G. M. EATON.

VEHICLE.

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1,155,224. Patented Sept. 28, 1915.

Fig. 1.

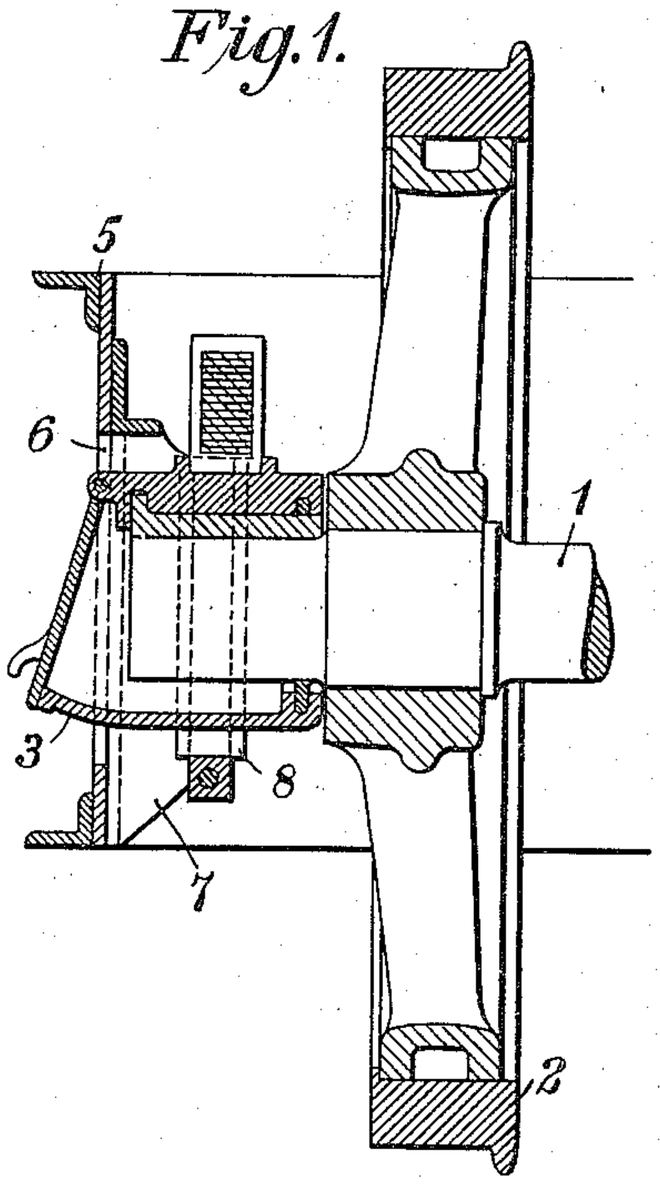


Fig. 2.

