(No Model.)

J. W. CARR.

CAR AXLE BOX.

No. 298,171. Patented May 6, 1884.

Fig. 1.

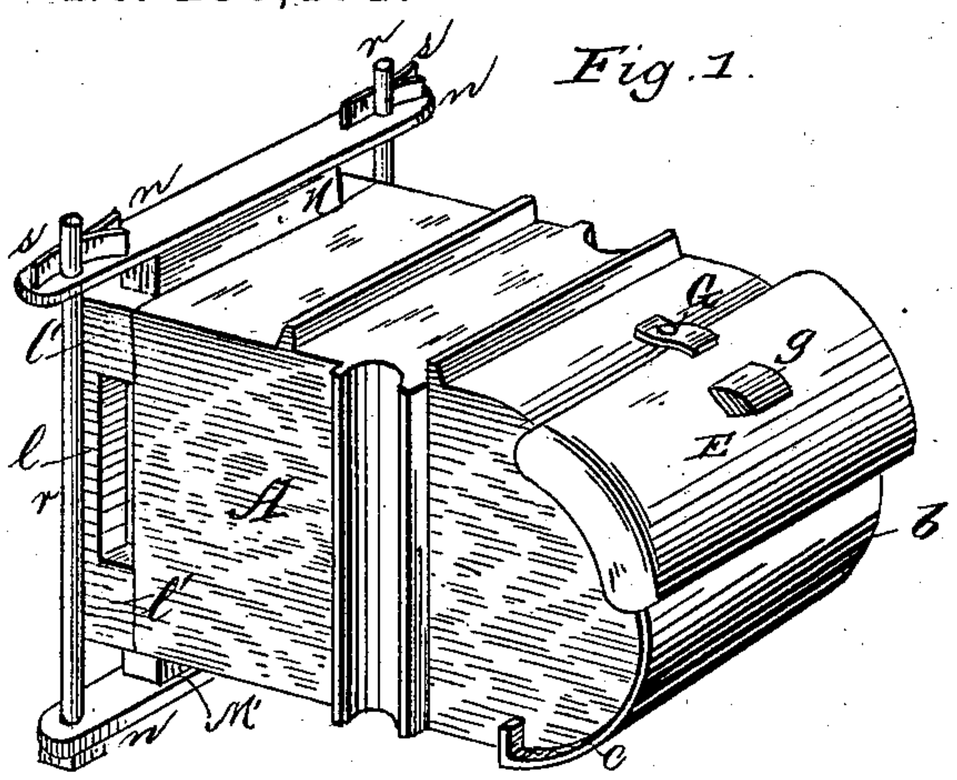


Fig. 2.

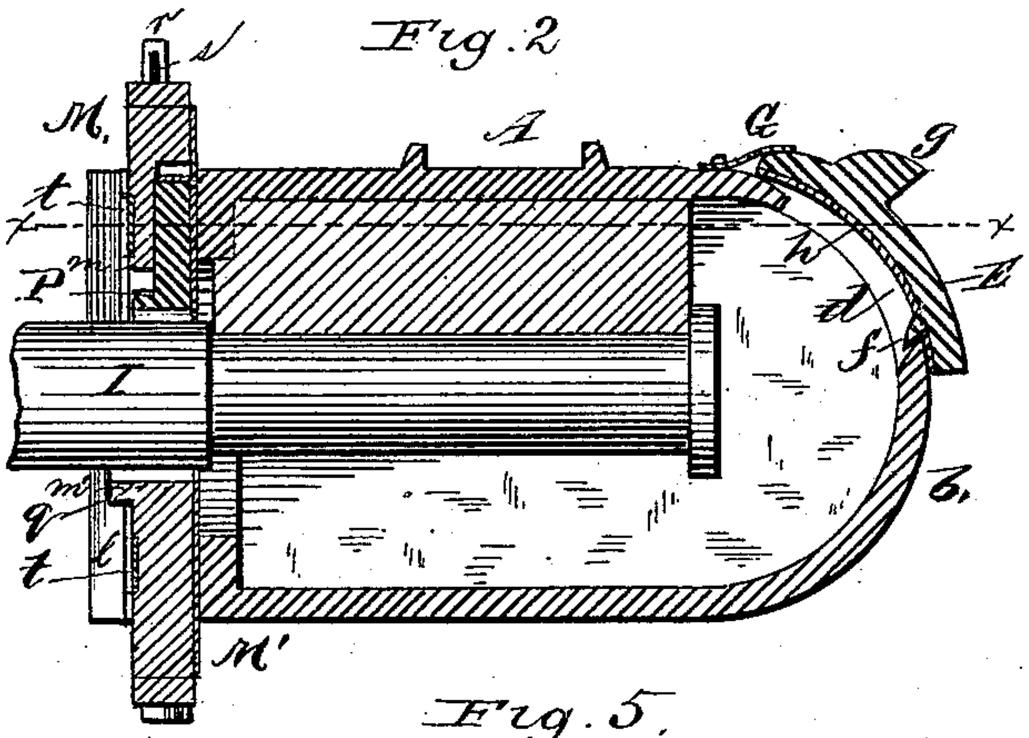


Fig. 5.

