

(No Model.)

D. ROSS.  
CAR AXLE LUBRICATOR.

No. 326,524.

Patented Sept. 15, 1885.

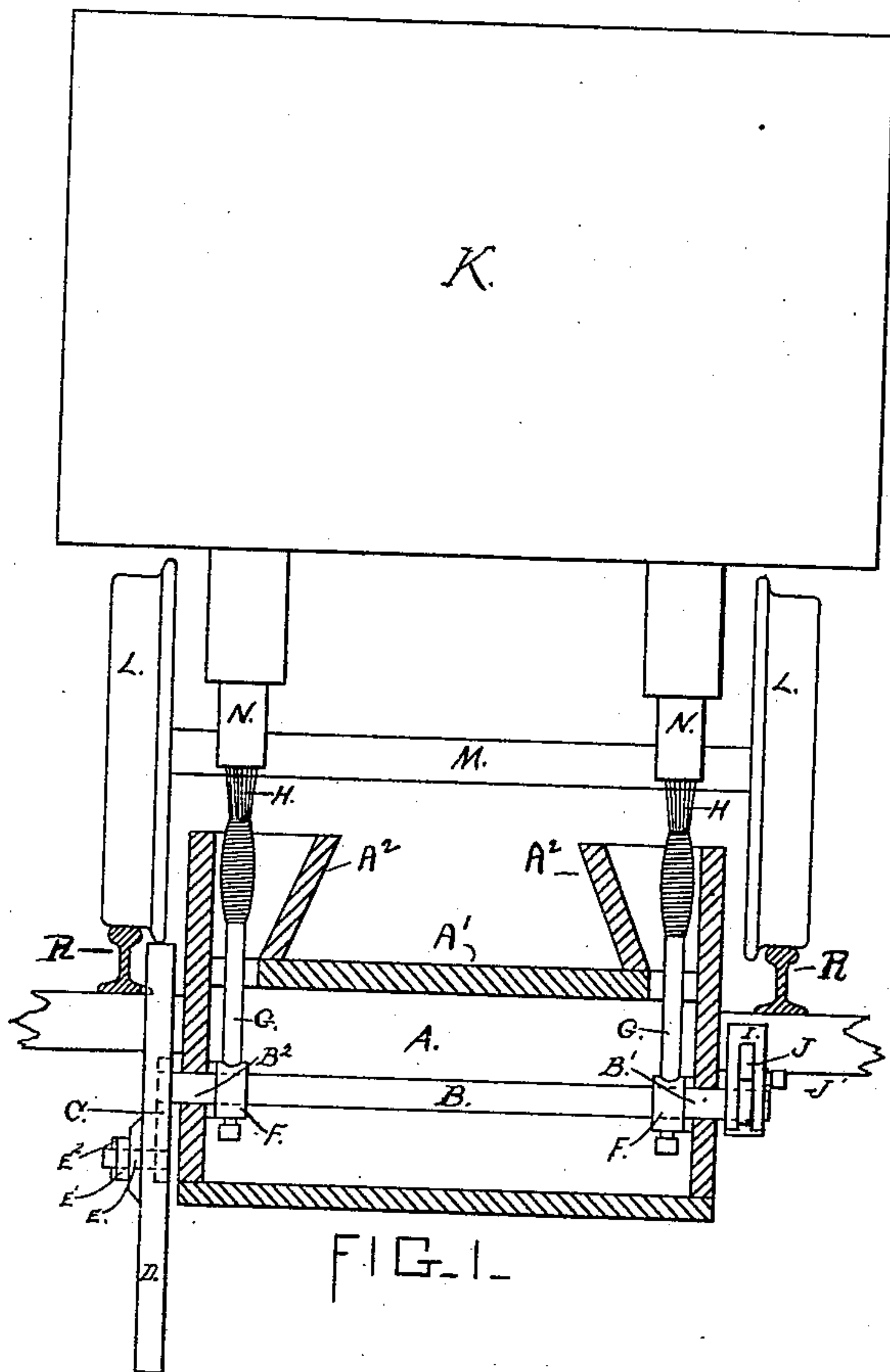


FIG. 1.