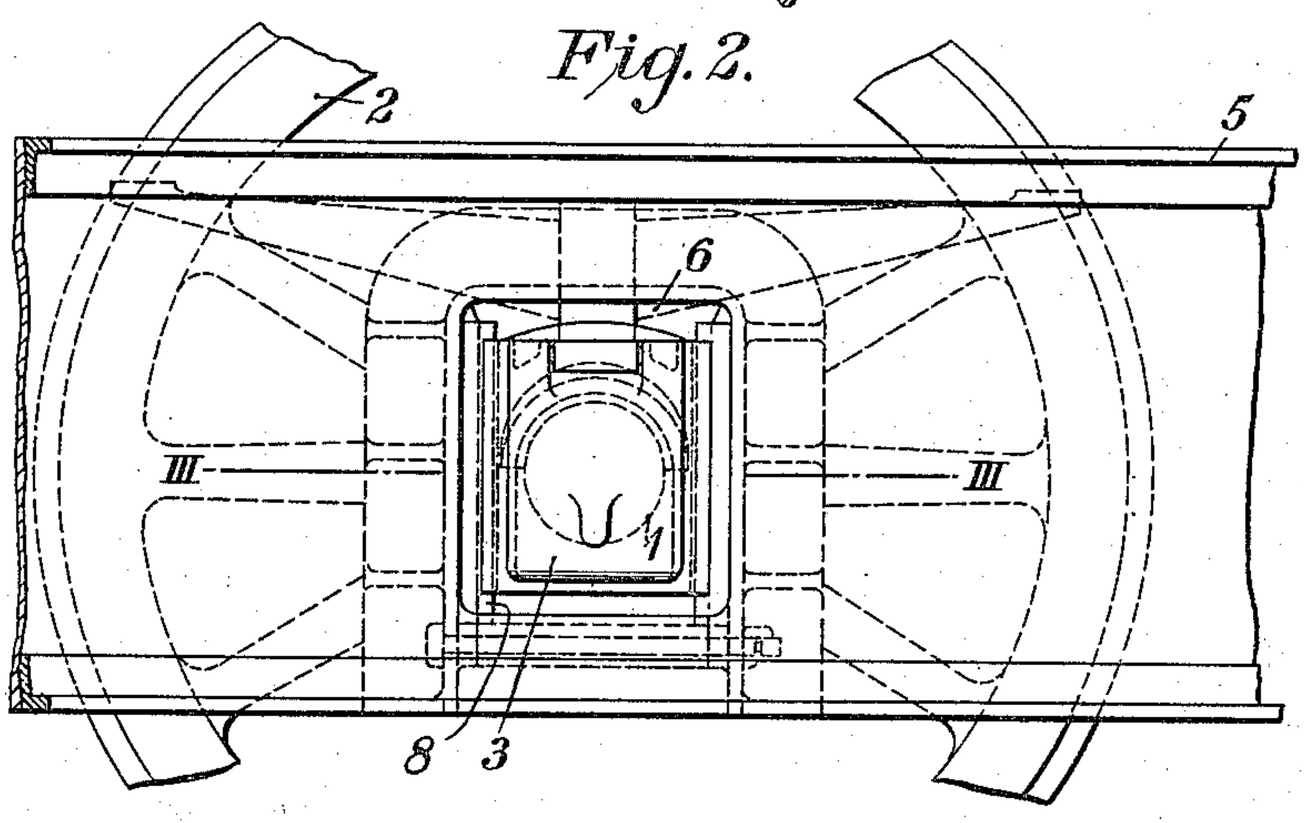
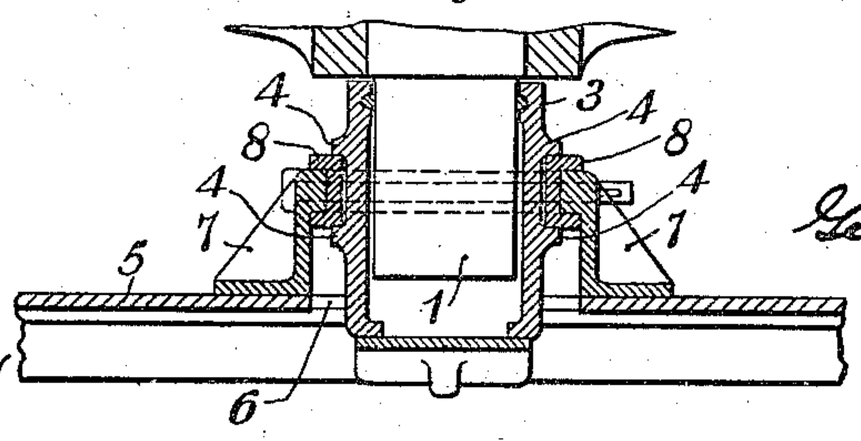


Fig. 3.



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VEHICLE.

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To all whom it may concern:

Be it known that I, GEORGE M. EATON, a citizen of the United States, and a resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Vehicles, of which the following is a specification.

