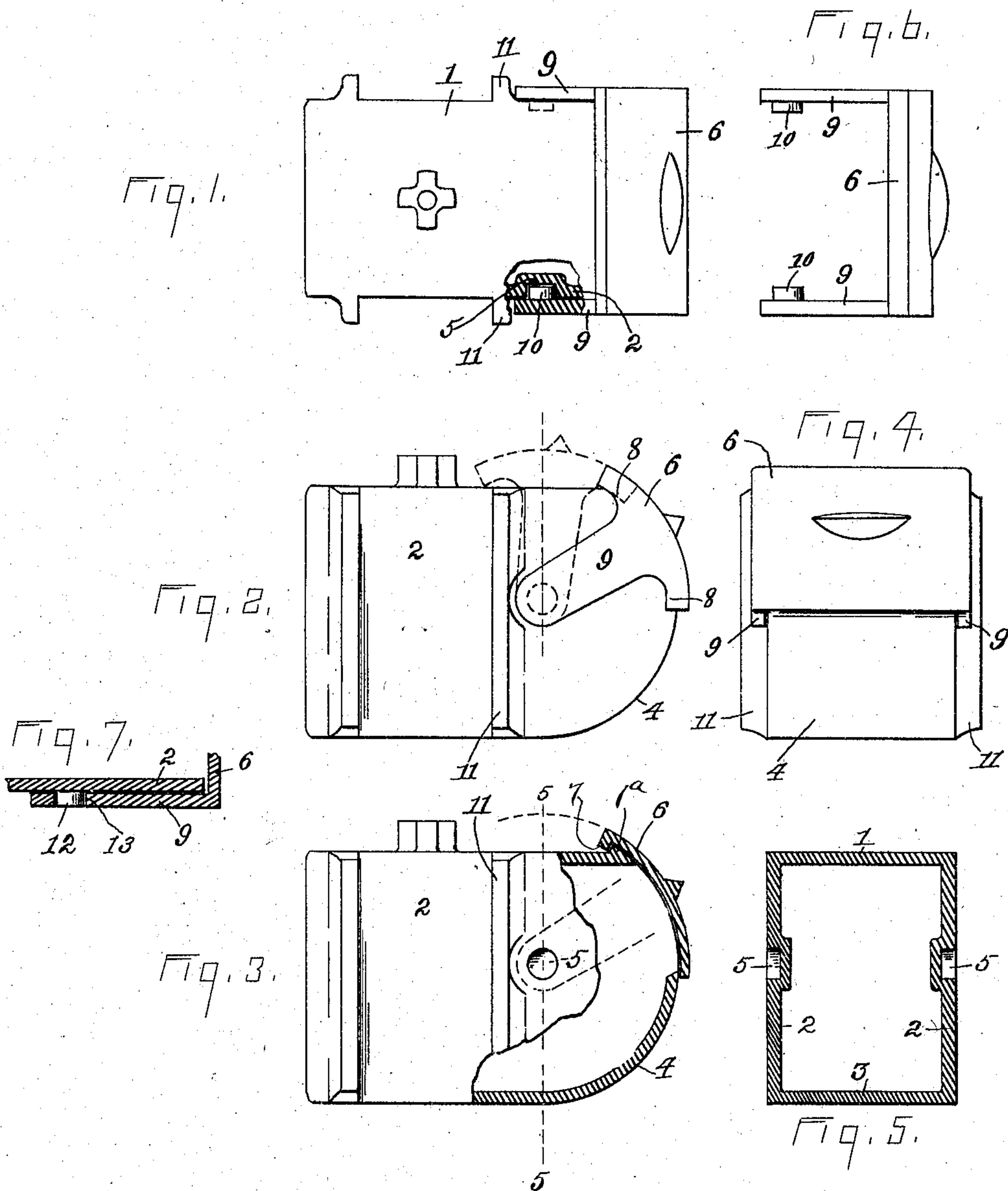


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W. W. WALLACE.
CAR AXLE BOX.
APPLICATION FILED SEPT. 12, 1904.



WITNESSES—
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UNITED STATES PATENT OFFICE.

WILLIAM W. WALLACE, OF KNOXVILLE, TENNESSEE.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 791,518, dated June 6, 1905.

Application filed September 12, 1904. Serial No. 224,140.

To all whom it may concern:

Be it known that I, WILLIAM W. WALLACE, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Improvement in Car-Axle Boxes, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates particularly to means for closing the front opening of car-axle boxes.

The object of the invention is to provide a construction adapted to close automatically in order that the box may not remain open through the neglect of persons who inspect car-axle boxes and provide the same with oil and cotton-waste.

A further object of the invention is to provide a construction which is simple and cheap.

A further object of the invention is to provide a lid or door which may be attached without bolts, keys, or other similar devices, to the end that in the event of breakage a new door can be readily put into place.

