

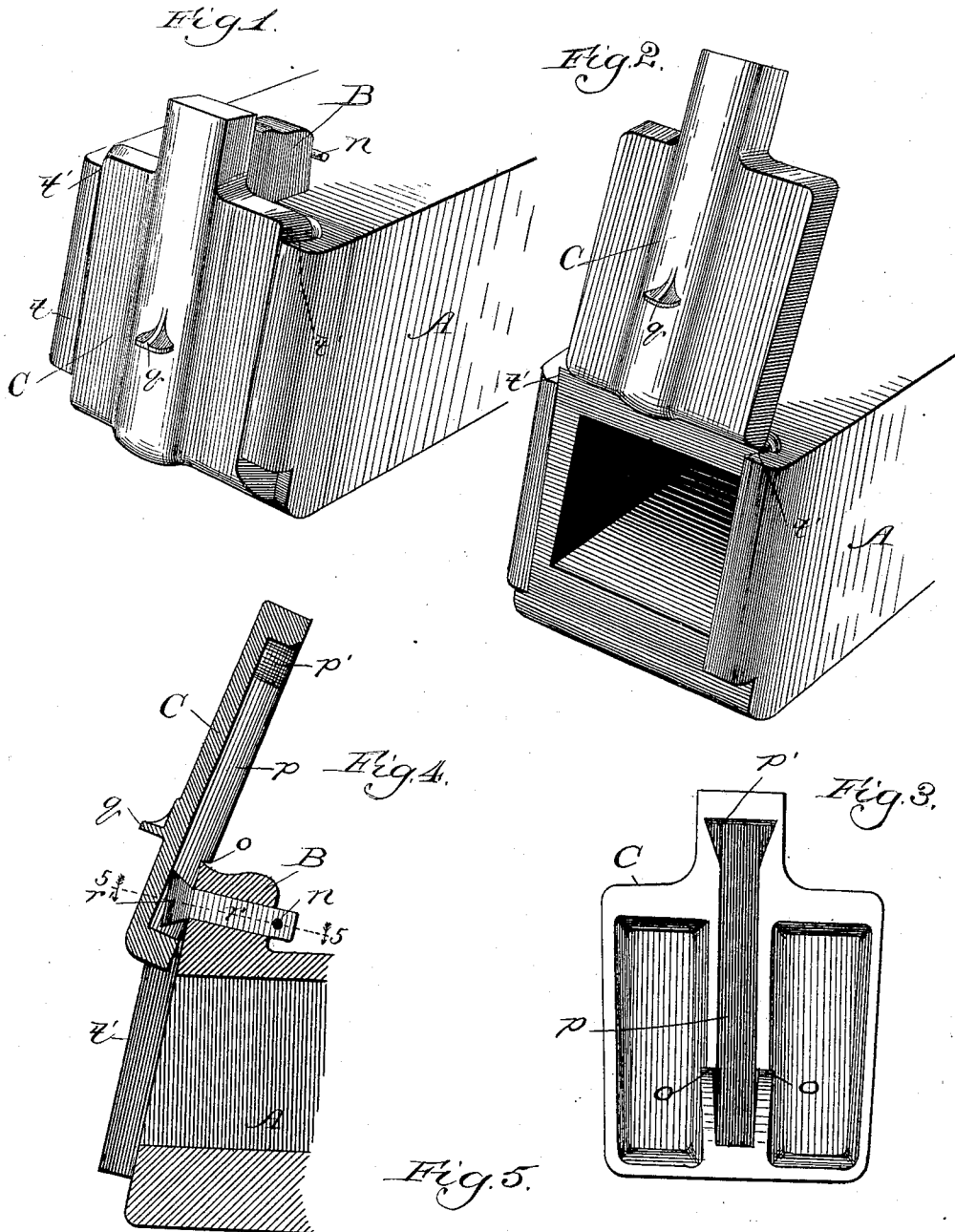
(No Model.)

W. S. SCHROEDER.

CAR AXLE BOX.

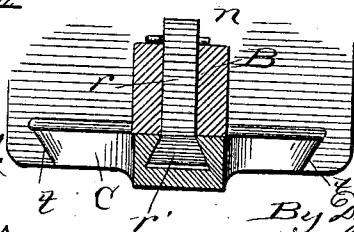
No. 323,216.

Patented July 28, 1885.



Witnesses:

Chas. E. Gaylord,
Mason Bros.



Inventor:

William S. Schroeder,

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Att'ys

UNITED STATES PATENT OFFICE.

WILLIAM S. SCHROEDER, OF CHICAGO, ILLINOIS.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 323,216, dated July 28, 1885.

Application filed May 26, 1885. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. SCHROEDER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Axle Boxes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates, particularly, to an improvement in the lids of these boxes, whereby they may be readily raised to uncover the entire opening to the box for purposes of filling and oiling, and be automatically held in such raised position while these operations are being performed.

My invention also has for its object the provision of simple and effective means whereby the lids cannot, without a special operation for the purpose, be detached from the boxes while open to permit the necessary care of the journals, or shaken off and lost by the jarring of the trucks while the cars are in motion.

To these ends my invention consists in the general construction of my improved device whereby the desired objects are accomplished; and it also consists in the various details of the said construction and combinations of the parts forming the same, shown and described in the accompanying drawings, in which—

Figure 1 is a perspective view of an axle-box provided with my improvement, showing the lid down; Fig. 2, a similar view showing the lid raised to open the axle-box; Fig. 3, a rear elevation of the lid; Fig. 4, a vertical longitudinal section showing the lid raised, and showing the bolt of peculiar form for securing the lid to the box and the means for sustaining the lid in its raised position; and Fig. 5, a sectional plan view taken on the line 5 5 of Fig. 4.

