(No Model.)

S. HATT.

CAR AXLE LUBRICATOR.

No. 377,754. Patented Feb. 14, 1888.

Fig. 1.

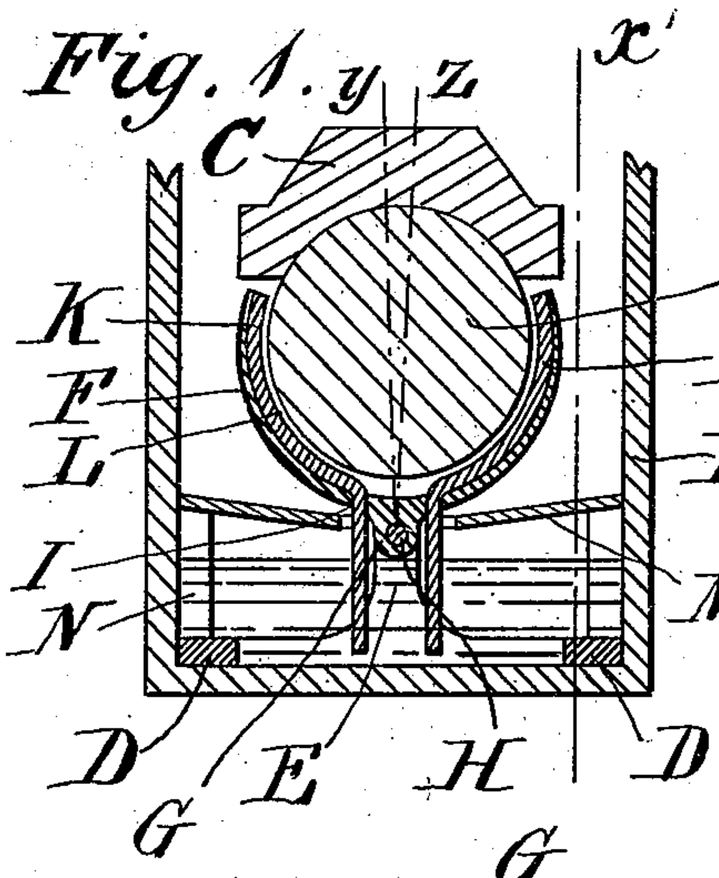
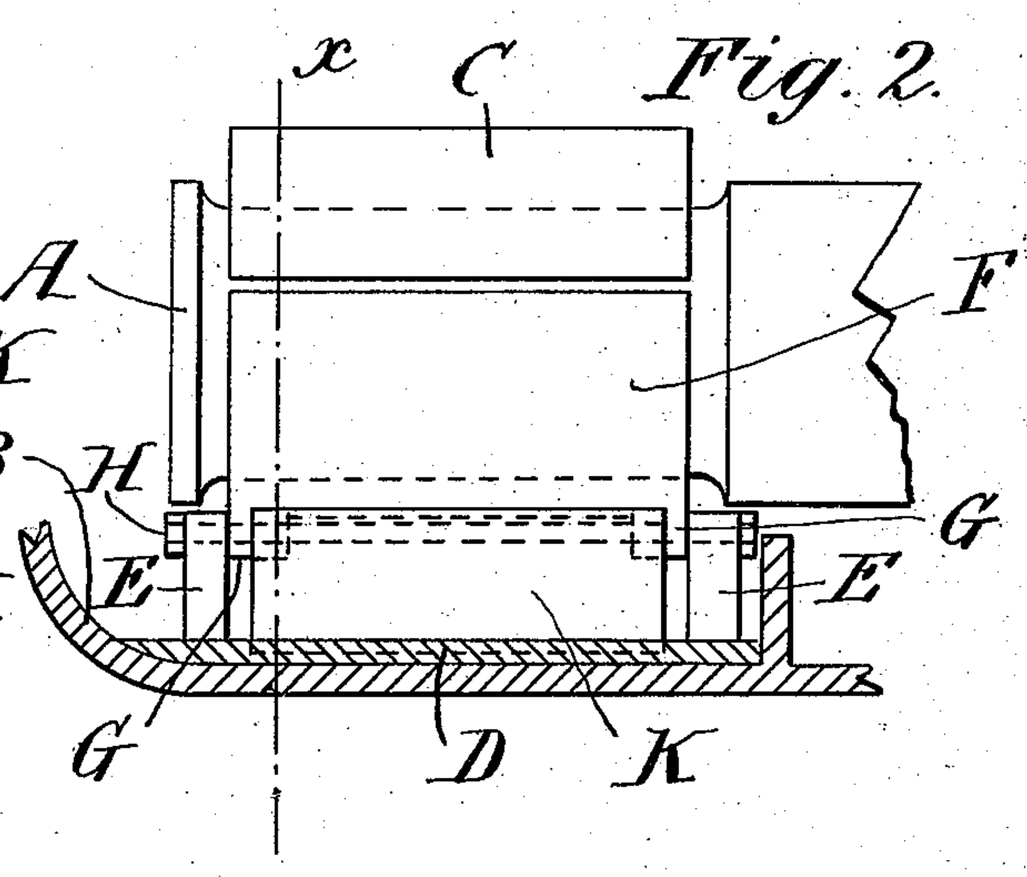


Fig. 2.



