

(No Model.)

W. COLE, Jr.  
AXLE LUBRICATOR.

No. 382,458.

Patented May 8, 1888.

Fig. 1.

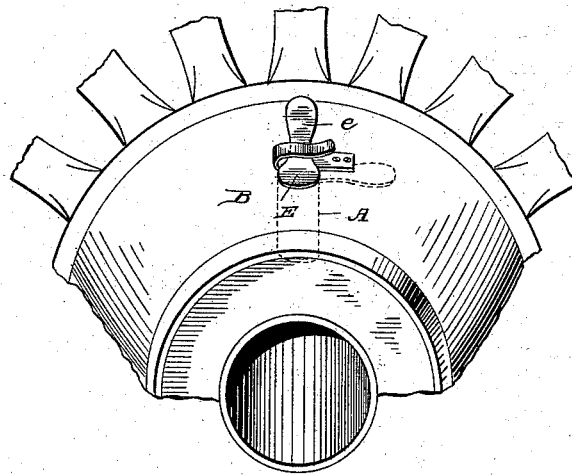


Fig. 2.

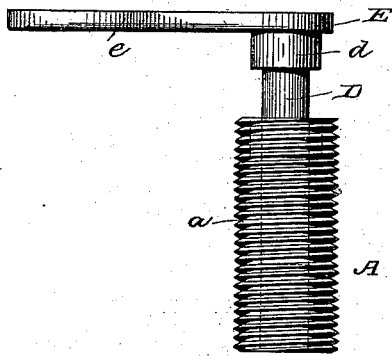


Fig. 3.

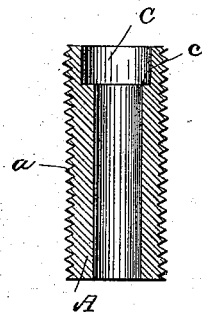
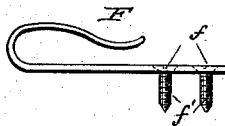


Fig. 4.



Witnesses:-

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Inventor:-

Warren Cole, Jr.

By his Attorneys

R. G. Day & Co.

# UNITED STATES PATENT OFFICE.

WARREN COLE, JR., OF KEOKUK, IOWA.

## AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 382,458, dated May 8, 1888.

Application filed November 17, 1886. Serial No. 219,136. (No model.)

*To all whom it may concern:*

Be it known that I, WARREN COLE, Jr., a citizen of the United States, residing at Keokuk, in the county of Lee and State of Iowa, have invented certain new and useful Improvements in 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 appertains to make and use the same.

My invention relates to an improvement in lubricators, and more particularly to that class of lubricators adapted to be inserted in the hubs of wheels.

The objections to those hitherto in use have been the failure to plug the hole through which the grease was fed in a convenient and effective manner, and the liability of the grease leaking out into the body of the hub and loosening the spokes.

The object of my present invention is to overcome these objectionable features, and to provide a simple, effective, and inexpensive lubricator adapted to general use in connection with wheels and axles.

With these ends in view my invention consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view of the rear portion of the hub, showing the exterior appearance of the lubricator when in position for use. Fig. 2 is a detached view of the lubricator with the plunger partially inserted. Fig. 3 is a partial sectional view showing shoulder at outer end of the lubricator-tube, and Fig. 4 is a detached view of the spring-catch.

A represents a tube provided with an exterior screw-thread, *a*, extending, preferably, its entire length. The tube A is adapted to be screwed into a wheel-hub, B, its inner end when in position being flush with the interior surface of the box and its outer end flush with the exterior surface of the wheel-hub. It should be inserted in the hub at a point about midway between the spokes and the rear end, for the purpose of causing the lubricant to be forced between the axle-shoulder and the rear end of the hub as well as along the entire length of the spindle. The interior wall of the upper

end of the tube is rabbeted out, as shown at C, Fig. 3, to receive an enlarged portion, *d*, of the plunger D when the latter is in closed adjustment.

The plunger D is constructed to fit the interior of the tube A with a free sliding adjustment, and of such length as to completely fill the tube when forced home. Its enlarged portion will then also completely fill the recessed portion at the upper end of the tube and form a close joint where it meets the shoulder *c*. The head of the plunger is further provided with a flange, E, adapted to rest on and project over the upper end of the tube and completely close it against the admission of dust and dirt. An operating-handle, *e*, preferably consisting of an extension of the flange E, projects laterally from the head of the plunger and enables it to be conveniently manipulated, and also serves to lock the plunger within the tube when swung into engagement with the spring-catch F.

The catch F consists of a strip of spring metal bent into hook shape, as shown, and provided with one or more perforations, *f*, for the reception of the screws *f'*, which secures it to the hub. It is secured to the hub in such position relating to the handle *e* that the latter may be swung laterally within the hook portion of the catch. The thickness of the handle is somewhat greater than the opening at the mouth of the hook, and when the handle is swung therein the compression of the spring tends to hold it there against accidental displacement. As a further precaution against accidental displacement, the mouth of the hook should give toward the direction in which the wheel-hub rotates in traveling forward. The lubricator is used by filling the tube A with the lubricant and forcing it out onto the spindle and axle-shoulder by pressing the plunger into its position within the tube. The plunger is then locked in position by swinging its handle into the spring-catch, and the wheel is ready to run.

It will be observed that the construction is simple and its use convenient, while it is eminently effective and durable.

It is evident that slight changes might be resorted to in the form and arrangement of the parts described without departing from the spirit and scope of my invention. Hence I do

not wish to limit myself strictly to the construction herein set forth; but,

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

5 Patent, is—

1. In a lubricator, a forcing-plunger provided with a laterally-extending locking-handle secured to its head, substantially as set forth.

10 2. In a lubricator, the combination, with a lubricant-tube adapted to be inserted in a hub, of a plunger having a laterally-extending handle secured to its head and a spring-catch adapted to hook the plunger in the tube, substantially as set forth.

15 3. In a lubricator, the combination of an externally-threaded tube adapted to be screwed into a hub, a forcing-plunger to be inserted and locked in said tube, a flange on the upper end of said plunger, a laterally-extending locking-handle secured to said flange, and a hook-shaped catch located on the hub, so that the locking-handle can be swung into the hook portion of the same, substantially as described.

20 4. In a lubricator, a lubricant-tube having the same external diameter and a continuous

thread from end to end and located in a hub, so that its inner end will be flush with the interior surface of the box and its outer end flush with the exterior surface of the hub, the upper end of the interior of said tube being rabbeted out, the interior surface of said rabbeted portion and tube being smooth and free from projections, a solid plunger provided with an enlargement at its upper extremity, the exterior surface of said plunger and enlargement being smooth and the diameters of the same being such that they will fill and be able to freely slide within said tube and rabbeted portion, a flat flange upon the upper end of the plunger to fit over the upper end of said tube, and a spring-actuated locking device, whereby when the plunger is forced home it can be locked in position by a slight lateral turn of the same, substantially as described.

45 In testimony whereof I affix my signature in presence of two witnesses.

WARREN COLE, JR.

Witnesses:

I. N. TICHENOR,

I. M. WALTERS.