In the accompanying drawings, Figure 1 is a plan of a car-axle box embodying my improvement. Fig. 2 is a side elevation of the same box. Fig. 3 is a sectional side elevation of the same box. Fig. 4 is a front elevation. Fig. 5 is a vertical transverse section on the line 5 5 of Fig. 3. Fig. 6 is a plan of the door or lid. Fig. 7 is a sectional detail view of a modification of one of the arms of the door or lid and the adjacent portion of the upright wall.

In the particular form shown in the drawings the box is rectangular in cross-section, as shown in Fig. 5, 1 being the upper horizontal wall, and 2 2 being the lateral upright walls, and 3 being the bottom wall. At the front the lower portions of the lateral walls are joined by a front wall 4. Between this wall and the lateral walls and the upper wall is the outer opening or port of the car-axle box, through which the interior of the box may be inspected and oil and cotton-waste introduced. On a common horizontal transverse line the outer faces of the lateral walls 2 are provided with sockets or bearings 5. To form such bearings without making lateral openings through said walls, the latter

may be extended inward over the inner ends of said bearings. The outer end of the box is curved, so as to be concentric with the common axis of said sockets or bearings. The door or lid 6 is similarly curved, so as to conform to and fit closely over the outer opening of the box. The upper outer portion of the wall 1 of the box is extended upward to form a transverse shoulder 1^a, and the upper edge of the door has an inward-directed flange or lip 7, which bears against said shoulder 1^a when the door is in its normal position, whereby the door is held against further downward movement. The lower edge of said door extends a little way below the upper edge of the front wall 4. At each lateral edge of the door there is an inward-directed flange 8, extending a short distance over the outer face of the adjacent lateral wall 2. Thus the door is adapted to completely close the outer opening of the box. From each such flange 8 an arm 9 extends along the adjacent lateral wall and bears a lug or journal 10, extending into the adjacent socket or bearing 5. Thus the lid or door is adapted to move through an arc upon the axis of said bearings. As already indicated, the engagement between the flange 7 and the shoulder 1^a prevents the downward movement of the door beyond the position shown by solid lines in Figs. 2 and 3; but said door is free to move upward. Such upward movement is, however, so limited that the greater portion of the weight of said lid must always remain outside of an upright plane cutting the axis upon which said door turns. For this purpose the ribs 11 may be so placed as to form stops for the arms 9. Hence said lid cannot be so set as to need manual closing after it has been opened for the inspection of the interior of the box and for the insertion of oil and cotton-waste. As soon as the door is released it will fall into place by the action of gravity and cannot remain open through the neglect of the attendant. The body of said door, its arms, and its journals are preferably an integral casting, the arms being made flexible to a sufficient degree to permit lateral springing until the journals enter the bearings. Said journals and said bearings are adapted to be formed sufficiently accurate

by casting to render subsequent machine-work unnecessary, and no bolts, keys, or other similar devices are needed for attaching the door, and if a door breaks a new one may
5 be readily sprung into place.

While the front wall 4 is shown concentric with the axis of the journals, said wall may be of any desired form, and while the upper portion of the front end of the box is shown
10 concentric with said axis it is to be observed that said end may be of other form, provided the form of the lid or door corresponds and allowance is made for the upward movement of the door.

15 The journals and the bearings for the door or lid may be interchanged, the journals being made to extend outward from the outer faces of the walls 2, while the bearings extend into or through the arms, as shown in
20 Fig. 7, wherein 12 is the journal and 13 is the bearing.

I claim as my invention—

1. The combination with a car-axle box having a front opening and lateral and upper and
25 lower walls, the upper wall being provided with a shoulder, 1^a, of a door adapted to extend over said opening and having a flange to engage said shoulder and having integral, flexible arms, said arms and said lateral walls

being provided with interengaging journals 30 and bearings integral with said arms and wall, substantially as described.

2. The combination with a car-axle box having a front opening and lateral and upper and lower walls, the lateral walls being provided 35 with hinge-bearings and the upper wall being provided with a shoulder, 1^a, of a door adapted to extend over said opening and having a flange to engage said shoulder and having integral arms provided with journals extending 40 into said bearings, substantially as described.

3. The combination with a car-axle box having a front opening and lateral and upper and lower walls, the lateral walls being provided 45 with hinge-bearings and the upper wall being provided with a shoulder, 1^a, of a door resting over said opening and having a flange to engage said shoulder and having lateral flanges and integral arms provided with journals extending into said bearings, substantially as de- 50 scribed.

In testimony whereof I have signed my name, in presence of two witnesses, this 31st day of August, in the year 1904.

WILLIAM W. WALLACE.

Witnesses:

CYRUS KEHR,
B. R. STOUT.