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CAR JOURNAL BOX LID.

APPLICATION FILED NOV. 24, 1905.

Fig. 1.

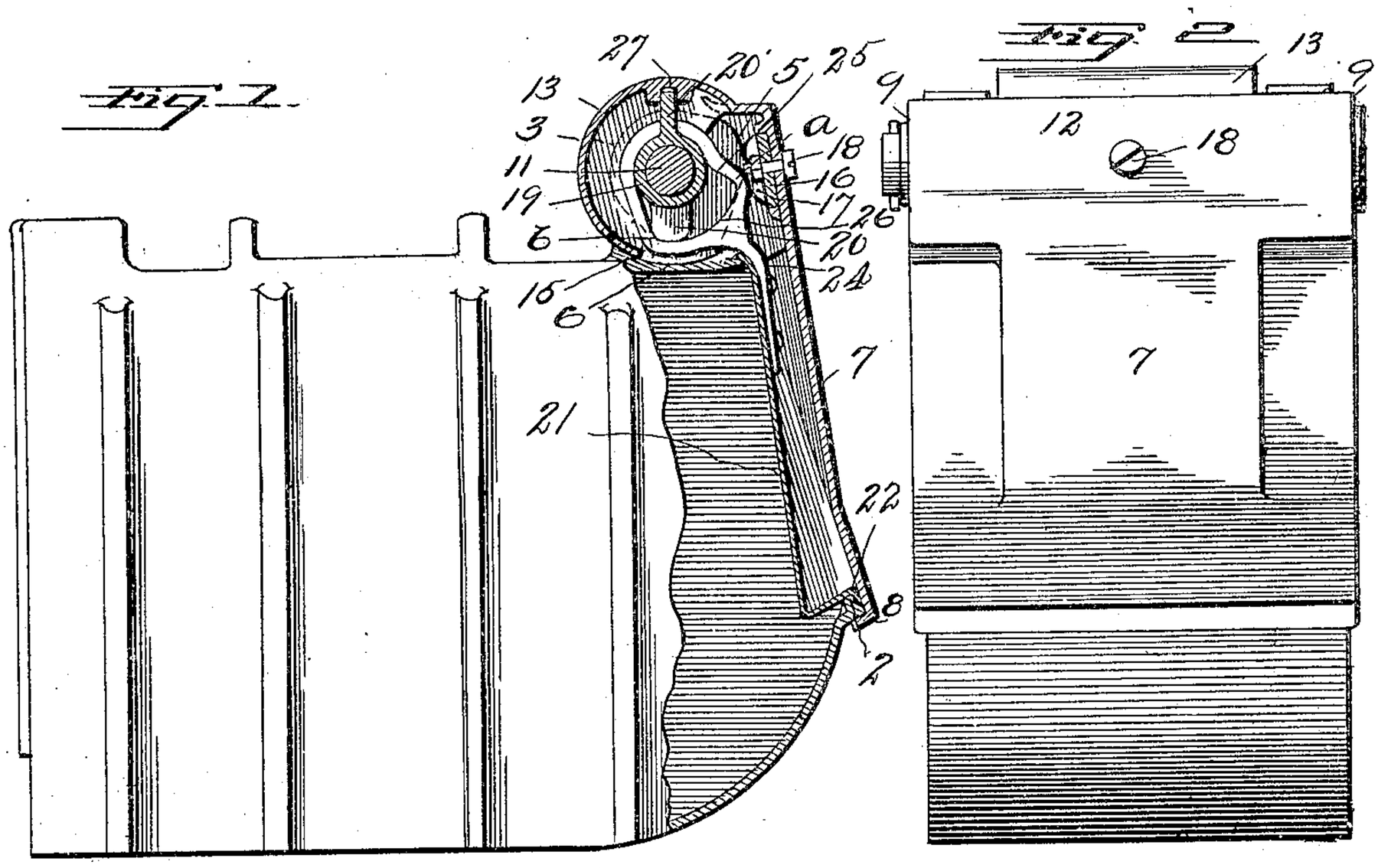


Fig. 2.

