July 26, 1927. 1,636,767

H. C. DREIBUSS

SEPARABLE JOURNAL BOX

Filed April 2, 1926 2 Sheets-Sheet 1

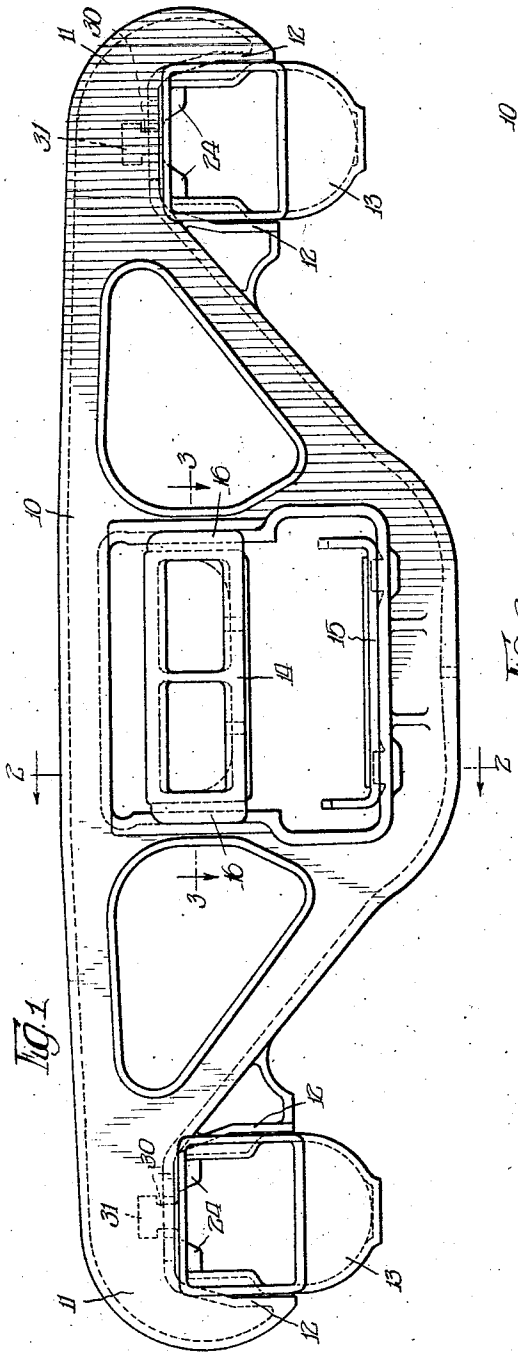


Fig. 1.

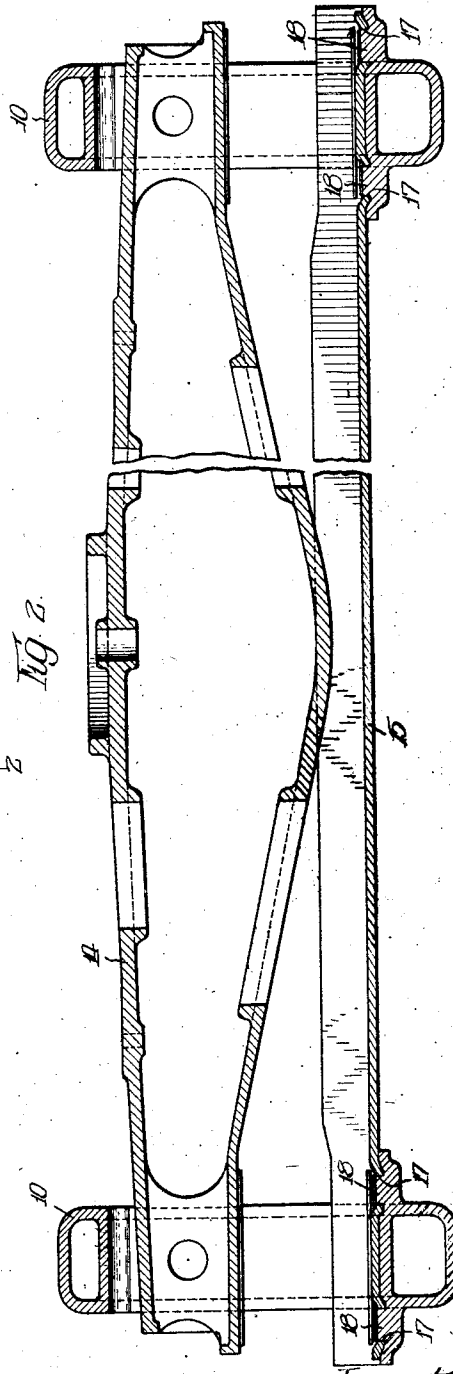


Fig. 2.

Witness:
R. Burkhardt.

Inventor:
Harry C. Dreibuss,
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Attys.

