

J. M. BROSIUS.  
Car-Axle Boxes.

No. 156,767.

Patented Nov. 10, 1874.

Fig. 1.

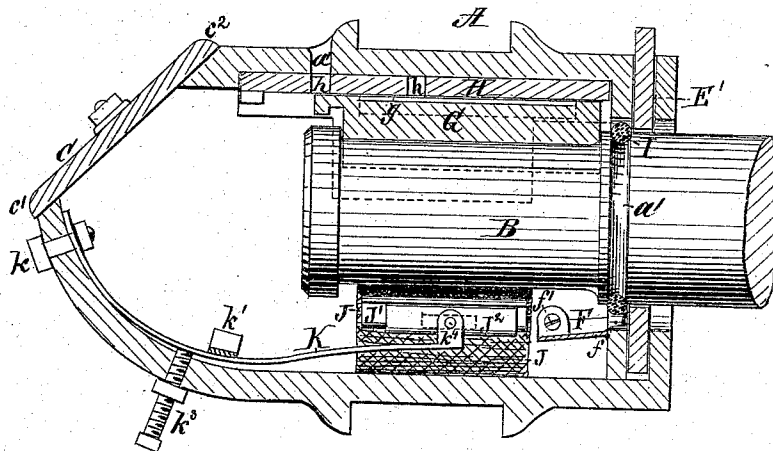


Fig. 2.

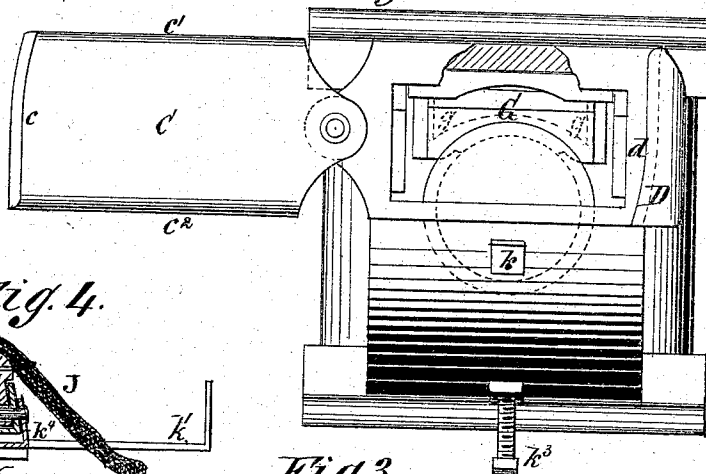


Fig. 4.

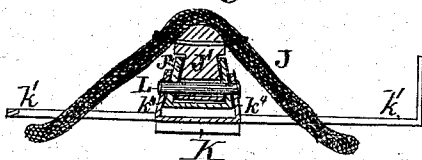
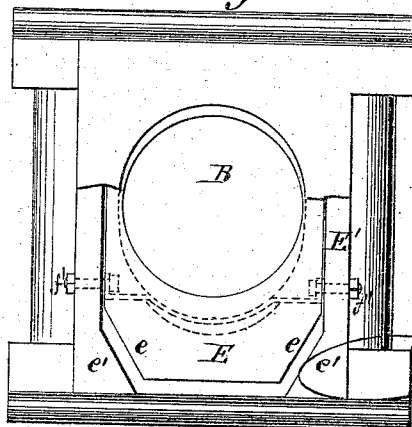


Fig. 3.



WITNESSES:  
*G. Matthews.*  
*John H. Kemon*

INVENTOR:  
*Jno. M. Brosius*  
BY *Wm. V. B.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

JOHN M. BROSIUS, OF RICHMOND, VIRGINIA.

## IMPROVEMENT IN CAR-AXLE BOXES.

Specification forming part of Letters Patent No. **156,767**, dated November 10, 1874; application filed September 16, 1874.

### CASE C.

*To all whom it may concern:*

Be it known that I, JOHN M. BROSIUS, of Richmond, in the county of Henrico and State of Virginia, have invented a new and Improved Car-Axle Box and Lubricator; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a longitudinal sectional elevation; Figs. 2 and 3, front and rear end views, and Fig. 4 a cross-section in detail.

The invention relates generally to the axle-boxes of car-trucks; and consists in several improvements, which will first be fully described, and then pointed out in the claims.

A represents a car-axle box, and B the journal that works therein.

First, I make the journal-gate E with excisions *ee* at the lower end, and place in the guide-groove E' the triangular blocks or inclined strips *e' e'*. By this construction the gate does not require to be held by hand-wedge or other device, but will rest in position until the journal is inserted in the box, and then rise as the journal is pressed inward, a sufficiency of the bottom being still left open to allow dust or dirt to escape in the usual manner.

Second, I form a box or projecting plate, F, on the inside of axle-box, and at the end where the journal enters, so as to prevent the lubricant from being splashed out at the joint *f*. In old boxes I shall make it of sheet metal, fasten it by screws *f' f'*, and in new ones I preferably cast it with the box. After a careful trial I find that it saves no inconsiderable portion of the lubricant, while it avoids the accumulation of oil at the joint, and the consequent gathering thereto of dirt.

Third, I make an annular recess or groove, *a'*, in axle and near the journal, for the purpose of receiving an elastic ring, I, that serves to form a packing to prevent the escape of the lubricant, and to exclude grit and dirt from working into the axle-box.

Fourth, I make the piece that is intended to hold the lubricating fabric J up to the journal of a single longitudinal metallic plate-spring K, so that it may be readily bent to

accommodate itself to any inner conformation of axle-box, be easily fastened by the screw *k* in front, and be prevented from lateral play by a simple plate or cross-bar, *k'*, which may have turned-up ends. This is not only applicable to old as well as new boxes, and very efficient for the purpose intended, but is comparatively cheap and easily adjusted from the bottom by a set-screw, *k<sup>2</sup>*, so as to accommodate the wear upon journal and brass.

Fifth, in order to cause the lubricating fabric J to slide readily with the journal in passing from one gage of road to another, I attach it to a piece or holder, J<sup>1</sup>, which is slotted, provided with subjacent dovetail tenon, and thus allowed to slide within the dovetailed groove or channel of the bent plate J<sup>2</sup>.

Sixth, I pivot the latter on a cross-pin, L, in the lugs *k<sup>4</sup> k<sup>4</sup>* of the spring, so that the fabric will automatically adjust itself to and bear always along the whole length of the journal.

Having thus described my invention, what I claim as new is—

1. The combination, with axle-box, of a journal-gate, E, having excisions *ee*, and the guide-groove E', having inclined strips *e' e'* placed in the lower end, as and for the purpose set forth.

2. The plate F, projecting inwardly from the rear of axle-box, as and for the purpose specified.

3. The combination, with an axle having the annular recess or groove *a'*, of the elastic ring I, as and for the purpose set forth.

4. The combination, with axle-box, of a device to hold the lubricating fabric to the journal, consisting of the plate-spring K, placed longitudinally on the bottom of the box, fastened at the outer end, and the cross-bar *k'*, as shown and described.

5. The combination, with lubricating fabric J, of the slotted holder J<sup>1</sup>, and guide-plate J<sup>2</sup>, as and for the purpose described.

6. The combination, with spring-band K, of a pivoted fabric-holder, J<sup>1</sup>, as and for the purpose specified.

J. M. BROSIUS.

Witnesses:

SOLON C. KEMON,  
WM. H. HADAWAY.