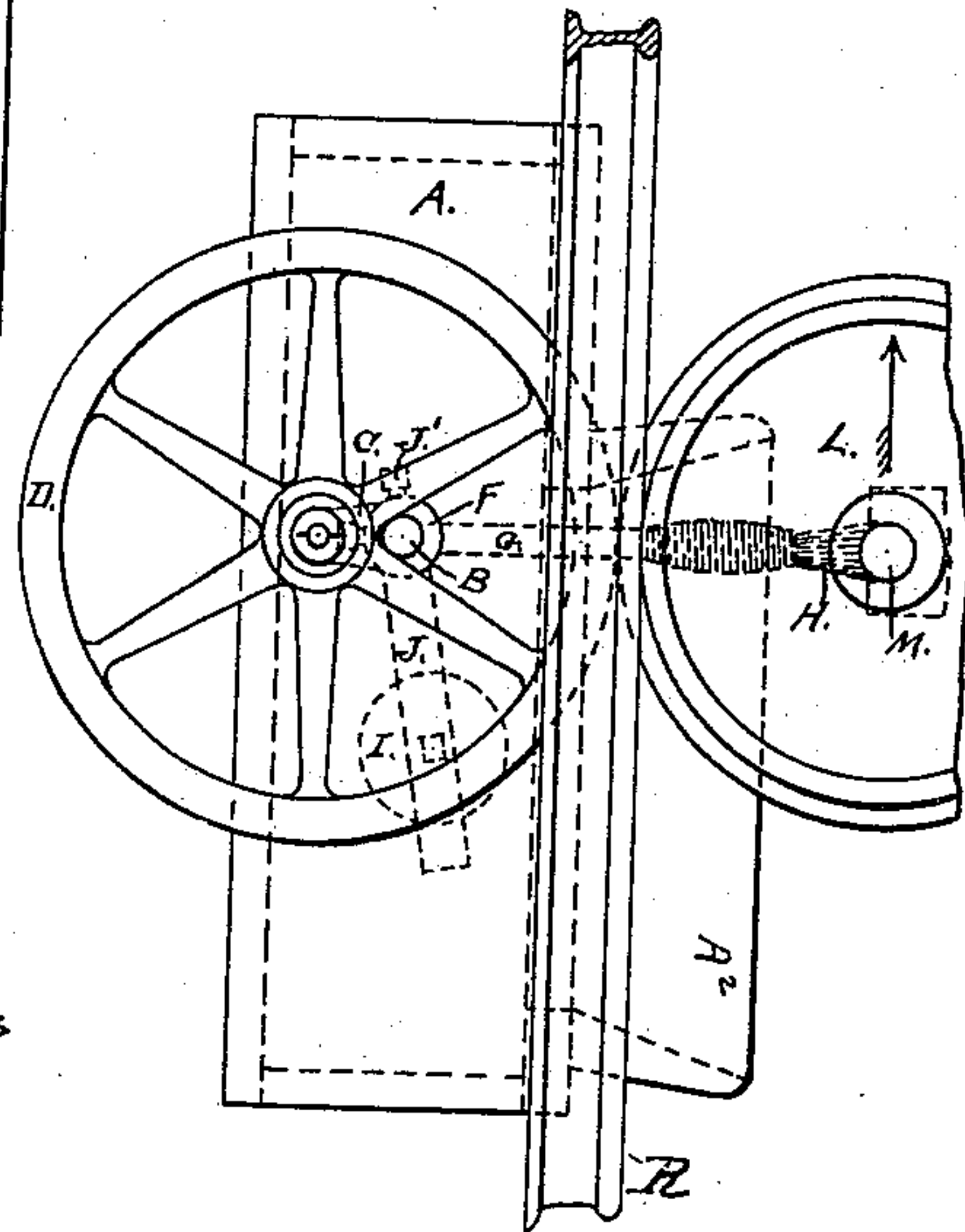


FIG. 4.

