G. G. FLOYD.

CAR TRUCK SIDE FRAME AND JOURNAL BOX.

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1,010,034. Patented Nov. 28, 1911.

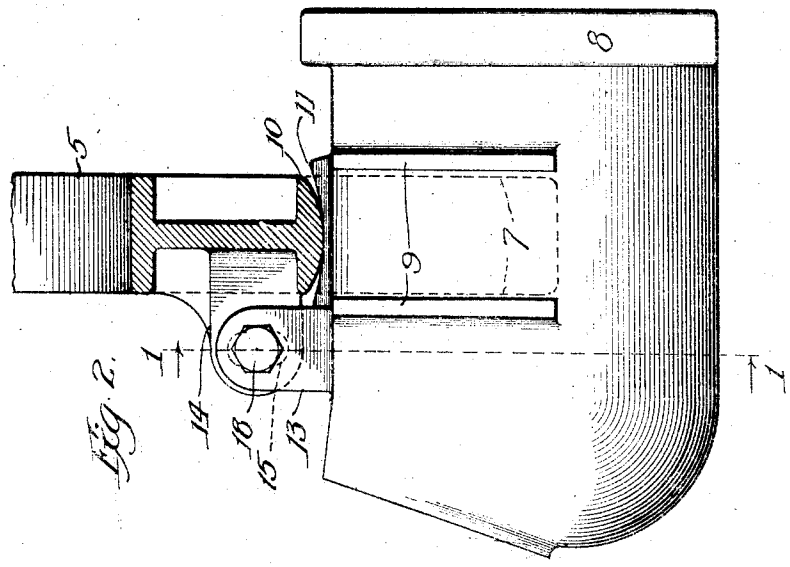


Fig. 2.

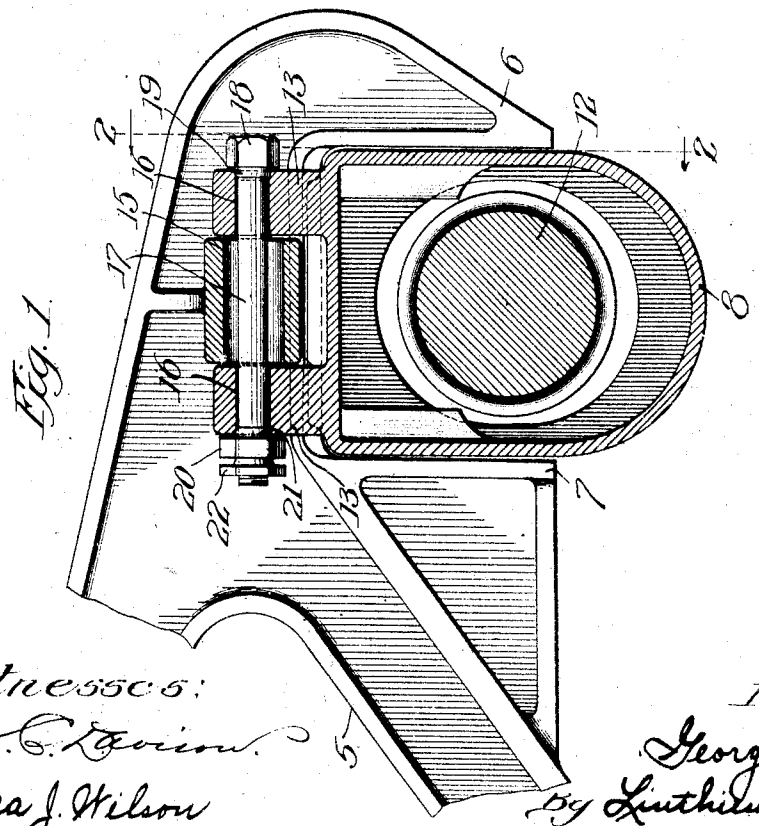


Fig. 1.

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UNITED STATES PATENT OFFICE.

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CAR-TRUCK SIDE FRAME AND JOURNAL-BOX.