Fig. 3.

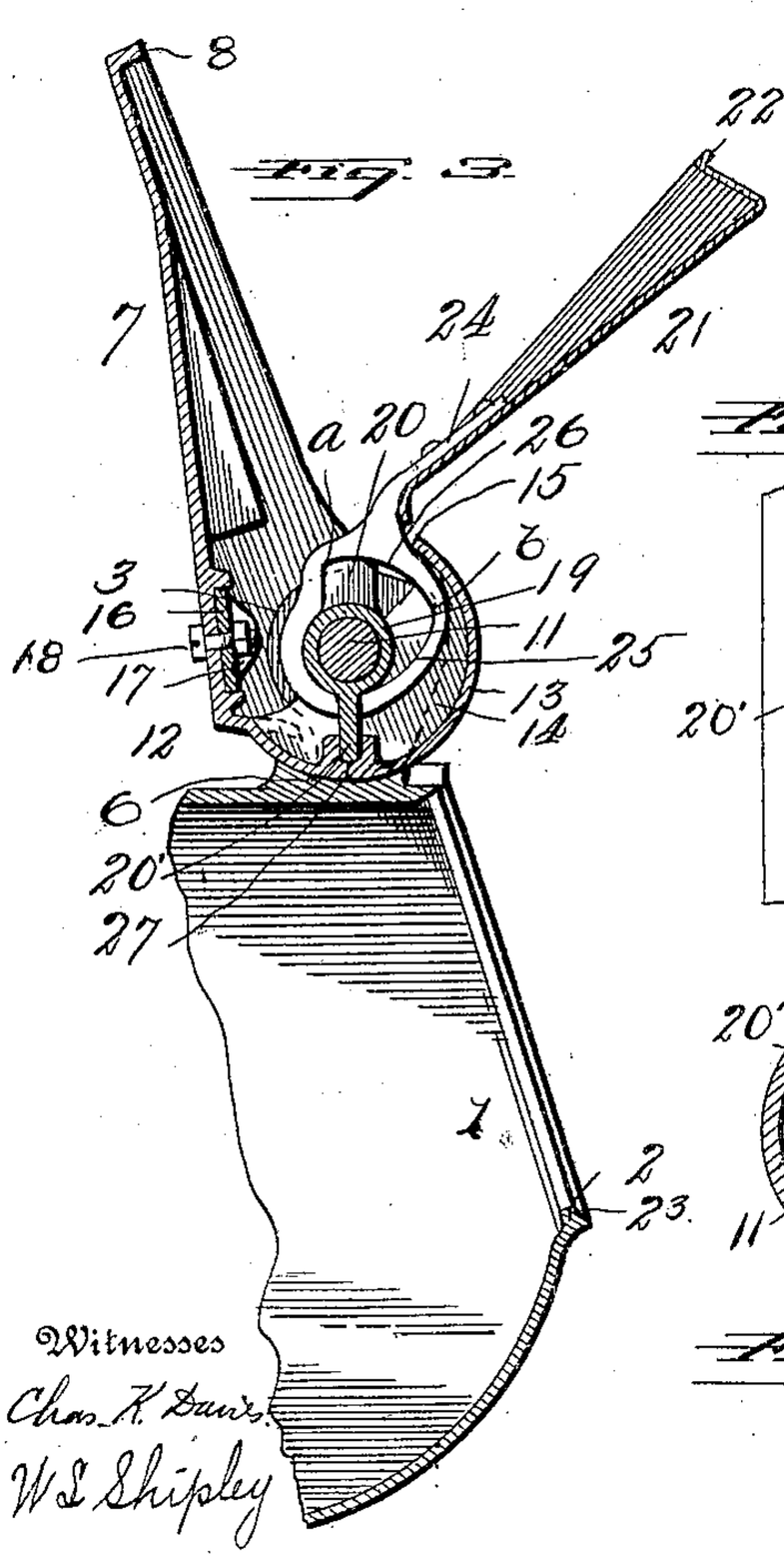


Fig. 4.