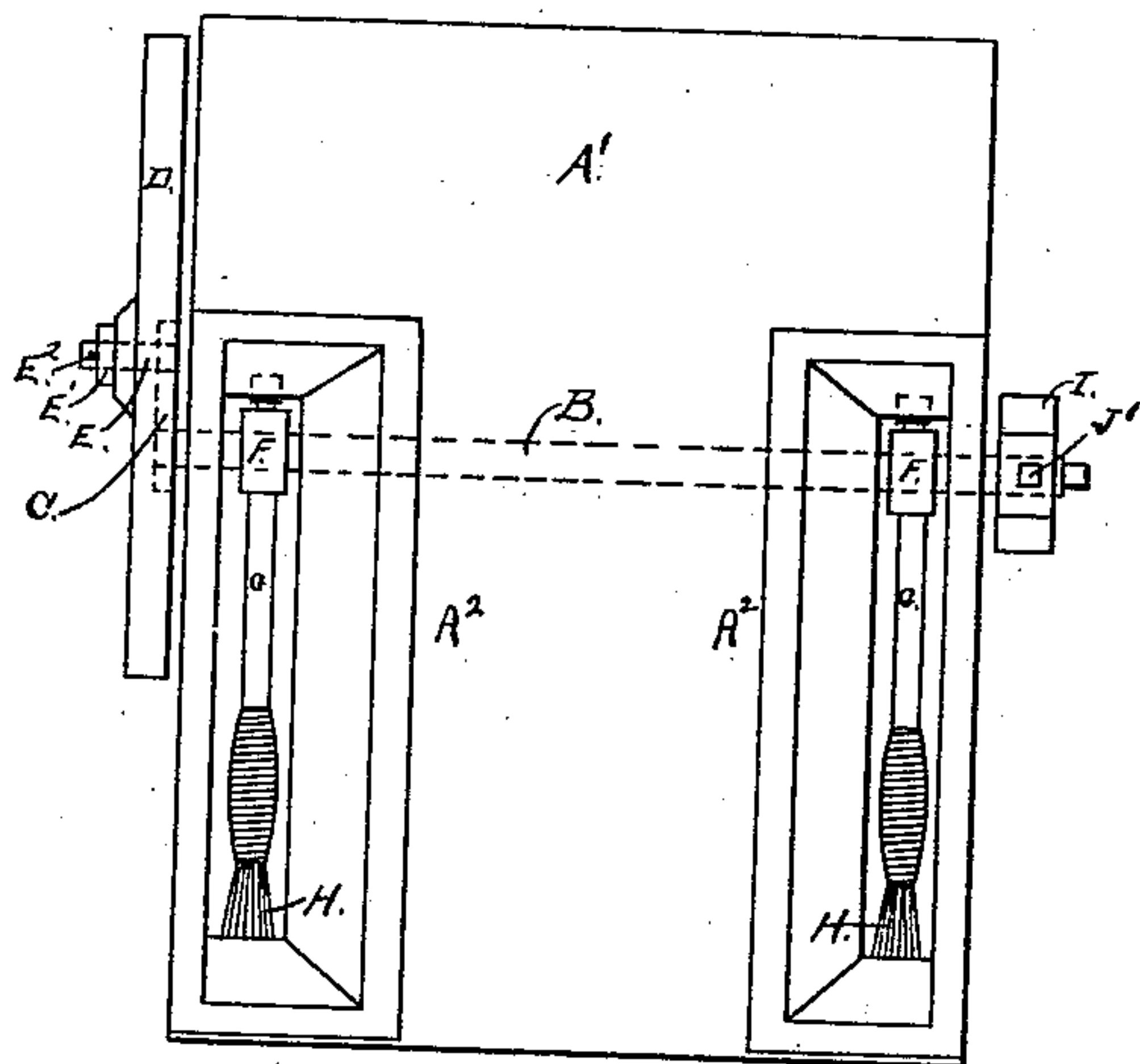


FIG. 2.

