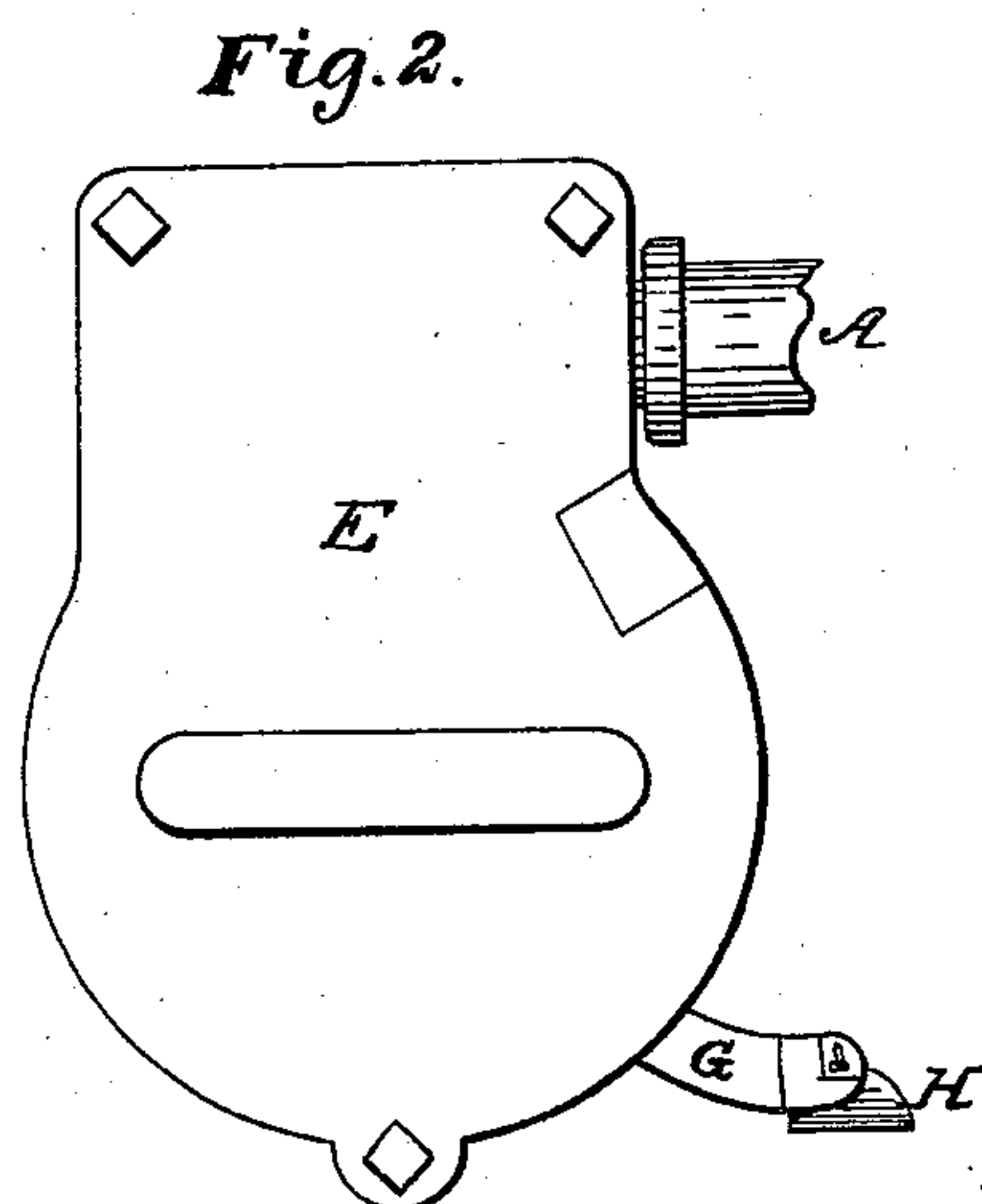
