E. G. BUSSE & P. B. HARRISON.

JOURNAL BOX LID.

APPLICATION FILED JULY 6, 1909.

1,014,047. Patented Jan. 9, 1912.

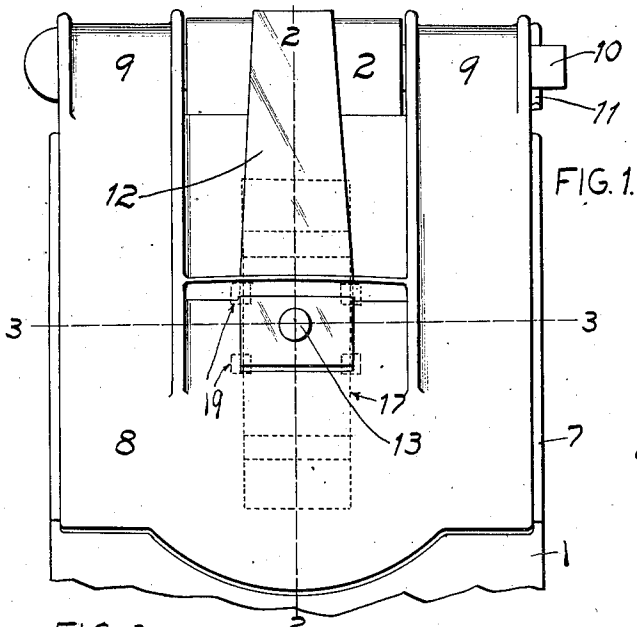

FIG. 1.

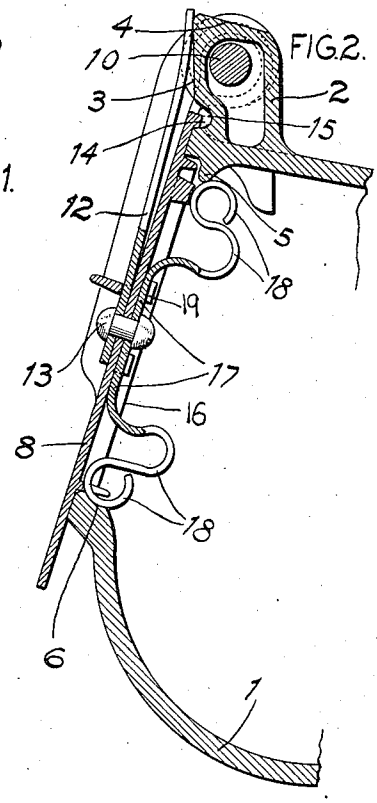

FIG. 2.

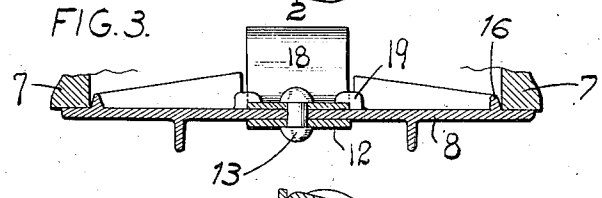

FIG. 3.

