

(No Model.)

2 Sheets—Sheet 1.

N. C. BASSETT.
AXLE BOX FOR STREET CARS.

No. 471,089.

Patented Mar. 22, 1892.

Fig-1.

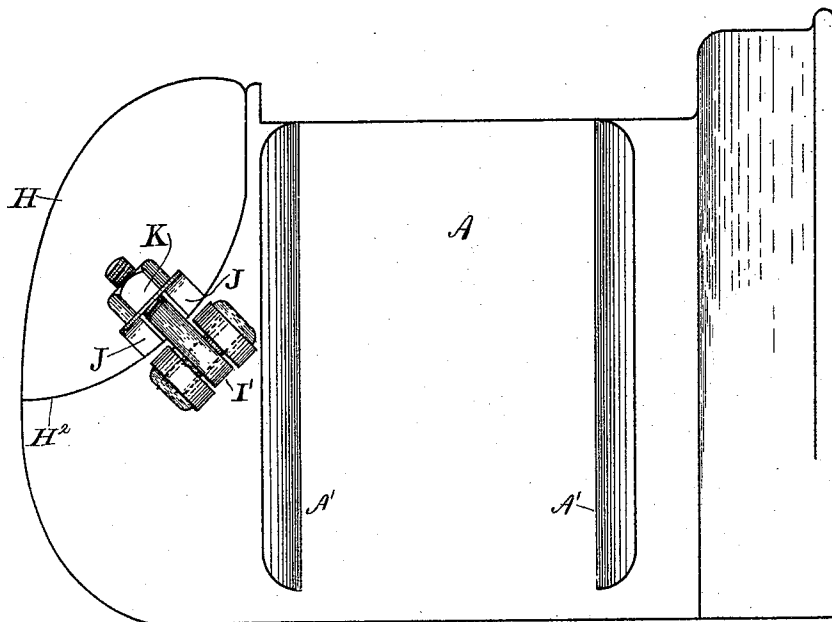
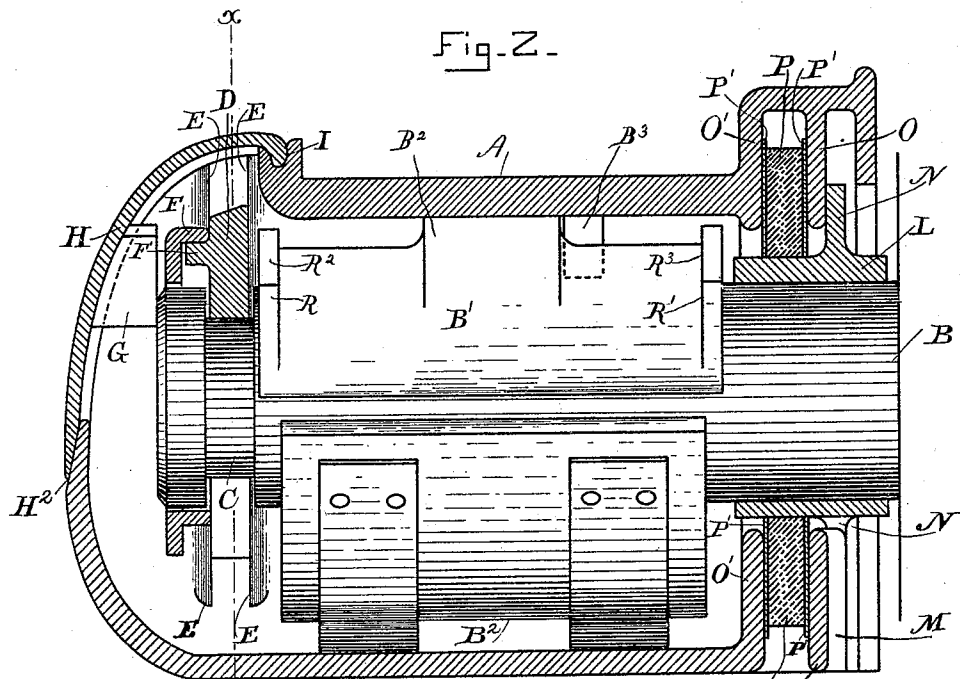


Fig-2.



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Atty.

(No Model.)

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Fig-3.

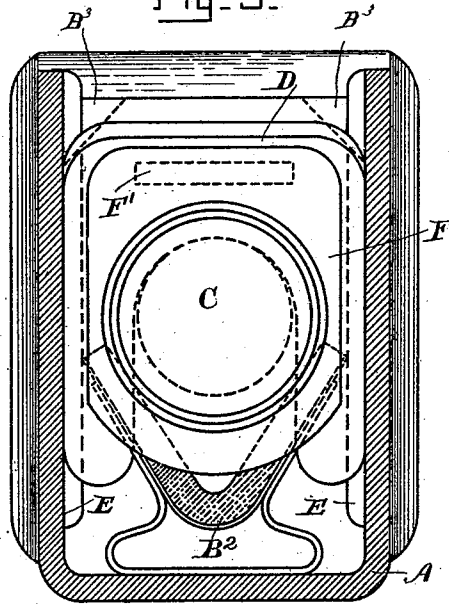


Fig-5.