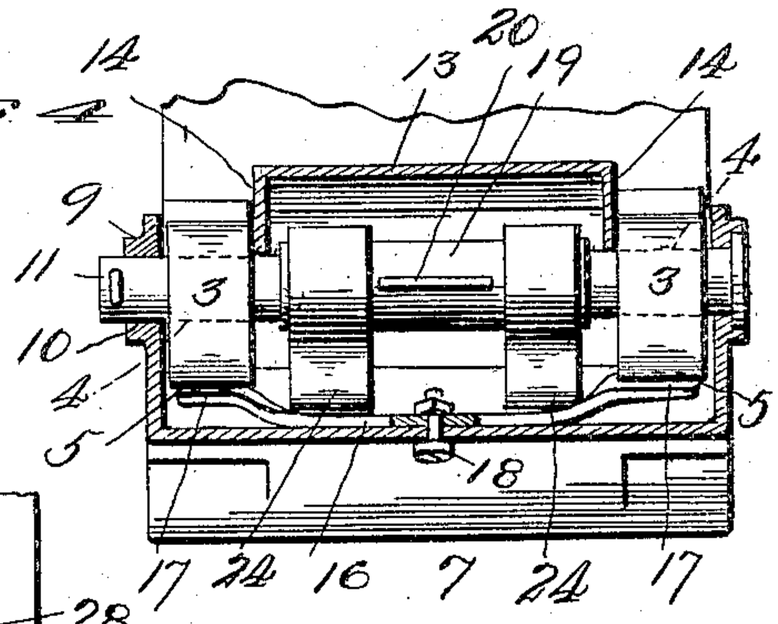
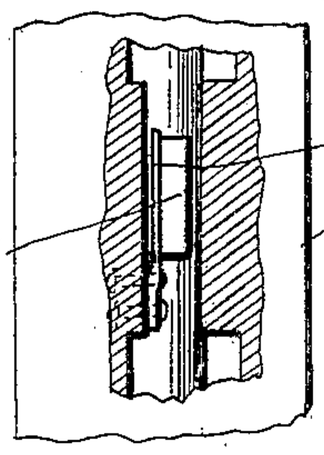


Fig. 6.



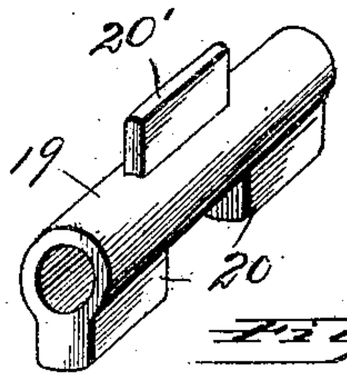


Fig. 5.

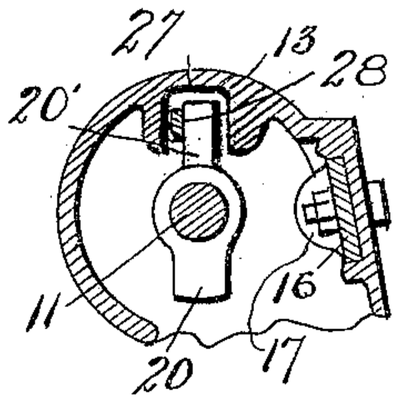


Fig. 7.

Witnesses
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CAR-JOURNAL-BOX LID.

No. 836,793. Specification of Letters Patent. Patented Nov. 27, 1906.

Application filed November 24, 1905. Serial No. 288,921.

To all whom it may concern:

Be it known that we, LACEY Y. WILLIAMS and FRANK B. HARRISON, citizens of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented new and useful Improvements in Car-Journal-Box Lids, of which the following is a specification.

The invention relates to car journal-boxes, and especially to the means for closing the opening at the end thereof through which oil and waste are introduced to the interior of the box, the object being the provision of a double cover or lid which shall prevent the entrance of dirt and dust to the bearings.