A is an axle-box of common construction, having flanges *t*, provided with grooves *t'*, preferably beveled inwardly, as shown, toward their lower ends, cast upon it at each side of the opening which affords access to the journal.

B is a lug formed on the upper surface of the axle-box A, and provided with an orifice which permits the passage of a headed bolt, *r*, the purpose and office of which are hereinafter described.

C is the lid inserted within the grooves of the flanges *t*, and having the outline of its lateral edges of a form to correspond with that of the grooves *t'*. The lid C may be provided with a thumb-piece or handle, *q*, on its outer surface, to afford a convenient means of raising the same; and on its inner surface a dovetail recess, *p*, Figs. 3 and 5, is formed, enlarging at its upper end into a recess, *p'*. Toward their lower extremities the edges of the recess *p* are cut away to form notches or shoulders *o*, so that when the lid C is raised to its full limit, whereby it is entirely freed from contact with the grooves *t'*, it tips slightly backward with its own weight and engages with the lug or projection B, thus being held in its adjusted position.

The bolt *r*, hereinbefore mentioned, which is passed through the lug B on the axle-box, is secured in its adjusted position by a pin, *n*, passed through a transverse opening provided in it toward its rear extremity, and is provided at its opposite or forward extremity with a head, *r'*, to slide within the recess *p* and prevent the cover C from being removed or shaken off when raised. By this construction the lid C may be easily and quickly raised from its normal position between the grooves *t*, wherein it precludes all possibility of the entrance of dust and dirt to the bearing portion of the axle, and remains lightly and yet securely supported, by reason of the engagement of the notches or shoulders *o* with the lug B, entirely above the guides or grooves *t'*. As the lid may be slid, without danger of loss, above the guides or grooves, the opening in the axle-box may thus be exposed to its full height, and the operations of oiling and filling may be carried on with ease, and the bearing-brasses inserted or removed without impediment. By the construction heretofore in use this latter operation has not been readily, if at all, possible without detachment of the cover from the box.

To adjust the lid to the axle-box, the bolt *r* is first inserted into the enlarged part *p'* of the recess *p* by tipping the bolt slightly, whereby its head *r'* is inserted edgewise and slid downward therein until the bolt shall thereby be caused to assume gradually a straight position, when it cannot be removed

unless tipped in the opposite direction. With the bolt in its adjusted position on the lid just described, it is slid downward to the end of the recess *p* therein, and inserted at its rear end through the orifice provided to receive it in the lug B, wherein it is secured from removal by the pin *n*, already described. It will thus be seen that the lid cannot be detached from the box without withdrawing the bolt *r* from its socket in the lug B, to do which necessitates raising of the lid clear of the grooves *t'* in the flanges *t* on the box and pulling the bolt out of its socket on withdrawing the pin *n*. By then sliding the bolt upward until its head lies within the enlarged recess *p'* of the dovetail slot *p* it can be detached from the lid by slightly tipping it to permit its withdrawal, since, as the dovetail slot *p* is narrower at its outer edges than the head of the bolt, which is longer in cross-section than the enlarged recess *p'* at the end of the slot *p*, it cannot be removed without tipping it when it shall be in this position, and, obviously, with the head *r'* in any other position within the slot *p* the bolt cannot be removed at all, and thus, when adjusted, firmly attaches the lid to the box.

The lug B on the box affords merely a convenient device for the connection of the lid through the medium of the bolt. The same could be effected by providing an opening to receive the bolt through the top portion of the box.

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

1. A box-lid for car-axle boxes having a dovetailed longitudinal recess in its rear side, provided with an enlarged recess toward one end, in combination with a bolt for securing it to the box, having a head to be confined within the slot and of a diameter sufficiently narrow to permit its insertion edgewise into the enlarged recess, substantially as described.

2. A box-lid for car-axle boxes having a dovetailed longitudinal recess in its rear side, provided with an enlarged recess toward one end and with shoulders toward its opposite end, in combination with a bolt for securing the lid to the box, having a head to be confined within the recess and of a diameter sufficiently narrow to permit its insertion edgewise into the enlarged recess, substantially as described.

3. A car-axle box having lateral flanges near the edges of its opening, provided with guides for confining the lateral edges of the box-lid, and a lug on the box provided with an orifice extending through it, in combination with a box-lid having a longitudinal recess on its rear surface, provided with notches or shoulders, and containing and confining the head of a bolt secured within the opening through the lug on the box, the whole being constructed and arranged to operate as and for the purpose set forth.

4. A car-axle box, A, having lateral flanges *t* near the edges of its opening, provided with guides *t'*, for confining the lateral edges of the box-lid, and a lug, B, on the top of the box, provided with an orifice extending through it, in combination with a box-lid, C, to slide between the guides *t'*, and provided with a dovetailed longitudinal recess, *p*, on its rear surface, enlarged at its upper extremity to afford a recess, *p'*, and a bolt, *r*, having a head, *r'*, to enter the recess *p'* edgewise and be confined within the dovetailed recess *p*, to permit the lid to slide upon it, and inserted at its opposite end and secured within the opening in the lug, the whole being constructed and arranged to operate substantially as described.

WILLIAM S. SCHROEDER.

In presence of—

MASON BROSS,
EDWARD THORPE.