My invention relates to railway and similar vehicles, and particularly to the side frames and journal boxes thereof and other parts that are associated therewith.

Though not limited to such a specific use, my invention is particularly applicable to railway vehicles having side frames between which the axles are entirely located, and it has for one of its objects to construct and arrange the parts thereof so that the journal boxes may be readily and conveniently removed from, and replaced upon, the axles.

Another object of my invention is to improve and strengthen the construction of plate side frames and to provide a rigid frame, the lower edge of which is unbroken by the usual pedestal openings. Moreover, I provide inclosed interior openings in the plate side frame to permit of the longitudinal removal of the journal boxes.

Figure 1 of the accompanying drawings is a sectional view of a part of a locomotive that embodies my invention. Fig. 2 is a side view of a part of the locomotive of Fig. 1, and Fig. 3 is a sectional view of some of the parts of the locomotive upon the line III—III of Fig. 2.

The vehicle comprises a plurality of axles 1 (only one of which is shown) that carry wheels 2, and the ends of which are provided with journal boxes 3 having vertical ribs 4 that form guide channels. The vehicle also comprises a frame having side members 5 preferably in the form of plate girders, between which the axles 1 are entirely located. The webs of the girders or side frames 5 are provided with inclosed internal openings 6 that are located opposite the ends of the axles and through which the outer ends of the journal boxes 3 project. Said openings 6 are somewhat larger than the outer dimensions of the journal boxes 3, whereby the removal of the boxes through the openings is permitted.

Secured to, and projecting from, the inner faces of the side frames 5 are guide brackets or pedestals 7 having guide portions which are spaced apart a distance at least equal to, and preferably slightly greater than, the greatest width of the journal boxes 3, in order that said brackets shall not interfere with movement of the journal boxes longitudinally of the axles. The spaces between the brackets 7 and the guide channels 4 of the journal boxes 3 are occupied by removable channel-shaped shoes 8 that are secured to said brackets 7 and serve to maintain the journal boxes 3 and the brackets 7 in proper relative positions.

The structure set forth permits of ready inspection of the journal boxes 3 and the parts inclosed thereby, and it also permits of removing the journal boxes 3 from the axles 1 through the openings 6 in the side frames 5 and avoids the necessity of dropping the axles out of the frame whenever it is desired to renew or repair the journal boxes 3 or any of their parts. The removal of the journal boxes 3 may be effected by first relieving the boxes of the weight of the locomotive, next detaching the shoes 8 from the guide brackets 7, then sliding said shoes vertically from between the brackets 7 and the journal boxes 3, and finally sliding the journal boxes 3 from the axles 1 through the openings 6 in the side frames or girders 5.

While, as here shown, the side members of the locomotive are located entirely beyond the ends of the axles, it will be understood that the invention is not limited in its application to such specific structures, but may be employed generally where found useful.

I claim as my invention:

1. A vehicle truck comprising an axle, journal boxes upon the ends thereof, and a frame having girder side members between which the axle is located, the said girders being provided with apertures adjacent to the ends of the axle through which the journal boxes project and may be removed longitudinally of the axle.

2. A vehicle truck comprising an axle, journal boxes upon the ends thereof, and a frame having girder side members between which the axle is located, the said girders being provided with apertures having integral top, bottom and side walls and located adjacent to the ends of the axle to permit removal of the journal boxes therethrough.

3. A vehicle truck comprising an axle, journal boxes upon the ends thereof, a frame

having side members between which the axle is located, journal box guide brackets carried by the side members of the frame, and shoes for the said guide brackets the removal of which permits removal of the journal boxes longitudinally of the axle.

4. A vehicle truck comprising an axle, journal boxes for said axle having side projections, a frame having side members between which the axle is located and provided with apertures having integral top, bottom and side walls between which the journal boxes may be removed, journal box guide brackets carried by each of said side members and spaced apart a distance greater than the width of the journal box, and locking shoes removably fastened to said brackets and located between the side projections of said journal boxes.

