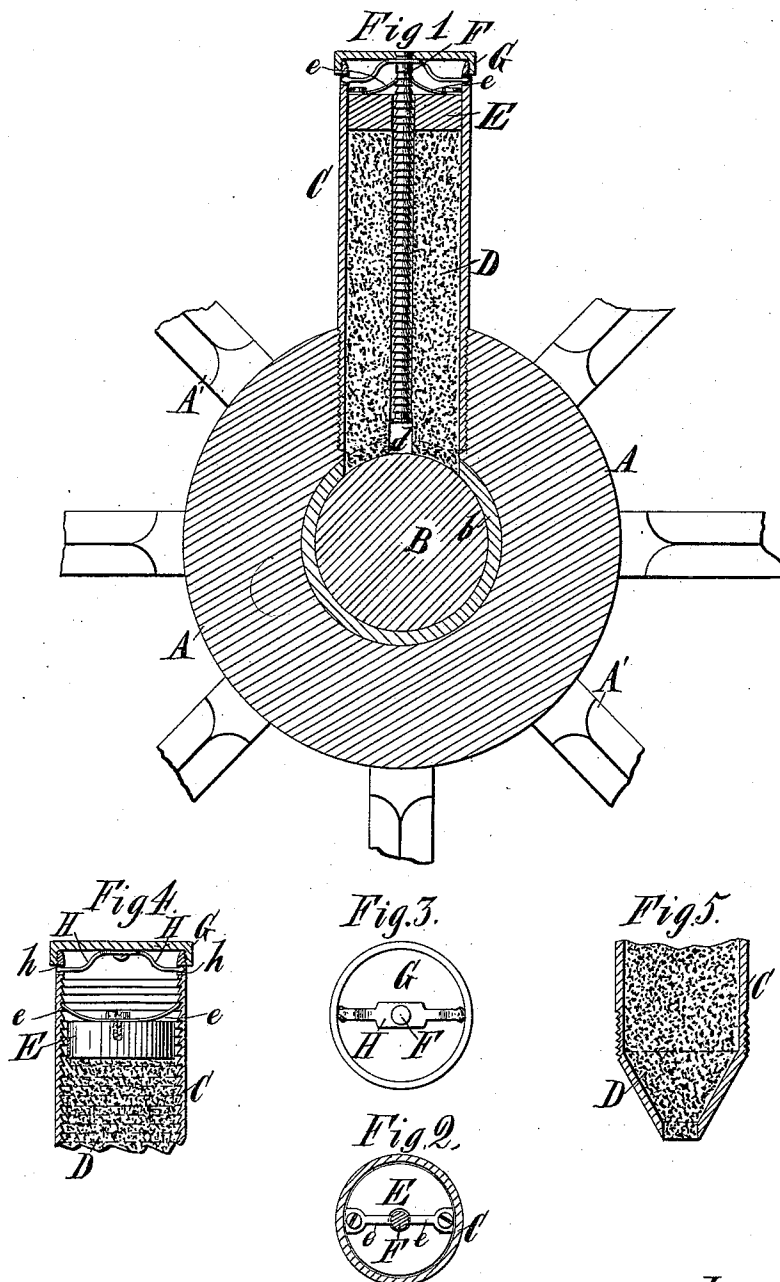


(No Model.)

W. J. FAUL.
AXLE LUBRICATOR.

No. 419,430.

Patented Jan. 14, 1890.



Witnesses;
Isaac Bicket
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UNITED STATES PATENT OFFICE.

WILLIAM J. FAUL, OF BROOKLYN, NEW YORK.

AXLE-LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 419,430, dated January 14, 1890.

Application filed June 20, 1889. Serial No. 315,006. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. FAUL, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Lubricators for Vehicle-Axles, of which the following is a specification.

In my improvement I employ a stick of substantially hard grease, the inner end of which bears against the axle and is worn away by the axle during the rotation of the latter, but which is constantly fed forward, so as to be maintained in contact with the axle until consumed.