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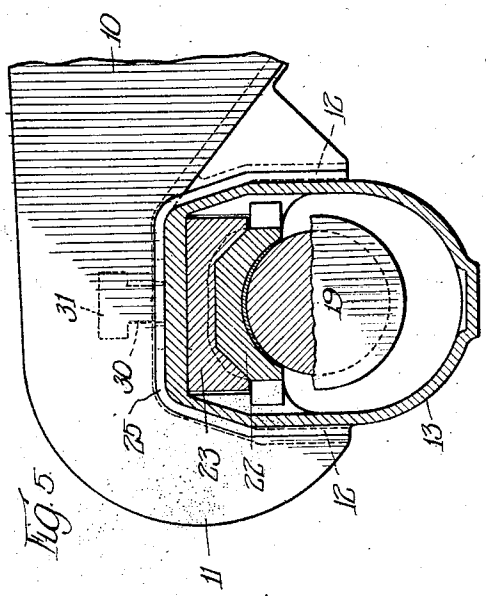


Fig. 5

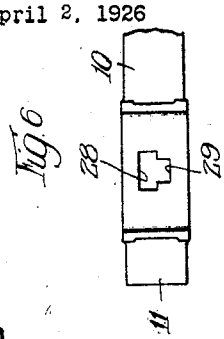


Fig. 6

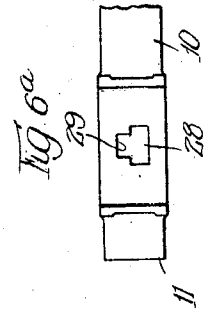


Fig. 6a

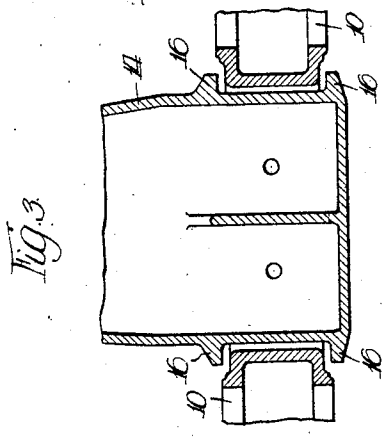


Fig. 3

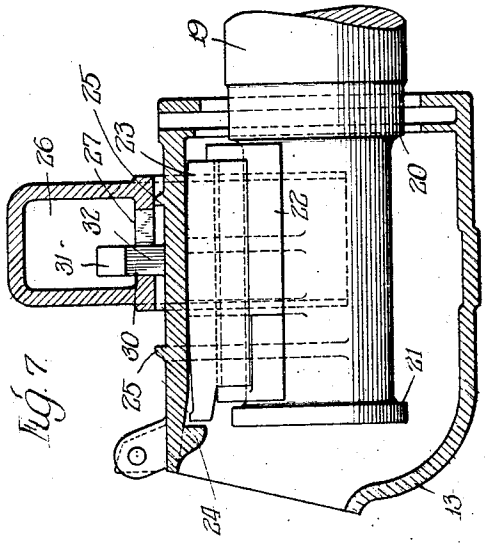


Fig. 7

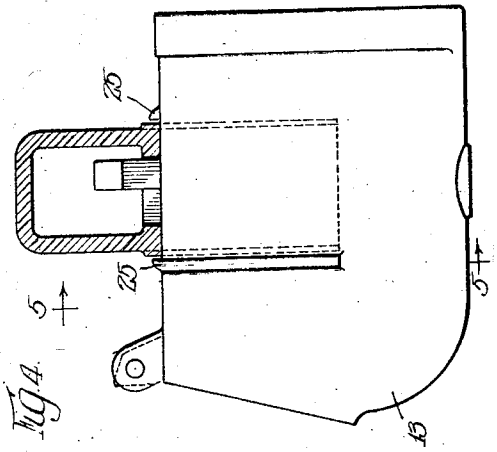


Fig. 4

Witness:
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Patented July 26, 1927. 1,636,767

UNITED STATES PATENT OFFICE.

HARRY C. DREIBUSS, OF ST. LOUIS, MISSOURI, ASSIGNOR, BY MESNE ASSIGNMENTS, TO SCULLIN STEEL CO., OF ST. LOUIS, MISSOURI, A CORPORATION OF DELAWARE.

SEPARABLE JOURNAL BOX.

Application filed April 2, 1926. Serial No. 99,278.

The present invention relates to separable journal boxes.

More particularly the present invention relates to journal boxes such as are used in connection with railroad trucks. The side frames of railroad trucks have commonly been made with the journal boxes thereof integral with said side frames. In many cases it is convenient, however, to have the journal boxes separable from the side frames. An object of the present invention is to provide a construction whereby such separability may be provided without danger of accidental disengagement of the journal boxes from the side frames.

A further object is to provide a simple structure which is sturdy and safe and which facilitates the removal of the car wheels when such removal is desired.

