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1,883,306

CAR CONSTRUCTION

Filed Sept. 14, 1931

Fig. 1 A

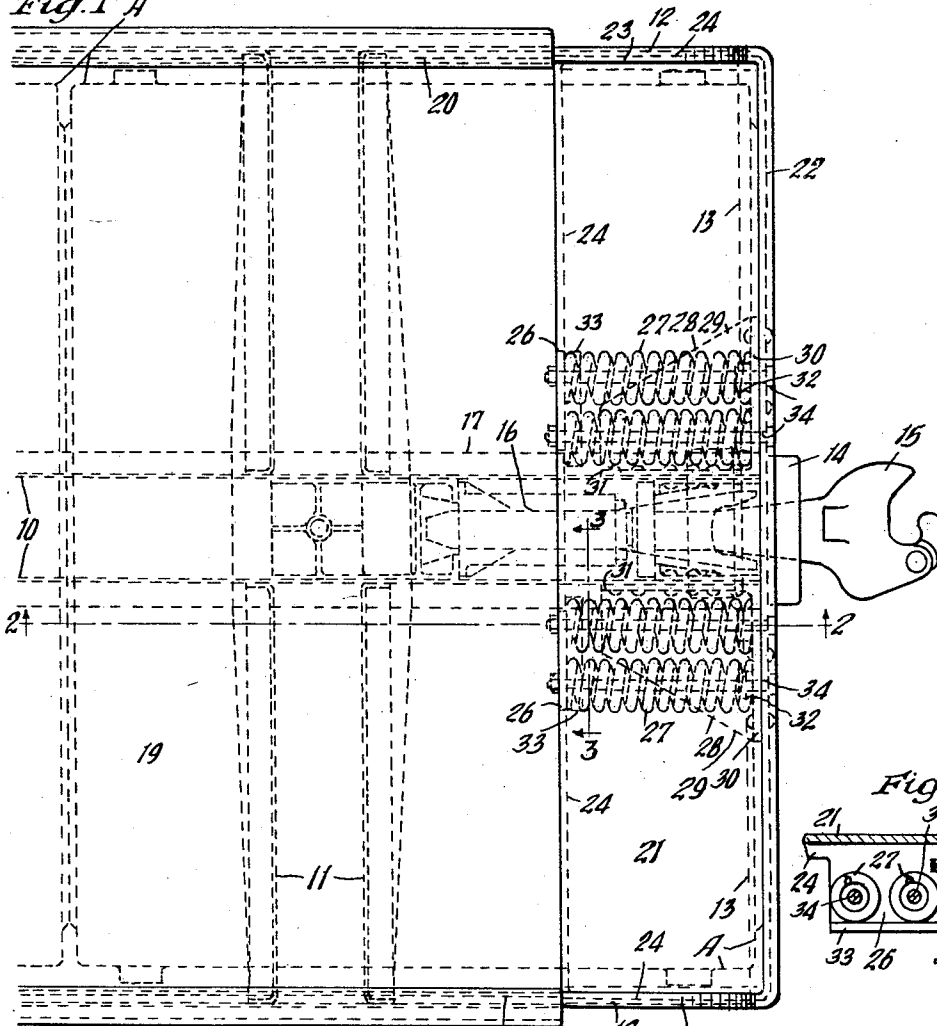


Fig. 3

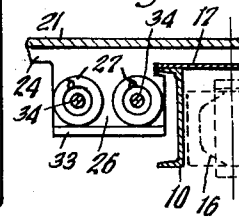
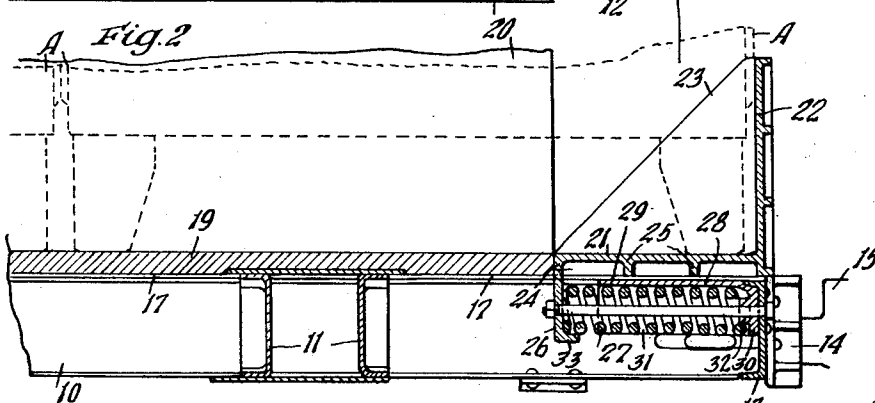


