

The device contains a cut-off for stopping the flow of oil to the spindle and is also designed to take the place of the ordinary axle-clip or thill-coupling.

With the above objects in view the invention consists in an improved axle-lubricator embodying certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and incorporated in the claims.

In the accompanying drawings, Figure 1 is a perspective view of the end portion of an axle, showing the improved lubricator ap plied thereto. Fig. 2 is a vertical longitudinal section through the same. Fig. 3 is a detail perspective view of the end of the axle, showing the groove or recess for the reception of the oil-trough. Fig. 4 is a detail perspective view of the oil-trough. Fig. 5 is a cross-section taken in line with the button which operates the slide or cut-off.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

In the drawings, 1 designates an ordinary vehicle-axle, and 2 the spindle, the latter being provided on its upper side with a longitudinal groove 3, through which oil is fed to the spindle throughout its entire length. Upon the top of the axle is arranged a tapering strip 4, which extends from the end of the axle 1 inward and is provided in its upper surface with a recess 5, into which is fitted a metal trough 6 for conveying the lubricating material to the spindle, said trough being given a gentle inclination downward toward the spindle, as shown. At the junction of the axle 1 with the spindle 2 is located and permanently secured a collar or disk 7, which is provided with an aperture 8, alining with the end of the trough 6, through which the oil passes to the spindle and through which one end of the cut-off slide moves.

A metal casing 9 is fitted over the top and sides of the axle 1 and tapering piece 4, said casing being substantially **U**-shaped in cross-section and provided at its depending edges with permanently-attached thread-bolts 10, which extend below the bottom of the axle 1 and receive washer-plates 11 and nuts 12, like an ordinary axle-clip or thill-coupling, whereby the casing of the lubricator is secured to the axle. Upon its front side the casing 9 has rigid forwardly-projecting ears 13, which are spaced apart to receive the usual thill-iron and perforated to receive the pin or bolt of the thill-coupling in a manner that will be readily understood, the lubricator thus subserving the function of the ordinary thill-coupling in addition to its primary function.

At or near its inner end the casing 9 is provided with an oil-receptacle 14, the upper end of which is open to receive a supply of oil and threaded to receive a cap or cover 15. The oil-receptacle 14 communicates with the trough 6 through a small opening 16 in the upper wall of the casing 9, and this opening is closed by means of a slide or cut-off 17, which extends longitudinally beneath the top wall of the casing 9 and in contact therewith. A longitudinal slot 17^a is formed in the upper wall of the casing 9 to receive the shank of a slide-button 18, which shank connects with the slide or cut-off 17. Connected to the shank of the button above the case 9 is a guide-plate 19, which moves between spaced guides or ribs 20, thus preventing the slide 17 from turning sidewise. At or near its inner end the slide or cut-off 17 is provided with an opening 21, which, by means of the button 18, may be moved so as to register with the opening 16 in the top of the casing for admitting oil to the trough 6 whenever it is desired to lubricate the spindle.

The slide 17 is preferably of spring metal, and its forward end portion is bent downwardly and then outwardly to form the shoul-

der 22. The extreme end portion 23 bears frictionally against the outer end portion of the trough 6 when the slide is in its retracted position, as shown in Fig. 2, to permit the discharge of oil from the receptacle 14. When, however, the slide is in its extreme forward position and the supply of oil is cut off, the part 23 will project through the opening 8 in the collar 7 and be seated in the groove 24 in the enlarged portion 25 of the spindle, and the shoulder 22 will engage the end of the trough 6 and thereby lock the slide against accidental displacement. The shoulder 22 can, however, be easily disengaged from the end of the trough by pushing on the button 18.

When the spindle becomes dry and shows a tendency to become heated, by sliding the button 18 inward any desired quantity of oil may be allowed to flow into the trough 6 and thence to the spindle, after which the button may be slid outward for cutting off the flow of oil.

The device is very simple, may be manufactured cheaply, and will be found of great convenience and utility upon vehicle-axles in general.

The device is of course susceptible of changes in the form, proportion, and minor details of construction, which may accordingly be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. An axle, provided with a longitudinal recess, in combination with an oil-receptacle located above the plane of said recess, a slide operating between said receptacle and recess for admitting oil to the recess or cutting off the supply, a button connected to said slide and arranged within reach, whereby the slide may be operated, and a locking-shoulder on the slide to engage a fixed part of the device to prevent accidental displacement of the slide, substantially as described.

2. An axle provided with a longitudinal recess for conveying oil to the spindle, in combination with a casing fitted over the axle and secured thereon, an oil-receptacle arranged above said casing and having an opening communicating with the recess in the axle, a slide operating between the casing and axle and extending under the oil-receptacle and provided with an opening adapted to register with the opening in the receptacle, a button for operating and a locking-shoulder on the slide to engage a fixed part of the device to prevent accidental displacement of the slide, substantially as described.

3. The combination with an axle provided in its upper surface with a longitudinal recess, and an oil-trough fitted in said recess, of a casing fitted over the axle and embracing the sides thereof, an oil-receptacle on said casing having a discharge-opening arranged above said trough, a slide for opening and closing said opening, a button for operating said slide, a guide-plate connected rigidly to said button and slide, and spaced guides on the casing between which said guide-plate moves, substantially as described.

4. The combination with an axle provided in its upper surface with a longitudinal oil-conducting recess, of a collar arranged at the junction of the axle with the spindle and formed with an aperture alining with the end of said recess, a casing fitted over the axle and covering said recess, an oil-receptacle on the casing having a discharge-opening over said recess, a cut-off slide mounted between the casing and axle and moving across the discharge-opening of the oil-receptacle and having its outer end working through the aperture in the collar and bearing against the spindle, and means for operating said slide, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THEODORE T. WATTS.

Witnesses:
C. B. PIERCE,
C. D. HOPKINS.