I will describe my improvement in detail, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a vertical section of a hub of a vehicle-wheel having a lubricator embodying my improvement secured thereto. Fig. 2 is a horizontal section of the lubricator taken on the line x , Fig. 1. Fig. 3 is an inner face view of a certain cap employed at the outer end of the lubricator-shell. Fig. 4 is a vertical section, partly broken away, showing a slight modification of certain parts; and Fig. 5 is a similar view showing a modification of other parts.

Similar letters of reference designate corresponding parts in all the figures.

A designates the hub of a vehicle-wheel, and A' the spokes thereof.

B designates an axle, and b a bushing surrounding the same.

C designates a tubular metallic shell. This shell has a screw-threaded connection with a suitable aperture formed radially in the hub A, and may extend for any suitable distance into said hub. As here shown it extends to the bushing b . Within this tubular shell I arrange a stick of grease D, which is preferably hard, and may be of any suitable lubricating material. In the example of my improvement shown in Fig. 1 said stick of grease is tubular—that is to say, it is provided with a central longitudinal passage-way d . The inner end of the stick of grease extends through a suitable opening in the bushing b and into direct contact with the axle B. In order to maintain it in such position, I employ a weight E, which weight acts in con-

junction with a ratchet F. In the example of my improvement shown in Fig. 1 the ratchet F is formed upon a rod, which may be of metal, and which extends through the passage d in the stick of grease. The outer end of this rod is secured to a cap G, which cap in this instance has a screw-threaded connection with the exterior of the shell C. The inner end of the said rod is free. The cap G, when in position, operates to prevent dust and dirt from entering the shell C.

Upon the weight E are secured pawls e , or it may be that only one such pawl may be employed. These pawls are here shown as springs and extend into contact with the ratchet F. When the vehicle is in motion, its jolting will cause the weight E to be moved inwardly as fast as the grease is worn away by the axle, and as it thus moves inwardly the pawls e will engage the teeth upon the ratchet F successively, and will, by such engagement, keep the stick of grease in constant contact with the axle and prevent any outward movement of the former. The forward feed of the weight E will continue until the stick of grease is substantially all used up.

In Fig. 4 I have shown that it is not essential that the stick of grease should be tubular, as the ratchet F may be formed upon the interior of the shell C, thus omitting the rod upon which the ratchet is formed in the example shown in Fig. 1. The ratchet may consist merely of screw-threads.

In Fig. 1 the inner end portion of the shell C is shown as cylindrical throughout; but in Fig. 5 I have shown that it need not necessarily be so, as the inner end portion may be contracted. In this instance a softer grease should be employed than in the other example shown. The outer end portion of the shell C, I have shown as internally flaring, and upon the ratchet F, or upon the cap G, as shown in Fig. 4, I have arranged catches H. (Shown as springs.) When the cap G is being secured upon the shell C, these spring-catches will move inwardly along the flaring portion of the shell, and when the cap is in place will spring into notches or apertures h , formed upon the interior of the shell C. These catches thus operate to prevent any accidental displacement of the cap G. The cap

may, however, be easily removed by hand, as the catches H will yield to admit of this; or the catches may be pressed inward through the apertures *h*.

5 It will be seen that by my improvement I provide a means for lubricating the axles of vehicles whereby the axles may be thoroughly lubricated for a long time, while at the same time the lubricating material is kept
10 free from dust and dirt.

A collar or projection on the inner end of the rod-ratchet F prevents the weight E from moving wholly off from the rod.

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

1. In a lubricator for vehicle-axles, the combination, with a shell adapted to be engaged with the hub of a wheel on said axle, of lubricating material within said shell in contact
20 with the axle, a weight at the outer end of

said lubricating material, a ratchet, and a pawl or pawls on said weight engaging said ratchet, substantially as and for the purpose specified.

2. In a lubricator for vehicle-axles, the combination, with a shell adapted to be engaged
25 with the hub of a wheel on said axle, of lubricating material within said shell in contact with the axle, a weight at the outer end of said lubricating material, a ratchet, a pawl or
30 pawls on said weight engaging said ratchet, a cap upon the outer end of said shell for closing the latter, and spring-catches on said cap engaging the shell, substantially as specified.

WILLIAM J. FAUL.

Witnesses:

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