A further object is to provide a separable journal box which is well adapted to meet the needs of commercial service.

Further objects will appear as the description proceeds.

Referring to the drawings—

Figure 1 is a view in side elevation of a side frame having separable journal boxes mounted in cooperative relationship therewith, which side frame and journal boxes embody the principles of the present invention;

Figure 2 is a sectional view taken along the plane indicated by the arrows 2—2 of Figure 1;

Figure 3 is a sectional view taken along the plane indicated by the arrows 3—3 of Figure 1;

Figure 4 is a view partly in section showing the interlocking connection between the side frame and the improved journal box;

Figure 5 is a sectional view taken along the plane indicated by the arrows 5—5 of Figure 4;

Figure 6 is a bottom plan view of a portion of one of the side frames with the journal box removed therefrom;

Figure 6ª is a view similar to Figure 6 but showing a corresponding portion of the side frame on the opposite side of the truck; and

Figure 7 is a sectional view taken along the car axle illustrating the parts in intermediate position when the journal box is being separated from the side frame.

Referring first to Figures 1 and 2, the numeral 10 indicates a side frame having the end portions 11—11 forming jaws 12—12 for the reception of the journal boxes 13—13. Two of said side frames 10—10 are provided, which receive between them the bolster 14 and the spring plank 15. Showing of the springs commonly disposed between the spring plank and the bolster is omitted for purposes of clarity. No novelty is claimed for the bolster 14, but it may be explained briefly that said bolster may have shoulders 16—16 which cooperate with the side frames 10—10 to aid in holding said side frames in spaced relationship with one another. The spring plank 15 also serves to hold the side frames 10—10 in proper spaced relationship, and for this purpose said spring plank is provided adjacent to each of its extremities with apertures indicated by the numerals 17—17, which receive lugs 18—18 on the side frames for holding said side frames square with one another.

The numeral 19 indicates one of the car axles. Said axle is provided with the shoulder 20 and the collar 21, which receive between them the brass 22. Mounted upon the brass 22 is the usual wedge 23, which under service conditions supports the journal box 13. The journal box may be provided on the interior thereof with the lug 24 for preventing the accidental displacement of the wedge 23. The upper portion of the journal box 13 is provided with the spaced gibs 25—25, which under normal conditions receive between them the corresponding portion of the side frame 10.

As best shown in Figures 4 and 7, that portion of each of the side frames 10 which lies above the journal boxes is in the form of a box section, which box section is indicated by the numeral 26. The bottom wall 27 of each of said box sections is provided with a T-shaped slot, best illustrated in Figure 6, said T-shaped slot comprising the aperture 28 arranged longitudinally of the corresponding side frame 10 and the aperture 29 arranged at right angles to the aperture 28. Projecting upwardly from the top of each of the journal boxes 13 is a projection 30 of T-shaped conformation, the head of said T-shaped conformation being disposed longitudinally of the corresponding side frame, which is to say—transversely to the axis of the corresponding car axle. The head portion 31 of the projection 30 and the lug por-

tion 32 thereof are of a size to cooperate with the T-shaped slot comprising the communicating apertures 28 and 29 in the end wall of the side frame. When the head portion 31 of the projection 30 is in registry with the aperture 28 in the under side of the side frame, said projection 31 may pass through said aperture 28. When, however, the head portion 31 of the projection 30 is disposed above the material defining the walls of the aperture 29, vertical movement between said head portion 31 and said side frame is limited, by reason of engagement of said head portion 31 with the walls defining said aperture 29.

Figures 4 to 7, inclusive, show the details of the journal boxes and the side frame at only one side of the truck. It will be clear, however, that in order to remove any of the journal boxes 13 from its normal position, the side frame may be lifted to an extent necessary to clear the gibs 25—25 and to permit the removal of the wedge 23 and the brass 22. When the brass and wedge have been removed, the journal box may be manipulated to a position wherein the head portion 31 of the projection 30 registers with the aperture 28 in the under side of the side frame. Further raising of the side frame will free said side frame from said journal box, which may then be removed from the truck.

When it is desired to reattach the journal box to the side frame, a reversal of the separating motions above referred to will be had, that is to say—with the frame raised, the journal box will be mounted with the projection 30 disposed with the head portion 31 thereof in abutting relationship (in a vertical direction) with the walls defining the aperture 29 in the under side of the side frame. The brass and wedge will then be inserted, and the frame allowed to move down to its normal operative position.