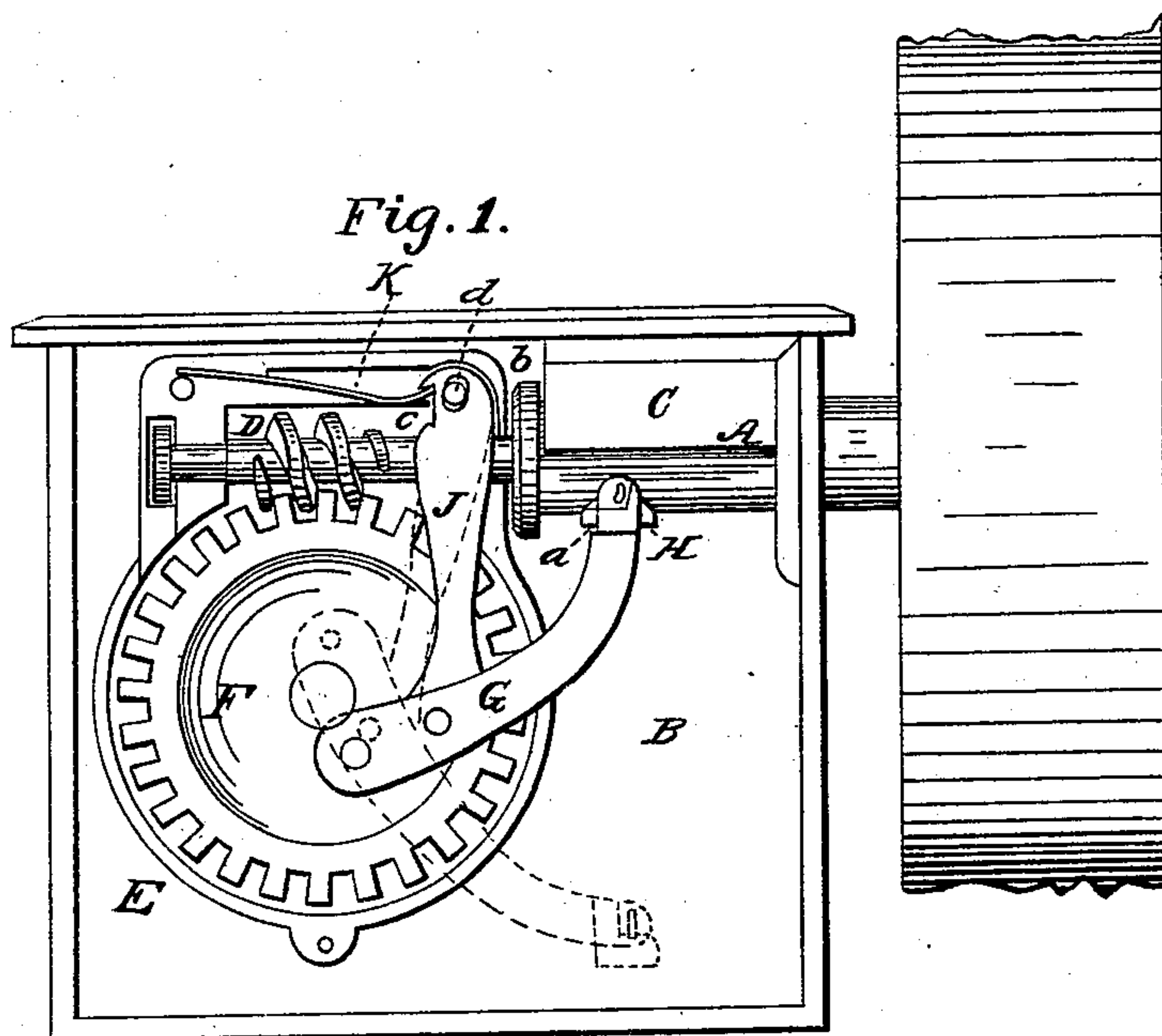


