H. E. DOERR.

RAILWAY CAR TRUCK.

APPLICATION FILED MAY 25, 1914.

1,117,170. Patented Nov. 17, 1914.

Fig. 1.

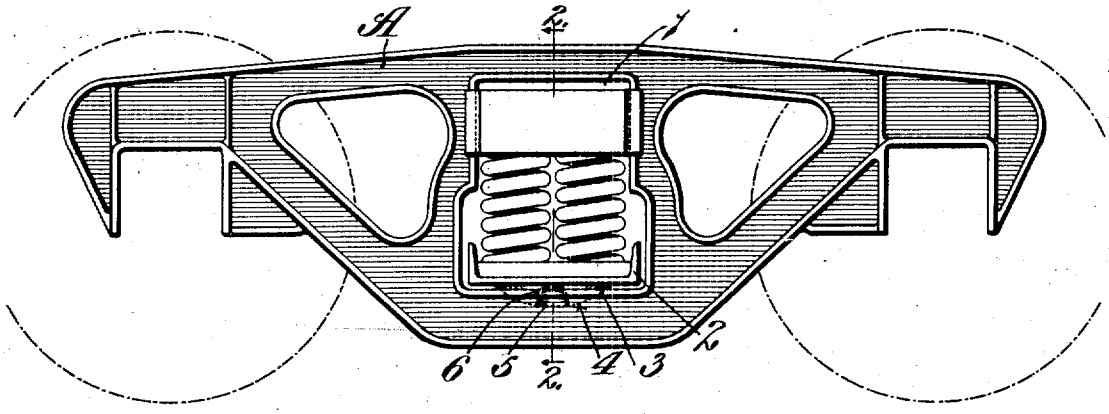


Fig. 2.

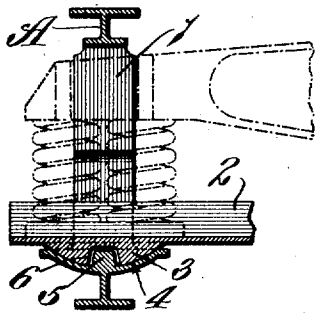


Fig. 3.

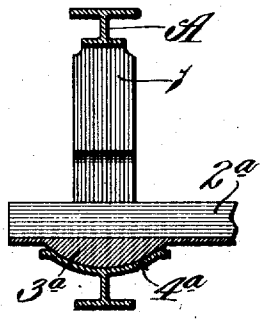


Fig. 4.

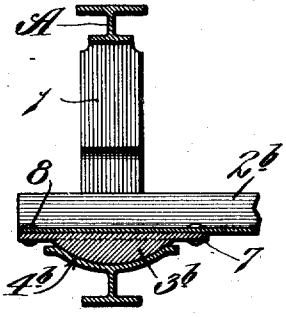


Fig. 5.

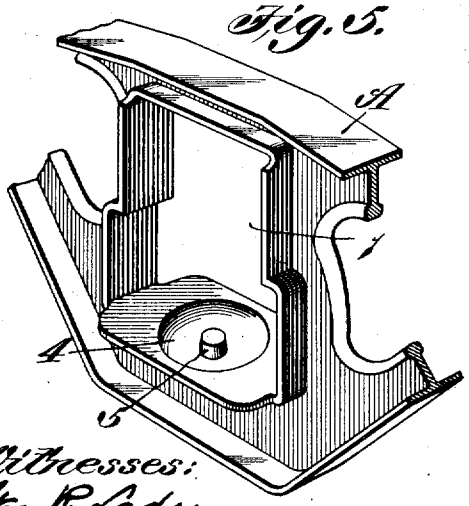
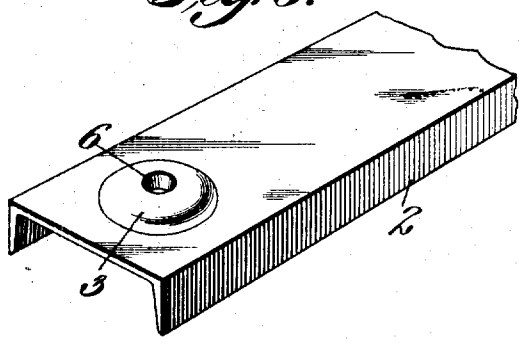


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

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RAILWAY-CAR TRUCK.

1,117,170. Specification of Letters Patent. Patented Nov. 17, 1914.

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To all whom it may concern:

Be it known that I, HARRY E. DOERR, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Railway-Car Trucks, 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.

This invention relates to car trucks, and has for its main object to provide a car truck in which the side frames are connected to the spring plank in such a manner that the side frames are free to rock or twist slightly independently of said spring plank.

Another object is to provide a car truck in which the spring plank is efficiently connected to the side frames without the use of bolts, rivets or similar fastening devices.

Other objects and desirable features of my invention will be hereinafter pointed out.