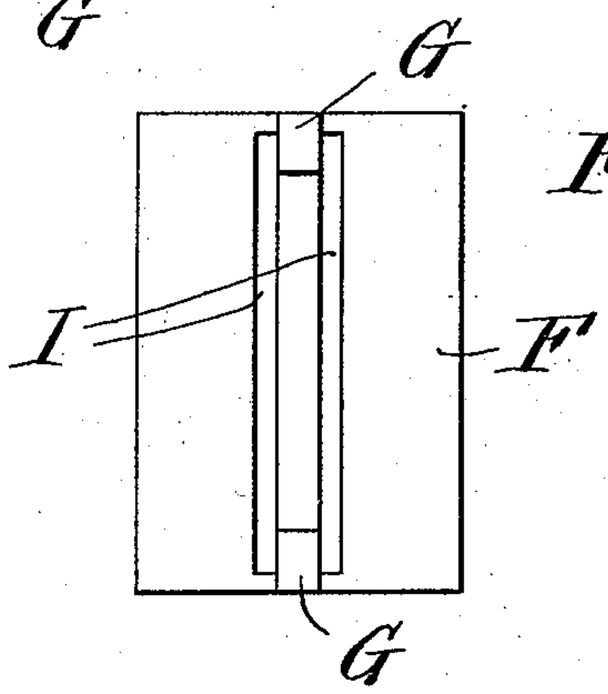


Fig. 3.

Witnesses.
W. Dicarie
Henri B. Dorval

Inventor.
Samuel Hatt.
By his Attorney
Charles G. L. Simpson

UNITED STATES PATENT OFFICE.

SAMUEL HATT, OF MONTREAL, QUEBEC, CANADA.

CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 377,754, dated February 14, 1888.

Application filed July 5, 1887. Serial No. 243,382. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL HATT, of the city of Montreal, in the district of Montreal, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Car-Axle Lubricators; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention has reference to the construction and arrangement of suspended diaphragms of cellular material, which, by being immersed in the oil or other fluid lubricating material at the bottom of the axle-box and being also arranged to extend up therefrom and form a contact with the axle, imparts thereto a sufficient film of the lubricating material; also, by the particular arrangement of the said diaphragms the axle is materially protected from the dust, grit, or sand which may enter the axle-box, and other improvements, which 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 sectional view of the axle-box, axle, and a construction embodying my invention, the sectional part being taken on line *x*, Fig. 2. Fig. 2 is a transverse section on line *x'*, Fig. 1. Fig. 3 is a plan of the under side of the casing F, showing the slot-openings I for the felt K to pass through.

Letter A is a car-axle, B the axle-box, and C the bearing, all of ordinary construction. In the bottom of the axle-box is situated a frame, D, provided with upward-projecting arms E.

F is a casing provided with projections G, which are united to the projecting arms E by a pivot-pin, H, passing through the said projecting arms E, and projections G, arranged so that the said casing F can freely vibrate or oscillate on the pin H.

The casing F is made somewhat larger than the axle A, and is provided with slot-openings I near its lower portion, which will be understood by reference to Figs. 1 and 3.

Within the casing F, and extending around it, as shown in Fig. 1, are secured pieces of felt or other cellular material K, which pass through the slot-openings I and extend down to or near the bottom of the axle-box B, the pieces of felt K being in width about equal to the length of the slot-openings I.

The manner of securing the pieces of felt K to the casing F does not form any part of the present invention, and therefore is not further shown or described. By filling the bottom of the axle-box B with a fluid lubricating material by capillary attraction the fluid lubricating material is drawn up by the pieces of felt K, and by their contact with the axle are distributed upon the axle A.

It will be observed that while the felt K extends around a large portion of the axle A a small space, L, is left between the said axle and the said felt. This is an important feature of the present invention, because the felt is thereby prevented from being forcibly pressed upon the periphery of the axle, and has from the position of the parts the slight oscillation represented by the lines *y* and *z* in Fig. 1. It causes the pieces of felt K to bear gently upon the axle and impart to it the proper amount of lubrication, at the same time the proximity of the pieces of felt with the axle is sufficiently close to prevent any material amount of sand or grit which may enter the axle-box from attaching itself to the periphery of the axle.

Below the axle, as shown only in Fig. 1, is situated a diaphragm, M, which, as shown, is supported by legs N, resting on the frame D. This is virtually a cover placed over the fluid lubricating material for the purpose of preventing the same from splashing out of the axle-box and into the slot-openings I, and also for the purpose of preventing the immediate settlement of sand or grit thereinto. It is provided with an opening through which the downward-extending portions of the felt K pass into the fluid lubricating material and forms another important feature of the present invention by performing the offices above mentioned, and it coacts with the pieces of felt K in preventing by the said splashing of the lubricating material an undue amount of lubricating material from being applied to the axle A.

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

1. The combination of the axle-box B, axle

A, and bearing C, with a frame, D, to which is pivoted a casing, F, provided with pieces of felt K, arranged so that by capillary attraction they distribute a supply of fluid lubricating material upon the axle A, the whole substantially as described.

2. The combination of the axle-box B, axle A, and bearing C, with a frame, D, to which is pivoted a casing, F, provided with pieces of felt K, arranged so that by capillary attraction they distribute a supply of fluid lubricating material upon the axle A, and with a diaphragm, M, whereby the said fluid lubricating material is prevented from splashing upon the axle and out of the axle-box, the whole substantially as described.

SAM HATT.

Witnesses:

GEO. R. LIGHTHALL,

CHARLES G. C. SIMPSON.