(No Model.)

E. FIRTH.

LUBRICATOR FOR VEHICLE AXLES.

No. 256,664. Patented Apr. 18, 1882.

Fig. 1.

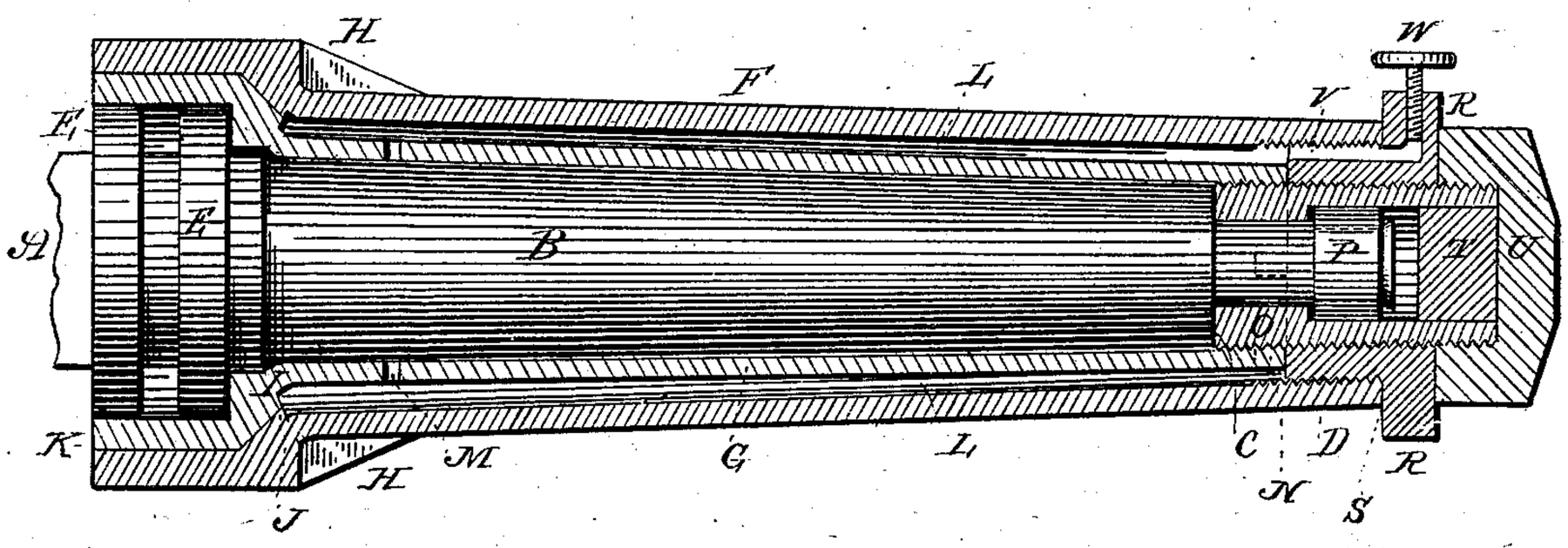


Fig. 2.

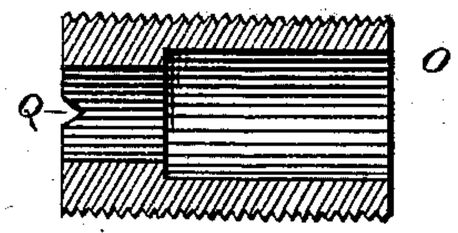


Fig. 3.

