(No Model.)

I. FRÉCHETTE & C. L. GIRARD.

CAR AXLE LUBRICATOR.

No. 320,343. Patented June 16, 1885.

Fig. 1.

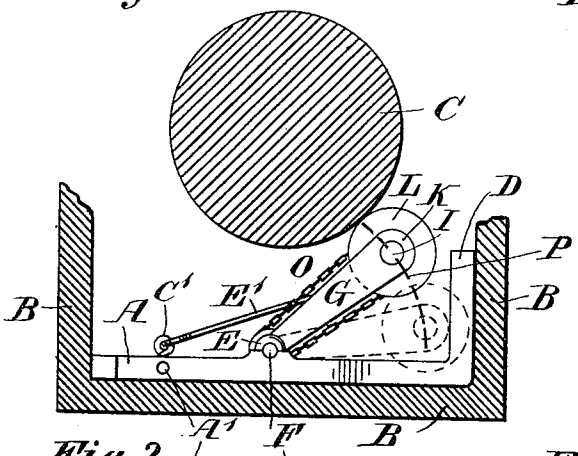


Fig. 3.

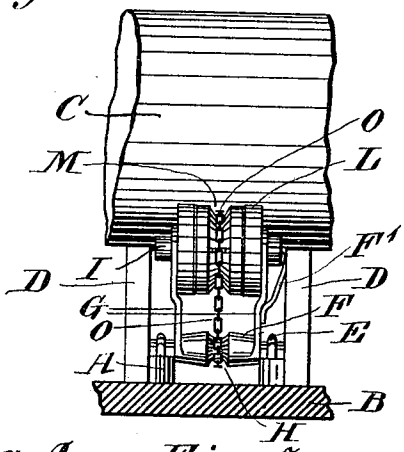


Fig. 2.

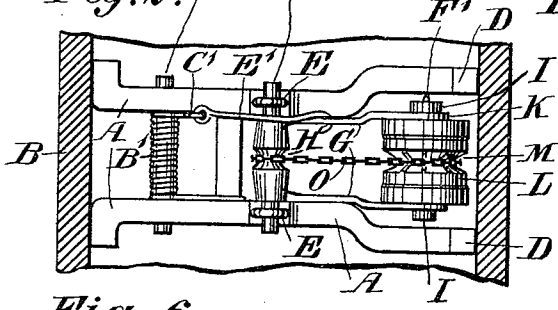


Fig. 4.

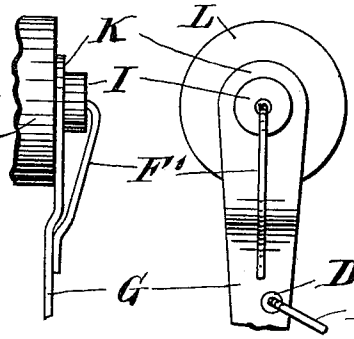
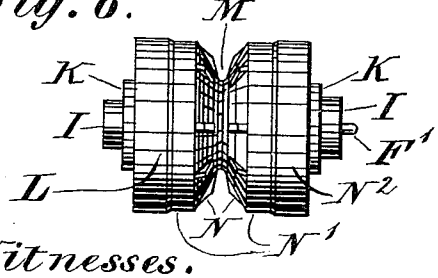


Fig. 5.

Fig. 6.



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UNITED STATES PATENT OFFICE.

ISAÏE FRÉCHETTE AND CHARLES LOUIS GIRARD, OF ST. HYACINTHE, QUEBEC, CANADA.

CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 320,343, dated June 16, 1885.

Application filed April 28, 1885. (No model.)

To all whom it may concern:

Be it known that we, ISAÏE FRÉCHETTE and CHARLES LOUIS GIRARD, both of the city of St. Hyacinthe, in the county of St. Hyacinthe, Province of Quebec, Canada, have invented new and useful Improvements in Lubricators for Railway-Car-Axles, &c.; and we do hereby declare that the following is a full, clear, and exact description of the same.

This invention has reference to the construction of a lubricator for the journals of axles of railway-cars and other journals, arranged so that the said lubricator may be readily placed in the axle-box and removed therefrom while the axle is in its position in the said axle-box.

The particular features which form our invention will be hereinafter fully set forth and claimed.

In the drawings hereunto annexed, similar letters of reference indicate like parts, and Figure 1 is a side elevation of a lubricator embodying the invention. Fig. 2 is a plan of the lubricator shown in Fig. 1. Fig. 3 is an end elevation of the lubricator shown in Fig. 1; Figs. 4, 5, and 6 are details of construction.