C. M. REID.  
Car-Axle Lubricator.

No. 87,069.

Patented Feb. 16, 1869.



Witnesses:  
*Geo. Rothwell*  
*Phil. J. Larnet.*

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*attys.*



# United States Patent Office.

CORNELIUS M. RIED, OF GREENSBOROUGH, ALABAMA.

Letters Patent No. 87,069, dated February 16, 1869.

## IMPROVED AXLE-BOX LUBRICATOR.

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that I, CORNELIUS M. RIED, of Greensborough, in the county of Hale, and State of Alabama, have invented a new and improved Car-Axle Lubricator; and I do hereby declare the following to be a full, clear, and exact description thereof, sufficient to enable others skilled in the art to which my invention appertains, to fully understand and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view of the interior of the journal-box; the parts of the lubricator being exposed.

Figure 2 is a detached view thereof.

This invention is an improvement on the device for which Letters Patent were granted to me, December 8, 1868.

In the drawings—

A represents a journal of a car-wheel axle;

B, the journal-box; and

C, the bearings, or "brasses," for the former.

These parts are of ordinary form and construction.

D is a worm-shaft, which is either a continuation of the journal, or is secured thereto in any well-known manner.

In the latter case, the inner end of the shaft is flanged, to correspond with the flange on the outer end of the journals, and these two flanges are firmly connected or locked together, so as to cause the worm-shaft to rotate with the journals.

This worm-shaft is mounted in the upper part of a casing, E, which is suitably formed for this purpose, as also to receive a worm-wheel, F, mounted therein, which wheel is operated by the worm D.

G is an arm, which is pivoted eccentrically to the worm-wheel F, and carrying at its outer end a swinging cup or dipper, H.

The pins or journals which support the dipper are extended and turned up, as at *a*, and the limit to which the dipper is allowed to swing is regulated by means of shoulders formed on the arms, against which shoulders the turned-up pins of the dipper come to a bearing, and thereby cause the dipper to assume a horizontal position at all times, and not overturn itself during the upward and downward motions of the arm G.

To the arm G, at a point near its attachment to the worm-wheel F, I pivot a guide-arm, J, which consists of a bar or piece of any suitable metal or material, and of proper size and form.

A slot, *b*, and a shoulder, *c*, are made near the upper end of this arm.

By means of the former, the arm is hung on a pin, or screw, *d*, and allowed a certain play thereon.

A spring, K, is placed within a recess in the top of the casing E, and is so arranged that its free end shall bear against the shoulder *c* of the arm J.

The casing E is covered by a cap, so that the worm-shaft D, wheel F, arm J, spring K, and a part of arm G, are enclosed within the casing, and thereby pro-

tected from dirt and the admission of any fragments of metal which may crumble from the friction-box or brasses C.

The operation is as follows:

The journal-box should be filled with proper lubricating-material, and of sufficient quantity. When the car is in motion, and the axles rotate, motion is communicated to worm-shaft and the worm-wheel. The inner end of arm G is then carried around and describes a circle with the worm-wheel. The guiding-arm J now causes the outer end of the arm G to carry the oil-filled dipper H from the bottom of the journal-box toward the journal A.

In this movement the dipper describes the arc of a circle, and at first comes up nearly to the periphery of the inner end of the journal, and feeds it with its lubricating-material. It then is carried along toward the outer end of the journal, and gradually advances toward it, and finally bears against it, until the rotation of the worm-wheel causes it to recede therefrom, after which it returns to the bottom of the journal-box, ready to take a fresh supply of oil, or lubricating-material.

It will be perceived that when the dipper has a supply, it does not bear against the journal, but the surface of the oil is in contact with it, and as the oil is fed or taken, it is necessary that the dipper should be continually advanced toward the journal, and finally bear against it when there is but little oil in said dipper.

The dipper is allowed to bear sufficiently against the journal, without too much friction and strain on the working-parts of the device, in consequence of the slot *b* in arm J, and the spring K, bearing against the upper end of said arm, whereby the arm J yields, so soon as there is any resistance between the dipper and the journal.

The figure described by the dipper in its rising and falling motions is that of a crescent, slightly flattened at its horns, the largest circle being described on the upward motion.

The casing E is merely suspended from the worm-shaft, and is supported thereon.

The surplus oil from the journals drops to the bottom of the box, as usual, and is continually gathered up and fed to the dipper until exhausted.

The dipper will perform its work equally well in the backing of the train, as in the forward movement thereof, but the operation will be reverse order; that is to say, the dipper comes first in contact with the outer end of the journal, and then feeds toward its inner end.

The device is quite simple, but practical and useful, and dispenses with the employment of cotton-waste, and the consequent expense thereof.

The supply of oil can be regulated by altering dimensions of the dipper, so as not to flood the journal and cause the oil to run out of the box, and waste, as is usual in ordinary lubricators.



The quantity of oil in the reservoir is at about half the height of the journal-box, and the oil therein does not slush out when the train is in motion, nor run out when the train is at a stand-still.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The slotted arm J, in combination with the carrying-arm G of the axle-lubricator, substantially as described.

2. In combination therewith, the spring K, substantially as and for the purpose described.

To the above, I have signed my name, this 8th day of December, 1868.

C. M. RIED.

Witnesses:

JOHN A. WIEDERSHEIM,  
GEO. W. ROTHWELL.