Figure 1 of the drawings is a side elevational view of a car truck constructed in accordance with my invention. Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1. Figs. 3 and 4 are transverse sectional views similar to Fig. 2, illustrating slightly modified forms of my invention. Fig. 5 is a perspective view of a portion of the side frame; and Fig. 6 is an inverted perspective view of a portion of the spring plank.

Referring to Figs. 1, 2, 5 and 6 of the drawings which illustrate the preferred form of my invention, A designates a cast metal side frame provided with a bolster-receiving opening 1, and 2 designates the spring plank that extends between a pair of side frames which constitute a complete truck. In the drawings I have illustrated only one side frame and a portion of the spring plank, it being understood that the connection between each of the side frames and the spring plank in a complete truck is the same.

Briefly stated, my invention consists in providing a convex protuberance or crowned boss on the lower face of the spring plank that fits into and coöperates with a correspondingly curved or concave recess formed in the lower portion of the bolster-receiving opening of the side frame. In the preferred form of my invention herein shown the spring plank is formed of cast metal and is provided adjacent each end with an integral convex boss 3 that fits in and coöperates with a correspondingly shaped concave recess 4 formed in the lower portion of the bolster-receiving opening 1 of the side frame A. By constructing the spring plank and side frames in the manner just described the side frames are held spaced apart at a proper distance and the weight of the bolster through the medium of the bolster-supporting springs keeps the boss 3 properly seated in the recess 4, the spherical surfaces of said boss and recess allowing the side frames to twist or rock slightly with respect to each other, due to any inequalities in the road bed, without exerting any twisting strain on the spring plank.

Under certain conditions in service, such as in the case of derailment of the truck, it may be found desirable to have some means for preventing the spring plank from being forced transversely of the truck far enough to throw the boss 3 out of its seat 4, and to this end I provide a comparatively small projection 5 in the base of the recess 4 that fits loosely in a recess 6 formed in the boss 3. As shown clearly in Figs. 1 and 2 of the drawings, there is sufficient play between the projection 5 and the side walls of the recess 6 to allow a slight movement of the side frame with respect to the spring plank, but said projection will prevent the spring plank from being forced laterally or overthrown out of its normal position in said side frame.

From the foregoing it will be seen that I have produced a car truck wherein the side frames are permitted to rock independently of the spring plank and the connection between the side frames and the spring plank is such as to permit of the ready removal or insertion of the spring plank from or into operative position in the side frame without the use of bolts, rivets or similar fastening devices. The boss 3 and recess 4 are of ample proportions to insure sufficient strength in the truck at the point of connection between the spring plank and the side frames, and a car truck embodying the features herein described can be produced at a lower cost of manufacture than the old styles of trucks, owing to the fact that there

are no separate parts added to the truck in order to obtain the desirable results of this invention.

In some instances the projection 5 and corresponding recess 6 can be eliminated without sacrificing any of the good features of my invention, and in Fig. 3 I have shown such a construction wherein the spring plank 2^a is provided with a smooth or imperforate convex boss 3^a that coöperates with a correspondingly shaped depression 4^a formed in the lower portion of the bolster-receiving opening 1 of the side frame A.

In Fig. 4 I have illustrated a construction wherein the body portion of the spring plank is formed from a commercially rolled channel 2^b, and the convex bosses 3^b are cast integral with plates 7 that are attached to the underside of the channel 2^b in any suitable manner, such as by means of the rivets 8.

Having thus described my invention, what I claim is:

1. In a car truck, a side frame, a spring plank, and a substantially semi-spherical portion on one of said members that coöperates with an oppositely curved portion on the other of said members.

2. In a car truck, a side frame, a spring plank, and a substantially semi-spherical boss on said spring plank that coöperates with a correspondingly shaped seat formed in said side frame.

3. In a car truck, a side frame, a spring plank, and a universal joint between said side frame and spring plank.

4. In a car truck, a side frame provided with a bolster-receiving opening, said bolster-receiving opening having an approximately semi-spherical depression in its lower portion, and a spring plank provided with an approximately semi-spherical boss that fits in said depression.

5. In a car truck, a cast metal side frame provided with a bolster-receiving opening having a substantially semi-spherical depression in the lower portion thereof, a spring plank provided with a convex boss that coöperates with said depression, and means for preventing said spring plank from being forced laterally out of operative position with respect to said side frame.

6. In a car truck, a cast metal side frame provided with a bolster-receiving opening having a circular concave recess in the lower portion thereof, and a cast metal spring plank having an integral convex boss on the underside thereof that coöperates with said recess.

7. In a car truck, a side frame provided with a concave recess, a spring plank provided with a convex boss that fits in said recess, and a projection in said recess that coöperates with a hole formed in said boss.

8. In a car truck, a side frame provided with a bolster-receiving opening, said bolster-receiving opening being provided with a circular concave depression in its lower portion, a spring plank whose lower face is spaced away from the lower portion of said bolster-receiving opening and provided with a circular boss that fits into said depression.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this twentieth day of May 1914.

HARRY E. DOERR.

Witnesses:
GEORGE R. LADSON,
GEORGE BAKEWELL.