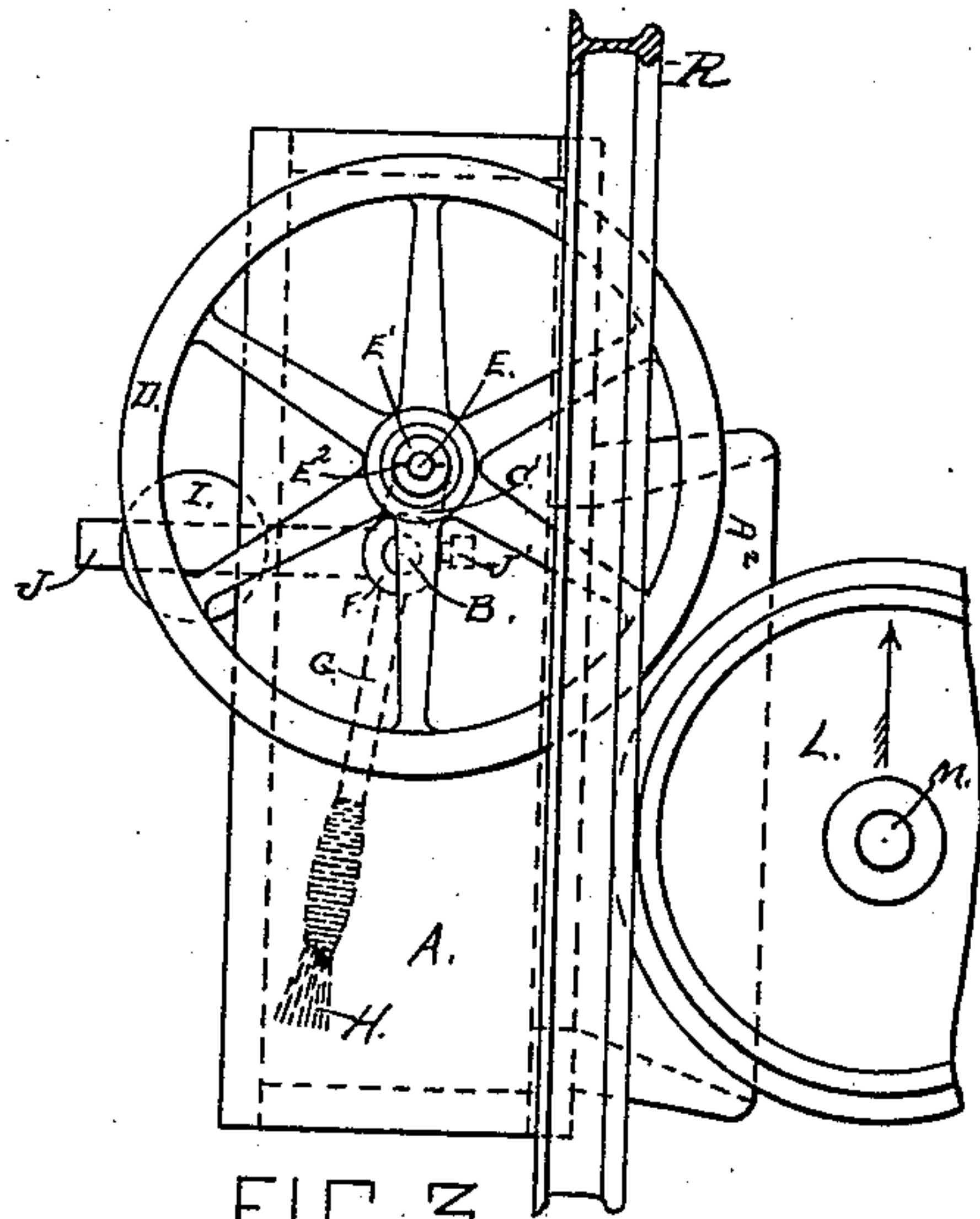


FIG. 3.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

DANIEL ROSS, OF COW BAY, NOVA SCOTIA, CANADA, ASSIGNOR TO  
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## CAR-AXLE LUBRICATOR.

SPECIFICATION forming part of Letters Patent No. 326,524, dated September 15, 1885.

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

*To all whom it may concern:*

Be it known that I, DANIEL ROSS, a subject of Her Majesty the Queen of the United Kingdom of Great Britain and Ireland, residing at Cow Bay, in the county of Cape Breton, Province of Nova Scotia, Dominion of Canada, have invented a new and useful Improvement in Tram-Axle Lubricators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, in which similar letters of reference indicate like parts.

My improvement is designed to be used in connection with the tram-cars ordinarily found in coal and other mines, to lubricate the axles thereof each time the car passes over the lubricating devices; and to that end it consists in an arrangement of devices by means of which the car, as it passes along the track, causes brushes to rise from a tank containing the lubricating material into contact with an axle of the car, and thereby to deposit the lubricant thereon, a counterbalance-weight being provided to cause the return of the brushes to the tank.

In the drawings, Figure 1 is an end elevation. Fig. 2 is a plan. Fig. 3 is a side elevation, showing the device at rest, the brushes submerged in the tank. Fig. 4 is a side elevation, showing the device when acted upon by the tram-car.

K is a tram-car, the wheels L thereof being rigidly attached to an axle, M. The bearings N of the car rest upon the axle. R R are the rails of the track.

A is a tank containing the lubricant. It may be made of wood or iron. It is placed between the rails of the track, and beneath the same. A rock-shaft, B, passes laterally through it, and is supported in bearings B' B<sup>2</sup> in the sides thereof.

On one end of the shaft B, outside of the wall of the tank A, is attached a crank, C. To the extremity of the crank C a crank-pin, E, is fitted, which projects therefrom at a right angle to the side wall of the tank. On this crank-pin E a roller-wheel, D, is journaled, being free to revolve thereon. It is held from sliding off from the crank-pin by the washer E' and pin E<sup>2</sup>.