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To all whom it may concern:

Be it known that I, GEORGE G. FLOYD, a citizen of the United States, residing at Granite City, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Car-Truck Side Frames and Journal-Boxes, of which the following is a specification.

This invention relates to railway car trucks and more particularly to trucks which are constructed so that the journal boxes may be readily removed from the side frames.

One of the objects of the present invention is the provision of a connection between the side frames and the journal boxes which permits the boxes to automatically adjust themselves longitudinally of the axles, *i. e.*, transversely of the side frames so that a uniform bearing is secured throughout the full length of the journal portion of the axle, this connection being so constructed and arranged that it will not interfere with the normal adjusting movements of the box relatively to the frame but will act in cases of emergency to prevent the boxes from separating from the frame. Furthermore the connections between the boxes and frames are so constructed that there is no wear upon these parts during the ordinary adjusting movements of the box, and also so that there is no tendency for the connections to work loose under any conditions of service.

Other objects and advantages of the present invention will be made apparent from a consideration of the following description when taken in connection with the accompanying drawings illustrating one preferred embodiment thereof.

In the drawings—Figure 1 is a fragmentary elevation of a portion of a car truck showing one end of the side frame in elevation and the journal box in section, this view being taken substantially on the line 1—1 of Fig. 2; and Fig. 2 is a side elevation showing the side frame in section, this view being taken substantially on the line 2—2 of Fig. 1.

Referring to the drawings 5 designates the side frame of a truck which may be of any preferred or desired general shape, having at each end depending portions 6 and 7 forming rigid jaws spaced apart to receive a journal box 8 between them. The sides of the journal box are provided with spaced ribs 9 between which the jaws 6 and 7 are adapted to enter. It will be apparent from Fig. 2 that the jaws fit loosely between the ribs 9 so as to permit limited movement of the box relatively to the side frame, while at the same time effectually preventing undue movement of the box transversely of the frame. It will also be noted that the jaws 6 and 7 disposed upon either side of the box prevent displacement of the box longitudinally of the frame.

In the present modification the side frame rests loosely upon the journal boxes and that portion of the frame intermediate the jaws 6 and 7 is rounded or convexed at 10 and is adapted to loosely rest upon a seat or saddle 11 so as to permit rocking movement between the journal box and the frame. It will be apparent from Fig. 2 that the saddle 11 is formed integral with the top of the journal box and its upper face is concave to receive the convex bearing surface of the side frame. The rocking movement of the journal box transversely of the frame is permitted by reason of the fact that the curvature of the bearing face of the side frame is greater than the curvature of the supporting face of the saddle. This rocking movement of the journal box transversely of the side frame is provided for the purpose of securing a uniform bearing throughout the length of the bearing brasses (not shown) on the journals of the axles 12.

While a limited rocking movement between the journal boxes and the side frame is desirable, as above indicated, it is also very desirable that the journal boxes, axles and wheels shall be secured to the side frame so that they will be carried therewith in case a car truck becomes derailed or upset, rather than to permit a separation of the parts of the truck. For the purpose of securing the frame and journal boxes together I have provided each journal box with upstanding ears 13 spaced apart and disposed adjacent the outer side of the saddle 11. The side frame above the bearing face 10 is provided with a laterally projecting lug 14 adapted to project between the ears 13 when the journal box and side frame are in normal operative position. This lug is provided with an elongated aperture or slot 15, the longer axis of which is disposed in a plane coincident with the longitudinal

axis of the ears 13 which are also provided with apertures or perforations 16 disposed in alinement with the longitudinal axis of the slot 15. A bolt 17 is passed through the apertures of both ears 13 and also through the slots 15 of the laterally projecting lug 14, the shank portion of such bolt being of a less diameter than that of the apertures 15 and 16. In order to maintain this bolt centrally disposed with relation to such apertures so that it may be out of contact with the walls of the slot 15, and so that it will be unnecessary to drill or finish the holes 16, I provide the bolt at one end with a head 18 and adjacent to the side of such head with a conical portion 19 shaped to conform to and adapted to fit in the end of the aperture through one of the ears 13. Upon the threaded opposite end of the bolt there is screwed the nut 20 provided with a conical portion 21 adapted to fit in the aperture 16 of the other ear, the outer face of the nut being adapted to receive the conical extension of a locking nut 22.