Fig-4.

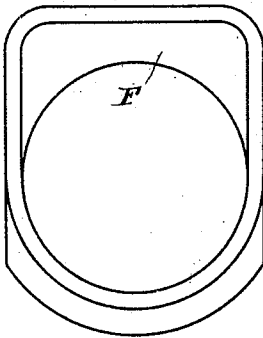
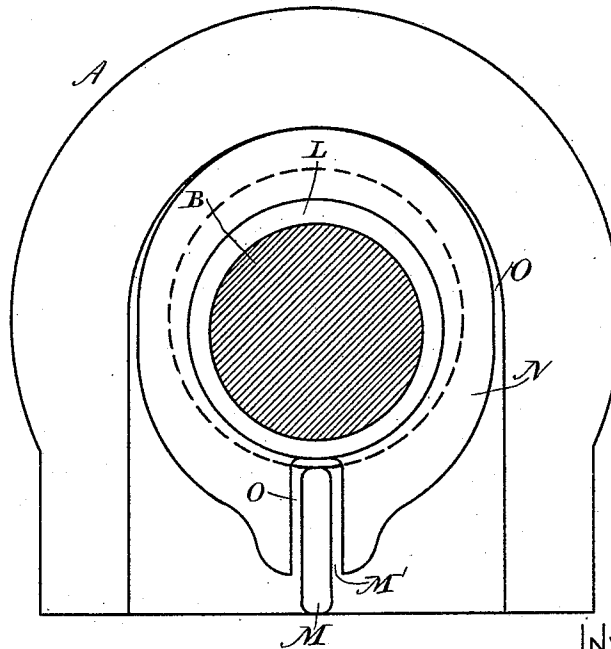


Fig-6.



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UNITED STATES PATENT OFFICE.

NORMAN C. BASSETT, OF LYNN, MASSACHUSETTS, ASSIGNOR TO THE THOMSON-HOUSTON ELECTRIC COMPANY, OF CONNECTICUT.

AXLE-BOX FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 471,089, dated March 22, 1892.

Application filed October 27, 1890. Serial No. 369,442. (No model.)

To all whom it may concern:

Be it known that I, NORMAN C. BASSETT, a citizen of the United States, residing at Lynn, county of Essex, State of Massachusetts, have invented a certain new and useful Improvement in Journal-Boxes for Street-Cars, of which the following is a specification.

My invention, hereinafter described, relates to journal-boxes for street-cars, and comprises certain improvements, aiming, first, to prevent the entrance of dust from the wheel end of the box to the axle-journal and oil-chamber; secondly, to positively lock the check-plate in its proper position with relation to the axle-journal, and, thirdly, to provide a dust-proof cover for the grease-opening at the front end of the box, which may be removed with ease, and has no sharp corners or projecting parts to become caught when the car is running in a crowded street.

These improvements are illustrated in the accompanying drawings, wherein—

Figure 1 is a side view of the journal-box. Fig. 2 is a longitudinal section of the same with the journal-brass and oiler shown in side elevation. Fig. 3 is a vertical section of the box, taken on line *x x* of Fig. 2, the journal and check-plate appearing in elevation. Figs. 4 and 5 are end and side views of the locking-ring for holding the check-plate in place; and Fig. 6 is an end view of the journal-box, taken from the back or wheel end of the box.

In Figs. 1 and 2 the journal-box A is provided with the customary vertical ribs A' A', forming guideways for the pedestal-columns, and the axle-journal B will be fitted with a journal-brass B' and oiling device B² of any desired construction, as my invention does not relate to these parts. The journal is grooved at C to form a stop-collar for taking the end-thrust of the axle, and in this groove is fitted a split check-plate D, open at its lower end and having straight sides, which pass between the guide-ribs E E upon the journal-box, thereby holding the check-plate against transverse displacement. To prevent the accidental removal of the check-plate from its seat in the groove it is locked positively to the journal itself, and as I am, so far as known, the first to do this, my claim

upon this feature is intended to cover means specifically different from that shown and now described. A locking-ring F, bored to fit the journal loosely, surrounds its outer end when in position, and has a vertical bearing upon the check-plate through the projecting flange F, which overhangs a corresponding flange F' upon the check-plate, as seen in Fig. 2. Lugs G upon the cover H press against the face of the ring when the cover is on and keep it from slipping off the end of the journal. When the cover is removed, the ring can be drawn to the left, so as to clear the journal, and then be lifted up out of the box, after which the check-plate D may also be taken out through the same opening.