The invention consists in certain novelties of construction and combinations of parts, as hereinafter set forth and claimed.

The accompanying drawings illustrate an example of the physical embodiment of the invention constructed according to one of the best modes we have so far devised for the application of the principle.

Figure 1 is a side view of the box, partly in section at the end. Fig. 2 is an end view in elevation. Fig. 3 is a vertical section through the two lids, showing the said lids in open positions. Fig. 4 is a horizontal section of Fig. 1 in a plane parallel with the bolt. Fig. 5 shows the sleeve and lugs. Figs. 6 and 7 show the lug 20′ and the spring 28.

Referring to the several figures, the numeral 1 designates the opening at the end of the box, through which oil and waste are introduced; 2, an inwardly-projecting flange bounding the opening; 3, cam-shaped lugs; 4, holes through the lugs; 5, the projecting parts of the lugs; 6, a concave surface at the top of the box and extending between the lugs; 7, the outer lid; 8, the flange of the outer lid; 9, the widened sides of the lid; 10, holes in the sides; 11, a bolt passed through the lugs and holes in the lid; 12, the head of the lid; 13, the curved exterior surface of the head of the lid located between the lugs; 14, the end walls of the head of the lid; 15, the inner edge of the head; 16, a curved leaf-spring; 17, the convex surfaces at the ends of the spring; 18, a bolt passed through the spring and lid and which holds the spring at its center in contact with the lid through the medium of a nut; 19, a sleeve with a hole therethrough to fit the bolt 11; 20, two lugs upon the sleeve, having curved outer surfaces; 20′, a lug located upon the opposite side of the sleeve from the two lugs; 21, the inner lid; 22, a flange about the edge of the lid; 23, a recess in the metal, bounding the opening at the end of the box within which the flange 22 is seated when the lid is closed; 24, two arms secured to the lid; 25, holes in the projecting portions of the arms, said holes being in line with the lugs 20 of the sleeve, as shown; 26, cam-surfaces of the holes, each of which extends from *a* to *b*, as shown in the several sections, and 27 is a seat for the lug 20′, which seat is located at the inner surface of the head of the cover.

In Figs. 6 and 7 is shown a spring 28, secured to the head of the outer lid and with its free end bearing against the lug 20′ on the sleeve. When the outer lid is being closed and approaches its seat, the spring bears against the lug 20′ and forces the inner lid to its seat, and when the outer lid is entirely closed the spring holds the said inner lid in constant frictional contact with the inwardly-projecting flange 2, bounding the opening at the end of the box.

The relative location of the several parts when assembled is obvious from the drawings and need not be set forth in detail.

Upon reference to Fig. 1, which shows the lid closed, it will be observed that the curved surface at the rear of the edge 15 of the head is in frictional contact with concave surface 6 between the lugs and that dust and dirt cannot enter between the surfaces, that the exterior surfaces of the end walls 14 of the head are in frictional contact with the inner surfaces of the lugs, and that the flange 8 of the lid fits around the opening at the end of the box. There are thus no open spaces between the box and the lid. Further, it will be observed that the curved surfaces of the free ends of the spring are in frictional contact with the surfaces of the lugs directly in front of the projecting portions 5 thereof. The spring ends being under tension hold the lid closed, so that the jarring of the box when the axle and wheels are in motion will not allow the lid to leave its seat. The spring is located parallel with the bolt 11 and within a recess at the upper end of the lid and slightly curved, as shown, so that when the lid is opened the ends of the spring may bend as the curved surfaces thereof travel over the projecting portions 5 of the lugs. It will be seen that in closing the lid the ends of the spring will engage the cam-surfaces of the lugs and when they reach the positions shown in Fig. 4 that the lid will be held closed

with a force corresponding to the stiffness of the spring.