Upon the rock-shaft B, and between the side

walls of the tank, are two arms, G, which may be moved upon the said shaft circumferentially or axially, and which are held at the proper adjustment by set-screws F. On the end of each arm is a brush or swab, H.

On the other end of the rock-shaft B, which projects beyond the side wall of the tank, is attached by an arm, J, and set-screw J' a weight, I.

The roller-wheel D is of sufficiently great diameter that its periphery shall project for some distance above the upper surface of the rail R, and the length of the shaft B is such that the roller-wheel D is permitted to revolve parallel to the inner side of the rail, and almost in contact therewith. A portion of the base of the rail may be cut away for this purpose, if necessary.

The operation of the foregoing devices is as follows: When the flange of the wheel L of the car, which is supposed to be moving in the direction indicated by the arrow, Fig. 3, comes in contact with the periphery of the roller-wheel D, it depresses it, and continues to do so until the axle M is vertically over the rock-shaft B, by which time the roller-wheel D will have assumed the position indicated in Fig. 4, and the crank C on shaft B will have been turned downward about a quarter of a turn, and thereby the rock-shaft B will have been partially rotated, and the arms G, with the brushes H thereon, will have been brought up vertically, so that the brushes which, when the machine was at rest, as shown in Fig. 3, were submerged in the lubricant, are now in contact with the under surface of the axle M, as shown in Fig. 4, and thereby a certain quantity of the lubricant is transferred from the tank to the axle. This partial rotation of the shaft B will have raised the arm and weight I to the position indicated in Fig. 4. As the car now continues its motion, the weight I, acting through the arm J, shaft B, and crank C, causes the roller-wheel D to rise until the car-wheel L has passed beyond it, when it will have reached its former position of rest, the brushes being again submerged in the tank.

This operation will be repeated each time a car-wheel comes into contact with the roller-wheel D.



In order to exclude dirt from the tank, a cover, A', may be used having openings A<sup>2</sup> to permit the free action of the brushes. The casings surrounding these openings form hoppers to collect the unused portion of the lubricant and return it to the tank.

By means of these devices the car-axles are automatically lubricated at least as often as once in each round trip.

I claim as my invention—

1. In a tram-axle lubricator, in combination with the lubricant-containing tank or receptacle between the rails of the track, the rock-shaft and the arms thereon, carrying brushes adapted, as the shaft is rotated, to take lubricant from the tank and apply it to the axle-bearing of a car passing over the track, substantially as described.

2. As an improvement in tram-axle lubricators, a tank for the lubricant, a rock-shaft, one or more arms thereon, each carrying a brush adapted to dip into the lubricant, a crank-arm on the shaft, and a roller or wheel journaled thereto adapted to be engaged and pressed down by a wheel of a car passing on the track, so as to rotate the shaft and swing the brush arm or arms thereon upward, substantially as and for the purpose described.

3. As an improvement in tram-axle lubricators, in combination with a tank or receptacle for lubricant and a rock-shaft, one or more arms thereon carrying brushes, means, substantially as described, adapted to keep the shaft normally turned so that the brush or brushes shall be in the lubricant, a crank on the rock-shaft, and a roller journaled thereto adapted to be engaged and pressed down by one of the wheels of the passing car, substantially as described.

4. In combination with the lubricant containing tank between the rails of a track, the rock-shaft, the brush-carrying arms on the shaft, an arm on the shaft carrying a weight adapted to turn the shaft to dip the brushes in the lubricant, a crank-arm on the shaft, and a roller or wheel journaled on a pin on the crank and adapted to be engaged and pressed down by a wheel of a car passing over the track, substantially as and for the purpose described.

5. As an improvement in tram-axle lubricators, a tank located between the rails of a track, in combination with a rock-shaft, the arms thereon provided with means for taking up some of the lubricant from the tank, the crank on one end of the shaft carrying the roller or wheel D, and the counterbalance-weight on the other end of the shaft, substantially as described.

6. As an improvement in tram-axle lubricators, a tank located between the rails of the track, having a rock-shaft, B, provided with arms G and brushes H, and provided with a crank and roller-wheel, D, on one end, and a counterbalance-weight, I, on its other end, substantially as shown and described, whereby the wheel of the tram-car, by contact with the roller-wheel D, shall move the brushes from the tank into contact with an axle of the car, and the counterbalance-weight I shall cause them to return to the tank.

Witness my hand this 19th day of March, A. D. 1885.

DANIEL ROSS.

Witnesses:

E. M. ARCHIBALD,  
DANIEL McLEAN.