Letter A represents a frame made, as shown, to fit loosely within the lower part of the axle-box B.

C is the axle, shown at the relative position with the bottom of the axle-box that they are ordinarily placed in. The upward extensions D of the frame A are for the purpose of steadying the lower part of the frame upon the bottom of the axle-box, or, in other words, to prevent any danger of the frame A becoming canted up or raised from the bottom of the axle-box B by the action of the working parts attached upon it.

Upon the frame A, by eyes E or similar contrivances, is attached an axis, F, having two arms, G, secured on the axis F or made integral therewith. On the part of the axis F situated between the two arms G, the axis is enlarged, and in this enlargement a circumferential groove, H, is formed. The upper ends of the arms G terminate in eyes K, through which a pin, I, passes. On this pin is situated a grooved roller, L, arranged to freely revolve on the said pin I. The groove M of the roller L is preferably of V configuration, and provided with ordinary projections, N, (see Fig. 6,) for imparting the motion of the roller L positively to a chain, O, which passes over the said roller and the hereinbefore-mentioned groove H. (See Figs. 1, 2, and 3.)

From the above description it will be understood that the roller L and chain O upon it are free to rotate upon the axis F, as indicated by the arc of a circle, P, in Fig. 1, while at the same time by pressing the periphery of the roller L against the periphery of the axle C the roller L is revolved by the axle C, causing the chain O to travel around in the grooves H and M, so that if the lower part of the axle-box B is filled with fluid-lubricating material to such a level as that the lower part of the chain O will be immersed in it, the lubricating material will be carried up by the chain O into the groove M, and thence spreads upon the roller L and by it distributed upon the axle C.

As the space for getting the invention into the axle-box under the axle is very much confined in the case of railway-car axles, and more so on account of the outer collar with which nearly all railway-car axles are provided, it is necessary to make the arms G capable of swinging, as hereinbefore stated and indicated by the arc of a circle, P, turned down to or a little below the position indicated by dotted lines in Fig. 1, thus enabling the invention to be passed with comparative ease into and out of the axle-box when desired, so that should the invention be found defective by wear, &c., it can be readily removed and repaired, or replaced by a new one, as desired.

It has been hereinbefore stated or inferred that the roller L is to be pressed up against the axle C, and by its capability of being pressed by swinging on the pivot-axis F such swinging will enable the part to compensate for the difference of position of the axle C caused by its wear and that of the bearing upon which it ordinarily works, for any change of said position from any other cause.

For the purpose of pressing the periphery of the roller L against the periphery of the axle C, an almost countless multitude of variety of springs, and even weights, may be arranged. We shall, however, confine our-

selves to showing in the drawings, and shall confine this specification to describing, only one method or arrangement of spring, and consider that to be sufficient to cover all the other arrangements for this said purpose.

On any suitable bar, A′, secured in the frame A, a coil-spring, B′, is secured. This coil-spring terminates, as shown, in an eye, C′.

In one of the arms G an opening, D′, (see Fig. 5,) is formed, a link, E′, attaching the arm G to the eye C′. By this arrangement the tension of the spring B′ keeps the periphery of the roller L pressed with sufficient force upon the periphery of the axle C, and enables the arms G to be readily depressed, as indicated by dotted lines in Fig. 1, whenever it is desired to so depress them, which will be the case when the invention is to be put in or taken out of the axle-box.

F′ is a spring-arm secured on one of the arms G, as shown, for keeping the pin I, upon which the roller L revolves, in place. Any other contrivance may be arranged, such as a nut, for this purpose. Nevertheless, the spring-arm F′ gives an important facility for readily removing and replacing the pin I and roller L.

It will be remarked that the roller L is made with the parts of its periphery N next to groove M somewhat smaller in diameter than the diameter of the outer parts, N². This provides a space for a film of oil to form in, to touch the axle C and give a much better lubricating than would be obtained by surfaces coming into close bearing contact.

What we claim and wish to secure by Letters Patent is as follows:

1. The combination of the axle C, roller L, having groove M, arms G, axis F, having groove H, chain O, operating-spring B′, connected with arms G, and frame A, the whole constructed and arranged substantially as and for the purposes set forth.

2. The combination of the pivoted and swinging arms G, roller L, having groove M, pin I, spring-arm F′, chain O, and spring B′, arranged to operate the said arms G, the whole constructed and arranged substantially as and for the purposes set forth.

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