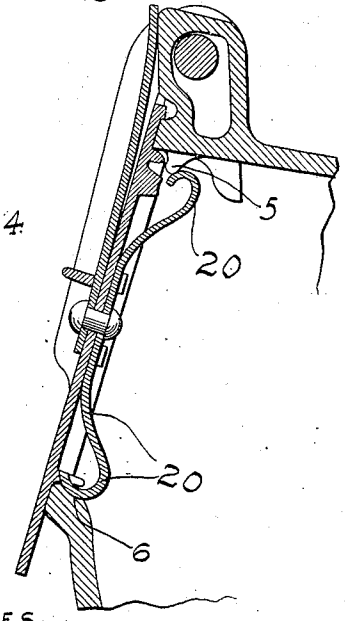

FIG. 4

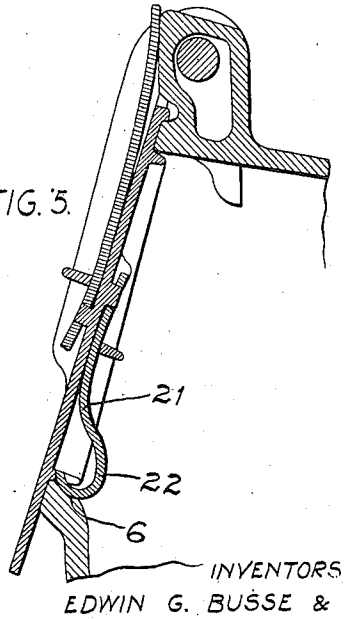

FIG. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

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JOURNAL-BOX LID.

1,014,047. Specification of Letters Patent. Patented Jan. 9, 1912.

Application filed July 6, 1909. Serial No. 506,033.

To all whom it may concern:

Be it known that we, EDWIN G. BUSSE and PHILIP B. HARRISON, citizens of the United States, residing at Chicago, Illinois, have invented a certain new and useful Improvement in Journal-Box Lids, of which the following is a full, clear, and exact description, 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, forming part of this specification, in which—

Figure 1 is an elevation of a journal box lid of our improved construction. Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1. Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 1. Fig. 4 is a vertical section similar to Fig. 2 and showing a modified form of the retaining spring arranged on the inside of the box. Fig. 5 is a vertical section similar to Fig. 2 and showing a further modified form of the retaining spring.

Our invention relates generally to railway car journal boxes, and more particularly to the lids of the boxes and the means employed for holding said lids tightly closed.

The principal object of our invention is to construct a simple, inexpensive lid and to provide the same with means for holding said lid in close engagement with the journal box, thereby forming a joint between the lid and box which is practically proof against the admission of dust to the interior of said box.

A further object of our invention is to provide yielding means on the interior of the box lid for holding said lid in close engagement with the box at both top and bottom, which means yields readily when the lid is swung open to permit the delivery of oil and waste to the interior of the box.

To the above purposes, our invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

Referring by numerals to the accompanying drawings, 1 designates the body of the journal box, which is of ordinary type and provided on top at the front side with a hinge lug 2, the same being perforated horizontally in order to receive the hinge pin of the box lid. Formed on the front of this lug 2 is a flat face 3, and formed on the top thereof is a flat face 4, which latter gradually inclines from the rear side of the lug to the front thereof.

Formed integral with the underside of the top of the box 1, and immediately adjacent the opening in the front of said box, is a transversely disposed rib or lug 5, and formed in the bottom of the box immediately adjacent the opening therein is a transversely disposed notch 6, which forms a seat for the lower portion of a spring carried by the inside of the box lid, and hereinafter more fully described. The front edges of the side walls of the box 1, immediately adjacent the opening in said box, are widened, as designated by 7 in order to form ribs or flanges which extend beyond the side edges of the box lid when the same is in proper position to close the opening in the box.

8 designates the box lid in the form of a cast plate, and formed integral with the top thereof is a pair of lugs 9 which are perforated horizontally in order to receive hinge pin 10, which latter also passes through the perforated lug 2, thus hinging the lid on the box, and said pin is secured in position by means of an ordinary cotter pin 11. The lid 8 is slightly narrower in width than is the box 1, and thus the side edges of said lid terminate a short distance from the outer edges of the ribs or flanges 7, and said ribs or flanges perform the function of deflectors to prevent dust-laden air from entering the joint between the side edges of the lid and the box, which action is impossible where the side edges of the lid are flush with or extend beyond the side faces of the box. The bottom of the lid 8 extends below the opening in the front of the box in order to provide a flange or extension which may be readily engaged by a hook or like tool when the lid is to be swung into an open position.

12 designates a flat spring which is rigidly fixed to the center of the lid 8 by means of a rivet 13. The free upper edge of said spring normally bears against the flat face 3 on the front of the lug 2, and the resiliency of said spring tends to hold the lid in close engagement with the front of the box.