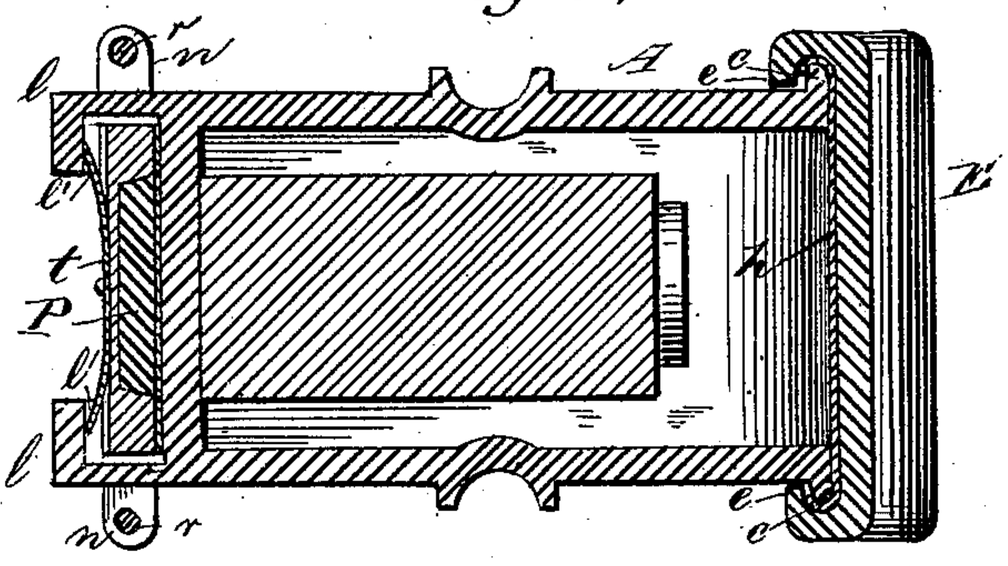


Fig. 3.

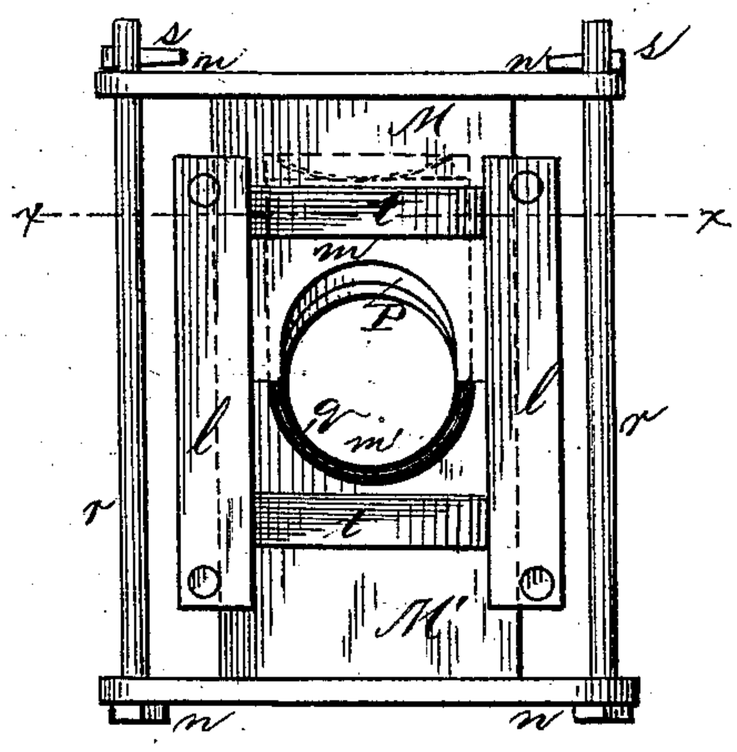
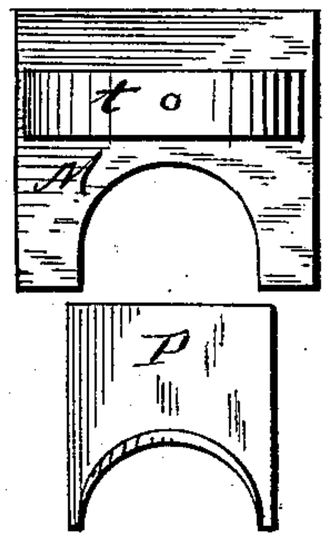


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES WILLSON CARR, OF RICHMOND, VIRGINIA.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 298,171, dated May 6, 1884.

Application filed September 6, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. CARR, a citizen of the United States of America, residing at Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Car-Axle Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to bearing-boxes for the axles of railroad-cars, its object being to close the inner ends of such boxes snugly around the journals of the axles, so as to prevent the escape of lubricating material and obviate the necessity of using waste and similar material in the boxes. It has the further object to provide a car-axle box with a reliable and easily-operated door, which effectually closes the front of the box against escape of the lubricating material, and also prevents dust and water from gaining access to the interior of the box.