5. A vehicle truck comprising an axle, a journal box having side projections, a frame provided with an aperture having integral top, bottom and side walls and so located as to permit removal of the journal box, guide members that are spaced apart a distance greater than the width of the journal box, and locking shoes interposed between the side projections of the journal box and removably fastened to the guide members.

6. A vehicle truck comprising an axle, a journal box for said axle, a frame provided with an opening having integral top, bottom and side walls and so located as to permit removal of the journal box, guide members that are spaced apart a distance greater than the width of the journal box, and vertically removable locking shoes that are fastened to the guide members and are horizontally interlocked with the journal box.

7. A vehicle truck comprising an axle, a journal box for said axle having guide members, a frame provided with an opening having integral top, bottom and side walls and so located as to permit removal of the journal box, guide members spaced apart a distance greater than that between outer faces of the journal box guide members, and vertically removable locking shoes interposed between the said guide members of the frame and those of the journal box.

8. In a vehicle truck the combination with side frames having openings therein, and an axle disposed between said side frames, of journal boxes associated with the respective ends of said axle and adapted to coöperatively engage said side frames within the longitudinal planes thereof and to be removed longitudinally of the axle through said openings.

9. In a vehicle truck the combination with side frames having openings therein, and an axle transversely disposed with respect thereto and in alinement with said openings, of journal boxes associated with the respective ends of said axle, and means associated with said side frames for coöperatively engaging said boxes inside the planes of the side frames, said boxes being longitudinally removable from the axle through the adjacent side frame openings.

10. In a vehicle truck, the combination with side frames having opposite interior inclosed openings therein, and an axle disposed between said side frames and having its respective ends located adjacent to said opposite frame openings, of journal boxes associated with the ends of said axle and adapted to be longitudinally removed from the axle through said frame openings.

11. In a vehicle truck, the combination with side frames having openings therein, and inwardly projecting guide brackets secured to said side frames on the respective sides of said openings, of an axle disposed between said side frames, and journal boxes associated with the ends thereof and coöperating with the guide brackets and adapted for removal longitudinally of said axle through said frame openings.

12. In a vehicle truck, the combination with an axle, and a plurality of journal boxes associated with the respective ends thereof, of side frames disposed substantially outside of said boxes and having openings therein to permit of the longitudinal removal of said boxes, and means associated with said side frames and located between them for coöperatively engaging said journal boxes and maintaining said boxes in position.

13. In a vehicle truck, the combination with an axle, and a plurality of journal boxes associated with the respective ends thereof, of side frames disposed substantially outside of said boxes and having openings therein to permit of the longitudinal removal of said boxes, inwardly projecting journal box guide members that are spaced apart a distance greater than the width of the journal boxes, and removable shoes interposed between said boxes and said guide members.

14. In a vehicle truck, the combination with an axle, and a plurality of journal boxes associated with the respective ends thereof, of side frames disposed substantially outside of said boxes and having openings therein to permit of the longitudinal removal of said boxes, guide members for said journal boxes that are spaced apart a greater distance than the width of said boxes and are associated with said side frames on the opposite sides of said openings, removable shoes interposed between said guide members and said boxes, and means for normally locking said shoes in position.

15. In a vehicle truck, the combination with a plate side frame having an interior inclosed opening therein, and a journal box disposed substantially on the inside of said

frame and operatively associated therewith and adapted to be outwardly removed through said inclosed opening.

16. In a vehicle, the combination with a plate side frame having an inclosed opening therein between the upper and lower unbroken edges thereof, of a journal box located substantially on the inside of said frame and adjacent to said inclosed opening and adapted to be removed outwardly through said opening.

In testimony whereof, I have hereunto subscribed my name this 18th day of August, 1910.

GEORGE M. EATON.

Witnesses:
C. W. McGHEE,
R. J. DEARBORN.