Formed integral with the upper edge of the lid 8 is a rearwardly projecting flange 14 which, when the lid is closed, occupies a corresponding groove 15 formed in the front edge of the lug 2, said groove being somewhat deeper than the thickness of the

flange, thus providing sufficient space for air currents to readily remove all dust which may accumulate between the rear edge of the flange 14 and the groove 15.

Formed integral with the inner face of the lid 8 is a flange 16, which is so located that it occupies a position immediately adjacent the inner edges of the opening in the front of the box 1, and said flange serves as a protection against the admission of dust to the interior of the box and the leakage of oil therefrom.

Fixed to the center of the lid 8 on the inside thereof, and by means of the rivet 13, is a flat spring 17, the ends of which are bent into S-form, as designated by 18, the outer portions of said bent ends bearing against the flange 5 and seat 6 located respectively at the top and bottom of the opening in the front of the box. The resiliency of this spring 17 combines with the resiliency of the spring 12 in holding the lid in close engagement with the front of the box when closed, thus forming a dust-proof joint between said lid and box, and by the particular arrangement of said spring the lid is positively held at both top and bottom. Lugs 19 are formed integral with the inner face of the plate 8 adjacent the center of the lid, which lugs engage the side edges of the central portion of the spring 17, thereby holding said spring in the desired position relative to the lid.

In the modified construction shown in Fig. 4, the ends of the spring 17 are bent into the form of hooks 20, and the ends of said hooks bear against the lug 5 and seat 6.

In the construction shown in Fig. 5, a spring 21 is securely fixed at its upper end to the central portion of the lid on the inside thereof, and the lower end of said spring is bent to form a hook 22, which engages in the seat 6 when the lid is closed. When sufficient force is applied to the extended lower end of the lid 8 to swing the same outward and upward, the bent edges of the spring 17 will yield to such a degree as to disengage from the rib 5 and seat 6, and the lid is now swung upward until the free end of the spring 12 engages on the flat surface 4 on top of the lug 2, thereby holding said lid in its elevated open position. When the lid is closed, the same is swung downward with considerable force, and as a result, the ends 18 of the spring will readily pass beyond the top and bottom edges of the opening in the front of the box, and will reëngage against the flange 5 and in the seat 6, thereby tightly closing said lid.

In our improved construction, the joint between the lid and journal box is practically dust-proof, inasmuch as the particular arrangement of the joint prevents air currents and wind from carrying dust into the joint, and the lid is firmly held when in a closed position with the free ends of the spring bearing against the edges of the opening in the journal box at both top and bottom.

It will be readily understood that minor changes in the construction and form of our improved device can be made and substituted for those herein shown and described without departing from the spirit of our invention.

We claim:

1. The combination with a journal box provided with an opening, of a lid hinged thereto, a resilient member arranged on the outside of the lid, the free end of which engages a part of the journal box, and a resilient member arranged on the inside of the lid, the ends of which last-mentioned resilient member engage on the journal box inside the opening by virtue of their own resiliency.

2. The combination with a journal box provided with an opening, of a lid hinged thereto, a resilient member arranged on the outside of the lid, the free end of which engages a part of the journal box, and a resilient member arranged on the inside of the lid, the free ends of which resilient member yieldingly engage the interior of the box at points adjacent the opening therein by virtue of their own resiliency.

3. The combination with a journal box provided with an opening, of a lid hinged thereto, a spring fixed on the outside of the lid, the free end of which spring engages a part of the box, and a spring fixed to the inside of the lid, the free ends of which last-mentioned spring engage the edges of the opening in the journal box at the top and bottom thereof by virtue of their own resiliency.

4. A journal box lid having a spring attached to the outside and a spring attached to the inside, and retaining devices mounted on the outside and inside of the lid and adapted to engage each spring adjacent its attaching means.

In testimony whereof, we hereunto affix our signatures in the presence of two witnesses, this 26th day of June, 1909.

EDWIN G. BUSSE.
PHILIP B. HARRISON.

Witnesses:
EDWARD T. WALKER,
JOSEPH W. WEINLAND.