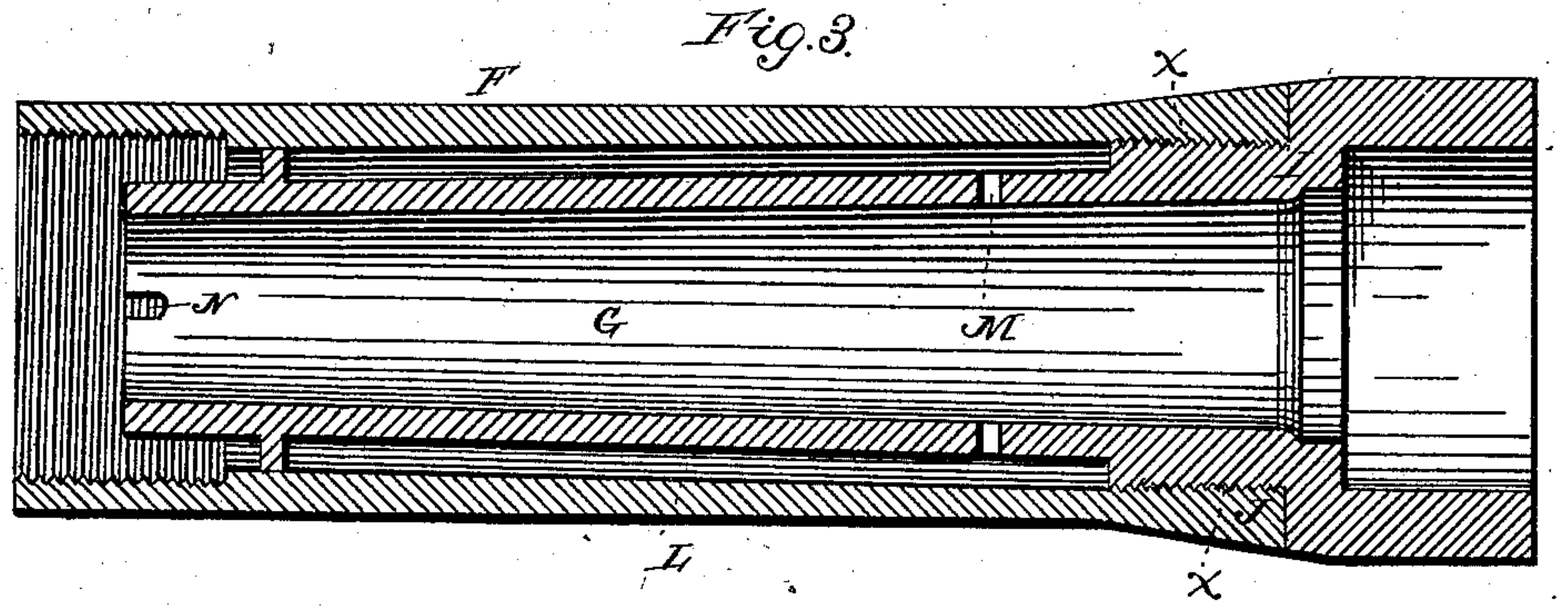
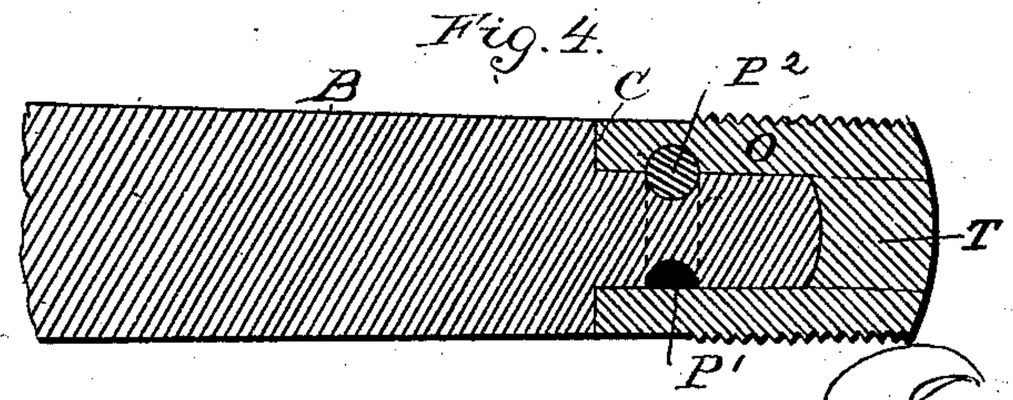


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWIN FIRTH, OF AUBURN, NEW YORK.