With these objects in view my invention consists in certain novel constructions and combinations of devices, which will be clearly understood from the following particular description, in connection with the accompanying drawings, in which—

Figure 1 is a perspective view of a car-axle box constructed according to my invention. Fig. 2 is a longitudinal section of the box closed, with an axle-journal inserted therein. Fig. 3 is a rear view of the box. Fig. 4 is a detached view of the upper sliding gate with its loose side slipped down. Fig. 5 is a horizontal section through the upper part of the box on the line *x x* of Figs. 2 and 3.

The letter A indicates the inclosing-casing, having a semicircular front wall, *b*, provided with laterally-projecting flanges or lips *c c*, and having an opening, *d*, in its upper portion to permit access to the interior of the box.

The letter E indicates a curved sliding door arranged upon the front wall, and provided with inwardly-projecting flanges *e e*, which are grooved to embrace the projecting flanges or lips *c c*, which thus serve as guides for the door and prevent it from falling outward.

From the inner surface of the curved door projects a lug, *f*, which rests upon the lower edge wall of the opening *d* and supports the door in its closed position.

G is a spring-button pivoted to the upper part of the front wall, and adapted to swing over the upper edge of the door when the latter is closed, and prevent it from being jolted up and down. The inner surface of the curved door is preferably lined with leather or similar packing, as shown at *h*, to form a close joint with the front wall around the opening *d*. When it is desired to raise and open the door for introducing lubricating material into the box, or for any other purpose, the button G may be swung aside and the door raised by its thumb-piece *g*. The box A is open at its rear end in the usual manner, to receive the axle-journal I loosely and permit it to be embraced by the bearing-pieces.

At opposite sides of its rear opening the box is provided with vertical guides *l l*, having inwardly-projecting lips *l' l'*, and between these guides are arranged sliding gates M and M', having their adjacent edges provided with semicircular recesses or notches *m m'*, the edges of which are adapted to fit snugly around the axle-journal, and thus close the rear opening of the box, so that the lubricating material cannot escape therefrom.

The sliding gates are provided at their outer upper and lower edges, respectively, with laterally-projecting arms *n n n n*, through which pass rods *r r*, headed at their lower ends, and provided at their upper ends with slots to receive split keys *s s*, these rods serving to hold the gates against the journal.

Instead of the split keys, nuts may be used on the upper ends of the rods.

I prefer to make the sliding gates of Babbitt metal or brass, so as to afford a durable and efficient bearing for the journal.

The gates M M' are provided with transversely-arranged bow-springs *t t*, secured to the gates at their middle portions, and having their ends bent out so as to bear against the lips *l' l'* and press the gates against the end wall of the box around its rear opening, so as to form a snug joint to prevent leakage of the

lubricating material from the box. To make the joint more efficient, I prefer to line the inner surfaces of the gates with leather or similar packing.

In order to permit a play of the journal and prevent the gates from being broken by violent jolting, I provide the upper gate with a sub-slide or wicket, P, which slides in a recess formed in the rear surface of the upper slide, as indicated by dotted lines in Fig. 3 and shown in the section Fig. 5. The vertical edges of the sub-slide or wicket P are dovetailed to fit the correspondingly-shaped edge walls of the recess, and in the lower edge of said wicket is formed a semicircular recess to fit the upper half of the axle-journal. This wicket will be held by a spring upon the journal, and readily slide up and down to maintain its seat upon said journal, as the latter is subjected to jarring when a car is in motion.

Around the edges of the notches or recesses in the lower gate and the wicket I prefer to provide outwardly-projecting flanges *q q*, so as to form extended and durable bearings for the journal.

The box may be secured to a car-truck in any ordinary manner.

Having now fully described my invention and explained the operation thereof, I wish it to be understood that I do not confine myself to the precise construction of parts as shown in my drawings, but reserve to myself the right to make any alterations thereof which may contribute to the better carrying out of my invention while not departing from the essential principle and true scope thereof.

What I claim is—

1. The combination, in a car-axle box, of the suitably-supported sliding gates having side-extending ears, said gates being adapted to embrace the axle-journal, and bolted together to permit them to move in unison, substantially as set forth.

2. The combination, in a car-axle box, of the suitably-supported sliding gates adapted to embrace the axle-journal and provided with perforated ears extending beyond the sides of the box, and rods connecting the same, substantially as set forth.

3. The combination, in a car-axle box, of the suitably-supported sliding gates adapted to embrace the axle journal, and provided on their outer edges with perforated ears, by means of which they may be bolted together, as described, and a loose sliding wicket, P, provided with a recess to embrace the upper side of the said axle-journal, substantially as set forth.

4. The combination, in a car-axle box, of upper and lower gates provided with connecting-rods, which pass through perforated ears which extend beyond the sides of the box, and springs *t t*, attached to the gates, so as to bear against the lips of the gate-guides, substantially as described, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES WILLSON CARR.

Witnesses:

H. D. GODDIN,

RICHARD W. JONES.