As indicated in Figures 6 and 6a, the apertures 29 on the under side of the side frames extend inwardly from the corresponding apertures 28 on both sides of the truck, by reason of which fact, the direction of lateral movement for accomplishing disengagement of a journal box at one side of an axle is opposite to the direction of lateral movement for accomplishing disengagement of the journal box at the other end of said axle. By reason of this fact, accidental disengagement of the journal boxes from the side frame is prevented, even when the side frames have been lifted, either by means of a jack or by means of a crane, or when said side frames have been raised for any other reason, as, for example, in a wreck. This freedom from accidental separation of the journal boxes from the side frames results from the fact that the side frames are tied together by means of the spring plank and bolster, as above referred to. If when the side frames are lifted there should be a tendency for one of said side frames to swing laterally, the other side frame would be constrained to swing laterally to the same extent. By reason of the engagement of the projections 30—30 of the journal boxes with the cooperating parts of the side frames, said journal boxes would also be swung to the same extent, and by reason of the engagement of the brass 22 with the shoulder 20 and collar 21 of the car axle, the entire truck would be constrained to swing to the same extent, whereby no relative movement in a lateral direction could be had between any one of the journal boxes and its corresponding side frame. Therefore, the head portion 31 of the projection 30 could not accidentally be brought into registry with the aperture 28 on the under side of the side frame.

By reason of the present invention a construction is provided which is safe against accidental displacement, but which permits ready separation and replacement when desired.

Though a preferred embodiment of the present invention has been described in detail, it will be clear that many modifications will occur to those skilled in the art. It is intended to cover all such modifications that fall within the scope of the appended claims.

What is claimed is—

1. In combination, a pair of side frames, means cooperatively associated with said side frames for holding same in spaced relationship with one another, and separable journal boxes for supporting said side frames, said boxes and said side frames having interfitting parts, said interfitting parts associated with each of said journal boxes comprising a projection mounted upon the top of one of said journal boxes, said projection having an undercut head adapted to be disposed within the outline of its corresponding side frame, said frames being provided with shoulders adapted to abut said undercut heads in the event of relative vertical movement between said frames and said journal boxes, said shoulders being disposed in positions requiring mutually opposite directions of movement of said boxes transversely of said frames to permit said undercut heads to clear said shoulders.

2. In combination, a side frame and a separable journal box cooperatively associated therewith, said journal box being provided with a T-shaped projection, said side frame being provided with a T-shaped slot for receiving said projection, the head portion of said T-shaped projection being of a size to have abutting relationship with the walls defining the leg of the T-shaped slot in said side frame.

3. In combination, a pair of side frames,

a spring plank for holding said side frames in spaced relationship with one another, a car axle, journal boxes at the two ends of said axle, brass and wedge means for preventing relative axial movement between said axle and said journal boxes when said brass and wedge are in their normal positions, said journal boxes being provided with gibs for receiving said side frames, each of said side frames and said journal boxes being provided with interfitting parts at the upper portions of said journal boxes, said interfitting parts being arranged to require movement of the two journal boxes at the ends of said axle in opposite directions to permit disengagement of said journal boxes from said side frames, said interfitting parts in cooperation with each of said journal boxes comprising a projection extending upwardly from the upper side of each journal box, which projection comprises an upwardly extending shank and a head portion, which head portion projects laterally from said shank in a direction parallel with the length of said side frames, each of said side frames being provided with apertures in its under side for receiving said projections, part of each of said apertures being of a size to receive its corresponding shank but too narrow to pass the corresponding head portion, another part of each of said apertures being of a size to pass the corresponding head portion in a vertical movement of said side frame relative to said journal box.

4. In combination, a side frame, a separable journal box cooperatively associated with said side frame, said box and said side frame having interfitting parts, said interfitting parts comprising a projection mounted on the top of said journal box, said projection having an undercut head adapted to be disposed within the outline of said side frame, said side frame being provided with a shoulder adapted to abut said undercut head, said shoulder being defined by an aperture disposed laterally of said shoulder transversely of said frame, said aperture being of a size to pass said shouldered head.

5. In combination, a side frame and a separable journal box, said journal box having a projection extending upwardly from its upper side, which projection comprises an upwardly extending shank and a head portion, which head portion projects laterally from said shank in a direction parallel with the length of said side frame, said side frame having an aperture in its under side, part of which aperture is of a size to receive said shank but too narrow to pass said head portion, another part of said aperture being of a size to pass said head portion in a vertical movement of said side frame relative to said journal box, and gibs upon said journal box cooperating with said side frame to prevent movement of said journal box transversely of said side frame when said side frame is in normal position upon said journal box.

6. In combination, a pair of side frames, and journal boxes cooperatively associated therewith, each of said journal boxes having a shouldered projection on its upper side, each of said side frames being provided with shouldered apertures for receiving said projections, the walls of said apertures being positioned to limit vertical movement of said side frame relative to said projections when the corresponding journal box is in one position laterally of said side frame and each of said shouldered apertures being of a size to permit free passage of the projection on the corresponding journal box in another position of said journal box transversely of its corresponding side frame.

Signed at St. Louis, Missouri, this 30th day of March, 1926.

HARRY C. DREIBUSS.