The inner lid 21 is operated simultaneously with the outer lid when the latter is rotated. When the outer lid is opened, the sleeve 19 moves relative to the bolt 11, inasmuch as the lug 20′ engages the seat 27 in the head of the cover, and the lugs 20 move along the cam-surfaces 26 26 from *b* to *a*, where they stop, and further motion of the outer lid opens the inner lid, as is clearly shown by Fig. 3 of the drawings. In closing the outer lid the lugs 20 move over the cam-surfaces 26 26 from *a* to *b*, and when the outer lid is seated the lugs 20 20 hold the inner lid firmly and closely to its seat.

In the practical application of the principle of the invention modifications of course may be introduced which will not constitute substantial departures.

What we claim is—

1. The combination with a journal-box, of two lids; a bolt; and a sleeve provided with lugs and located upon the said bolt; one of said lugs engaging the outer lid and another lug engaging the inner lid, whereby movement of the outer lid also operates the inner lid.

2. The combination with a journal-box, of two lids; a bolt; and a sleeve on the bolt, said sleeve having a plurality of lugs; one of said lugs engaging the outer lid, and the other lug or lugs locking the inner lid to its seat when closed.

3. The combination with a journal-box, of two lids; a bolt about which said lids rotate; and a sleeve with lugs upon opposite sides thereof, said sleeve being located upon the bolt; one of said lugs engaging a seat in the outer lid, and the other lug or lugs adapted to operate the inner lid.

4. The combination with a journal-box, of two lids; a bolt; a sleeve on the bolt, said sleeve being provided with lugs; and means supported by the sleeve which is adapted to be engaged by the outer lid.

5. The combination with a journal-box, of inner and outer lids, said outer lid being provided with a spring for locking the same in closed position, and said inner lid having arms with cam-surfaces; a bolt; and a sleeve with lugs located upon the bolt, one of said lugs engaging the outer lid, and the other lugs engaging the cam-surfaces of the arms, in substance as set forth.

6. The combination with a journal-box having an opening at the end, of hinged inner and outer lids, said outer lid having perforated flanges at the sides; two perforated lugs at the edge of the opening at the end of the box; and a bolt passed through the perforations in the flanges of the outer lid and in the lugs; said lid being movable relative to the bolt.

7. The combination with a journal-box having an opening at the end, of inner and outer lids, and means at the top edge of the box for hinging the lids so each may move through the part of an arc of a circle independently of the other, said means comprising perforated lugs and a bolt; the outer lid being movable independently of the movement of the bolt.

8. The combination with a journal-box having an opening at the end, of two lids hinged to the side of the opening; a lug with a cam-shaped surface; and a spring engaging the cam-surface of the lug and in connection with the said lids; said spring being actuated by the outer lid and serving to hold the inner lid to its seat when the outer lid is closed.

9. The combination in a journal-box having an opening at the end, of two lids; two perforated lugs at the edge of the opening; a bolt passed through the lugs; and means for hinging the edges of both lids to the bolt; said outer lid being movable independently of the movement of the bolt.

10. The combination with a journal-box having an opening at the end, of two lids, each lid being hinged and movable through the part of an arc of a circle independently of the other lid; means for hinging the lids to the edge of the opening comprising perforated lugs and a bolt; and means for holding the outer lid closed; said outer lid being movable independently of the bolt.

11. The combination with a journal-box having an opening at the end, of two separate lids; a bolt and lugs at the upper edge of the said opening by which the lids are hinged; and means in connection with the inner lid adapted to be engaged by the head of the outer lid when closed, whereby the inner lid will be held to its seat.

12. The combination with a journal-box having an opening at the end, of two separate lids; a bolt and lugs at the edge of the said opening by which the lids are hinged; and yielding means between the upper part of the inner lid and the head of the outer lid whereby the inner lid will be held to its seat yieldingly when the outer lid is closed.

In testimony whereof we affix our signatures in presence of two witnesses.

LACEY Y. WILLIAMS.
FRANK B. HARRISON.

Witnesses:
NORA RAMPE,
LEOLA G. WENDELL.