The box-cover H is so shaped that its exterior is rounding and smooth, as shown, and the liability of its becoming caught is thereby lessened. Its upper edge fits dust-tight into a groove I upon the axle-box and is enlarged thereat sufficiently to allow a slight pivotal action, while its sides have plane meeting surfaces, which overlap the edges of the opening in the box, as seen at H², and effectively prevent the entrance of dust to the oil-chamber. The cover is held in place by one or more bolts I', pivoted upon the outside of the journal-box, the inner ends of which may be swung in between the arms of split lugs upon the cover, (seen at J,) and may be clamped thereto by screwing up the nuts K. One of these bolts is shown in Fig. 1, and another similar one will be placed on the other side of the cover. By screwing back the nuts a few turns it will be seen that the bolts can be turned back on their pivots and the cover then be easily lifted out of place. At the back or wheel end of the journal-box I have also provided an arrangement for preventing the entrance of dust or grit to the journal and oil-chamber. This consists of a collar L of gun-metal, bored so as to allow the axle-journal to revolve easily therein, and locked against rotation by the lug M, cast upon the journal-box, which enters a slot M' at the lower end of the ring. A flange N, surrounding the collar, abuts against the side of a web O upon the journal-box, making a tight fit. As an additional precaution against the entrance of

dust, a packing-ring will also preferably be used, fitting the collar snugly, and entering an annular recess left in the journal-box between the web O and flange O'. This packing-ring consists of a body of felt P or equivalent soft compressible material, and to prevent it from spreading into openings in the axle-box an end disk of sheet metal P' is placed on either side of the felt. These parts are put together as follows: The packing-ring is slipped into the journal-box from the bottom and the collar passed through the ring. The whole is then placed upon the end of the axle-journal. The felt makes a tight joint with the exterior surface of the collar L, and being compressed keeps the end plates tightly against the flange and web of the journal-box. It will be noticed, also, that the collar L can play up and down freely with reference to the box, the packing-ring slipping up and down in the recess provided for it. This allows the collar to follow the movements of the journal with such freedom that practically no weight comes upon the bearing between the collar and journal, except that of the collar alone, and consequently the wear will be very small. The oil from the interior of the box will tend to work through between the journal and collar, thus keeping them well lubricated, and washing away any dust coming in from the opposite direction.

The weight of the car is borne on the top of the box A, which rests on the rectangular projection B² on the brass B'. The end motion of B' toward the right, Fig. 2, is limited by two diagonal lugs B³ B³, (shown also in dotted lines, Fig. 2,) while end motion toward the left is limited by the check-plate D. The brass B' is provided with two ribs R R'—one at each end—to allow B' to be withdrawn from the box A by means of a hook or rod inserted from the outside and placed over the rib R. Both ends of the brass B' are preferably provided with the rib or projection R, so that the brass may be placed in position in the box with either the rib R or R' to the left hand, Fig. 2. In order that the ribs R and R' may be able to pass the lugs B³ B³, the corners R² R³ are cut diagonally to correspond with the shape of the lugs B³ B³, Fig. 3.

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

1. The combination of the axle-journal and stop-collar with the check-plate and locking device for positively locking the check-plate to the journal, as set forth.

2. The combination of the axle-journal and stop-collar with the check-plate and the ring surrounding the journal and locking the check-plate thereto, as described.

3. The combination of the axle-journal and stop-collar with the split check-plate fitting over the journal and held against transverse displacement by ribs upon the journal-box, and the locking-ring surrounding the journal and having a vertical bearing upon said check-plate, for the purpose set forth.

4. The combination of the axle-journal and stop-collar with the split check-plate fitted between vertical ribs on the journal-box and having a flange at its upper end, as F', the locking-ring surrounding the journal outside of the check-plate and having a flange engaging the flange upon the check-plate, and means for holding the ring upon the journal, as described.

5. The combination of the axle-journal with the check-plate and locking-ring upon the end of the journal held in place endwise by bearing against the cover of the journal-box, as described.

6. The combination of a journal-box and cover having one or more split lugs on its outer side with a bolt or bolts pivoted to the box adjacent to the lugs and adapted to swing down between the arms of the lugs and be secured thereto, as described.

7. The combination, with the axle-journal, of the metal collar L around the wheel end of the journal and provided with a slot, into which enters a lug upon the journal-box, whereby the collar is locked against rotary, but not vertical, movement, as described.

8. The combination, with the axle-journal and non-rotating collar making a dust-tight joint with the journal-box, of the packing-ring between said collar and box, composed of a body of felt or equivalent material, and metal end disks, as described.

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Witnesses:

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JOHN W. GIBBONEY.