It will be evident that when the parts are assembled and the bolt is in place with the nuts thereon screwed up tightly, the conical parts 19 and 21 act to maintain the bolt centrally with relation to the apertures 16 and the slot 15, and wholly out of contact with the walls of the slot. It will also be apparent that the bolt will not interfere with the normal rocking movements of the journal box transversely of the frame but will act in cases of emergency to prevent the box and frame from becoming drawn apart or separated.

When the parts are assembled as shown on the drawings all the weight of the car body is transmitted to the journal boxes through the side frame which rests loosely in the saddles 11 formed on the top of the journal boxes. Under service the journal boxes can rock transversely of the side frame by reason of the loose engagement between the bearing surface 10 of the side frame and the journal box saddles, the rocking movement permitting the journal boxes to adjust themselves longitudinally of the axles so as to secure a uniform wearing on the journal brasses. During these normal rocking and adjusting movements the bolt 17 is not in contact with the walls of the slot 15 with which the laterally projecting lug 14 is provided and consequently the adjusting movements of the boxes are not hampered or interfered with by the emergency bolt nor is the bolt subjected to wear or strain during the normal running of the car. If, however, the truck should become derailed or upset in such a manner as to tend to separate the side frame from the journal boxes, the emergency bolt by reason of its engagement with the lug 14 will prevent the journal boxes and axles from withdrawing from the frame, thereby preventing separation of the parts.

While I have shown and described in detail one preferred embodiment of my invention it will be apparent that it is susceptible of considerable change in the size, shape, proportion and arrangement of the various parts without departing from the spirit of the invention or sacrificing any of the material advantages thereof.

I claim:

1. In a railway car truck, the combination of a side frame, a journal box, an emergency means to prevent separation of said frame and box, said means being normally out of contact with said frame, substantially as described.

2. In a railway car truck, the combination of a side frame, a journal box, an emergency means to prevent separation of said frame and box, said means being wholly supported by said box and normally out of contact with said frame, substantially as described.

3. In a railway car truck, the combination of a side frame, a journal box having a saddle to provide a rocking bearing between said frame and box, and means carried by said box laterally of the bearing to prevent separation of said frame and box, substantially as described.

4. In a railway car truck, the combination of a side frame provided with a laterally extending lug, a journal box provided with upwardly extending ears disposed on either side of said lug, and means for connecting said side frame and journal box through said lug and ears to prevent separation of said frame and box, substantially as described.

5. In a railway car truck, the combination of a side frame provided with a curved bearing surface, a lug projecting laterally from said frame, a journal box provided with a saddle to receive said curved bearing face, ears arranged upon said box on either side of said lug, and means providing a lost motion connection between said ears and lug permitting a rocking adjustment of the box transversely of the frame but preventing separation of said frame and box, substantially as described.

6. In a railway car truck, the combination of a side frame, a lug projecting laterally from said frame and having a transversely disposed vertically elongated slot, a journal box having a rocking adjustment on the frame, apertured ears arranged upon said box in alinement with said slotted lug, and a bolt passing through said ears and lug and normally out of engagement with said lug whereby to permit rocking adjustment of the box relatively to the frame but to prevent separation of said box and frame, substantially as described.

7. In a railway car truck, the combination of a side frame having spaced jaws, a convex bearing surface intermediate said jaws, and a laterally projecting lug provided with an elongated aperture, a journal box having a saddle to support said convex bearing surface and spaced ribs adapted to loosely receive said jaws on the side frame and having upwardly projecting ears provided with apertures alined with the aperture in said lug, and a bolt passed through said ears and lug but normally out of engagement with said lug whereby to prevent separation of the frame and box while permitting rocking adjustment of the box transversely of the frame, substantially as described.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."