Fig. 2



Witness
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UNITED STATES PATENT OFFICE

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CAR CONSTRUCTION

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This invention relates to improvements in car construction.

One object of the invention is to provide, in a railway car structure, means reacting between the car structure and the lading for absorbing shocks imparted to the lading due to starting or stopping of the car and sudden changes in the speed of the car while in motion, thereby protecting both the car structure and the lading from damage.

Another object of the invention is to provide means of the character indicated in the preceding paragraph in the form of a resilient end member of a railway car, especially designed for use in connection with flat, gondola or box cars to provide a resilient backing for the lading, the improved end structure being particularly effective for providing a resilient backing for lading in the form of a plurality of freight container units.

Other objects of the invention will more clearly appear from the description and claims hereinafter following.

In the drawing, forming a part of this specification, Figure 1 is a top plan view of one end section of a gondola car, illustrating my improvements in connection therewith, certain parts being shown in dotted lines. Figure 2 is a longitudinal, vertical sectional view, corresponding substantially to the line 2—2 of Figure 1, the truck structure of the car being omitted in this view. And Figure 3 is a transverse, vertical sectional view, corresponding substantially to the line 3—3 of Figure 2, said view being to one side of the longitudinal center line of the car.

In said drawing, 10—10 indicate the center sills of the car, 11 the body bolster, 12—12 the side sills, and 13 the end sill to which is secured the usual striking casting 14. The coupler of the railway car is indicated by 15 and cooperates with a draft rigging 16 of well-known form. The longitudinally disposed center sills 10—10 have the usual top cover plate 17. The floor of the car proper is indicated by 19, and the side walls by 20—20.

In carrying out my invention, I provide end members at both ends of the car, which are yieldingly mounted for sliding move-

ment with respect to the car. Each end member may be in the form of a single casting or may be composed of a plurality of sections. Each end member comprises a horizontally disposed platformlike portion 21 provided at the outer end with a vertical wall 22, which is rigid therewith. The wall 22 forms in effect the end wall of the car and extends transversely of the same from one side thereof to the other. At opposite ends, the wall 22 and the platform section 21 are connected by bracing webs 23—23, which are preferably of triangular outline, as shown in Figure 2. The webs 23—23 form in effect continuations of the side walls 20—20 of the car so as to hold the lading in proper position. The end member is supported directly on the top plate 17 of the end sills. As shown, the platform member 21 has depending side and end flanges 24—24, which directly engage the top plate 17 of the center sills. The platform is preferably reinforced by depending ribs 25—25, which extend from one side to the other thereof. At the central portion of the car, the platform member 21 is provided with spaced depending vertical inner end flanges 26—26, as most clearly shown in Figures 2 and 3. These flanges form abutment means for the shock absorbing springs 27—27, which yieldingly oppose outward movement of the end member. In the normal position of the parts, the inner end edge of the platform member 21 abuts the corresponding outer end edge of the floor 19, thereby limiting inward movement of the end member. At each side of the center sills, a supporting bracket 28 is provided. This supporting bracket comprises a horizontal platelike section 29 and end and side flanges 30 and 31, which are secured respectively to the end sill and corresponding center sill. The outer end flange 30 of each bracket serves as abutment means for the outer ends of the springs 27—27. Each of the brackets has the end wall provided with inwardly projecting bosses 32—32, which engage within the corresponding ends of the coils of the springs 27—27. The flange 26 at the inner end of the platform 21 is preferably provided with an inwardly extending support-

ing shelf 33 for the corresponding ends of the springs 27—27. The springs 27—27 are held under initial compression by retainer bolts 34—34, which extend through the coils thereof and have their opposite ends anchored respectively to the flange 26 and the end sill 13. As shown in Figures 1 and 2, a plurality of freight container members A—A are loaded on the car. These containers are of well-known form and, in the present instance, are shown to be of such a size as to extend entirely across the car. Each container A is directly supported on the floor 19 of the car and the end container of the series also is supported on the platform section 21 of the corresponding end member of the car.