LUBRICATOR FOR VEHICLE-AXLES.

SPECIFICATION forming part of Letters Patent No. 256,664, dated April 18, 1882.

Application filed February 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWIN FIRTH, of Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Lubricators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a longitudinal sectional view. Fig. 2 is a sectional view of the thimble O, detached. Fig. 3 is a longitudinal sectional view, illustrating a modification of my invention; and Fig. 4 is a sectional view, showing a different method of attaching the thimble O to the spindle.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to lubricating devices for vehicle-wheels; and it consists in certain improvements in the construction of the same which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A represents the axle, and B the spindle, the end of which is turned down, as shown, so as to form two shoulders, C D, of decreasing diameter. Flanges E are formed, as usual, upon the axle near the spindle.

The axle-box consists of two tubes or shells, F G, the outer one of which, F, is provided in the usual manner with wings or feathers H, to keep it from turning in the hub in which it is adjusted. The inner shell, G, is formed with a shoulder, I, abutting against the shoulder J of shell F, and with a flange, K, bearing against the inside of said outer shell, thus spacing the two shells and forming a chamber, L, for the reception of oil. Openings M and slots N are formed in the shell G for the passage of oil to the spindle, which is fitted in said inner shell.

O is a thimble, which is fitted upon the shoulder C at the end of the spindle, where it is swiveled and held in place by means of a ring or collar, P, adjusted upon shoulder D, where it is held in place by clinching the end of the spindle, as shown. The thimble O is threaded upon the outside, and it is provided at its lower or inner end with one or more Λ-shaped notches, Q.

Instead of attaching the thimble O to the spindle in the manner just described, the end of the spindle may be provided with an annular groove, P′, to receive a pin, P^2, driven transversely through the thimble O, as shown in Fig. 4. In this manner the thimble is firmly attached, yet capable of revolving freely.

The end of the outer shell, F, of the axle-box is provided with an internal screw-thread to receive a double-threaded nut, R, which is adjusted by its inside thread upon the swiveled sleeve O. Nut R is provided at its outer end with a flange, S, which is to be screwed down tightly against the end of the outer shell, F, of the axle-box, the length of the nut being such that its inner end shall abut against the outer end of shell G.

A plug, T, is fitted in the outer end of thimble O, and a cap or lock-nut, U, is screwed tightly upon the end of said thimble.

Nut R is provided with a channel, V, communicating with the oil-chamber L, the outer end of said channel or passage being closed by a screw-plug, W.

In operation the oil-chamber L may be filled by removing the plug W. The oil, as the wheel revolves, passes through the openings M and slots N to the spindle, a portion passing through the notches Q in thimble O to the shoulder C of the spindle, upon which the said thimble may thus freely revolve. The thimble O, nut R, and cap U, it will be observed, revolve with the wheel and axle-box, of which latter they may be said to form part. It will also be seen that any slack caused by wear upon the box and spindle may be taken up or compensated for by tightening the lock-nut or cap U.

When found necessary or desirable the shells F and G may be connected by a screw-thread, as shown at *x* in Fig. 3 of the drawings.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination of the spindle having at its end a swiveled thimble with the axle-box, suitably connected to said thimble, substantially as set forth.

2. The herein-described spindle, provided at its end with two shoulders of decreasing diameters to receive an exteriorly-threaded thimble swiveled upon the inner shoulder and held in place by a ring or collar firmly secured upon the outer one, substantially as set forth.

3. The spindle provided at its end with a swiveled exteriorly-threaded thimble, in combination with the axle-box consisting of shells F G, having intermediate space, L, said shell G being provided with openings M, notches N, and flange K, the double-threaded nut R, having flange S, channel V, and plug W, and the cap or lock-nut U, substantially as and for the purpose set forth.

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

EDWIN FIRTH.

Witnesses:

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F. H. KENNEDY.