The operation of my improved car end construction is as follows: When the lading of the car, which as shown comprises a plurality of containers, is shifted lengthwise of the car due to either starting or stopping of the car or sudden changes in the speed of the car while in motion, the impact of the end container will be directly delivered to the end wall 22 of the car, which due to the yielding mounting of the end member will be forced outwardly and cushion the shock, thereby protecting both the lading of the car and the car structure itself. The springs 27—27 are of sufficient capacity to immediately return the end member to its normal position after the impact has been spent. In returning to the normal position, the end member will return the containers to their normal position also. As will be evident, when a plurality of containers are loaded in the car, the spring resistance means cooperating with the end members of the car will not alone serve to absorb the shock, but the frictional resistance opposing movement of the containers on the floor will also be effective in dampening the shocks.

I have herein shown and described what I now consider the preferred manner of carrying out my invention, but the same is merely illustrative and I contemplate all changes and modifications that come within the scope of the claims appended hereto.

I claim:

1. In a railway car, the combination with a sliding abutment member at each end of the car; of means for yieldingly opposing outward movement of said abutment members.

2. In a railway car, the combination with a sliding end member at each end of the car, each end member having an abutment wall for the lading of the car; of means yieldingly opposing sliding movement of said members.

3. In a railway car, the combination with an end member, including a supporting platform section and a transverse end wall rigid therewith, said end member being slidably supported on the car structure; of means

yieldingly opposing outward sliding movement of said member.

4. In a railway car including center sills, the combination with an abutment member at each end of the car slidable on said center sills; of yielding means reacting between the car underframe structure and each of said abutment members opposing outward sliding movement of said members with respect to the car.

5. In a railway car including center sills and side sills, the combination with an end member at each end of the car slidably supported on said center and side sills, said end members each having an abutment wall for the lading of the car; of means yieldingly opposing outward sliding movement of said members.

6. In a railway car including end sill members at opposite ends of the car, the combination with an end member at each end of the car, including an end wall rigid therewith and yielding means reacting between each end sill and the corresponding end member to yieldingly resist movement of said end member with respect to the car.

7. In a railway car, the combination with an end member including a supporting platform section, a transverse end wall rigid therewith, and bracing side webs at opposite ends of said supporting platform section and end wall, said webs being rigid with said end wall and platform section for bracing the same; of spring abutment means on said platform section; and spring resistance means cooperating with said abutment means and opposing movement of said end member with respect to the car.

8. In a railway car including a floor adapted to support the lading, the combination with sliding abutment members at opposite ends of the car, said abutment members engaging the outer ends of the floor to limit inward movement of said members; of means yieldingly opposing outward movement of said abutment members.

9. In a railway car including a floor adapted to support the lading, the combination with an end member at each end of the car, including a lading-supporting platform section and a transverse abutment wall rigid therewith, said platform section of each end member lying in the same plane as said car floor, said platform section having a flat abutment face at the inner end thereof normally engaging the corresponding end of the floor; and means yieldingly opposing outward sliding movement of said end members.

10. In a railway car having a supporting floor and side walls, the combination with end walls movable lengthwise of the car; of means for yieldingly opposing outward movement of said end walls.

11. In a railway car having spaced, longitudinally extending center sills and trans-

verse end sills, the combination with end members at opposite ends of the car, each end member including a transverse wall and a platform section rigid with said wall, said platform section being slidably supported on said center sills; of an abutment flange on said platform section; supporting brackets secured to said center and end sills; abutment means on said supporting brackets; and yielding means interposed between the abutment means of each platform section and the abutment of the corresponding supporting bracket for yieldingly opposing outward movement of the corresponding end member.

15 In witness that I claim the foregoing I have hereunto subscribed my name this 11th day of September, 1931.

GOODRICH Q. LEWIS.

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