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Sept. 2, 1941. D. GUERRERO 2,254,607

RAILROAD SAFETY DEVICE

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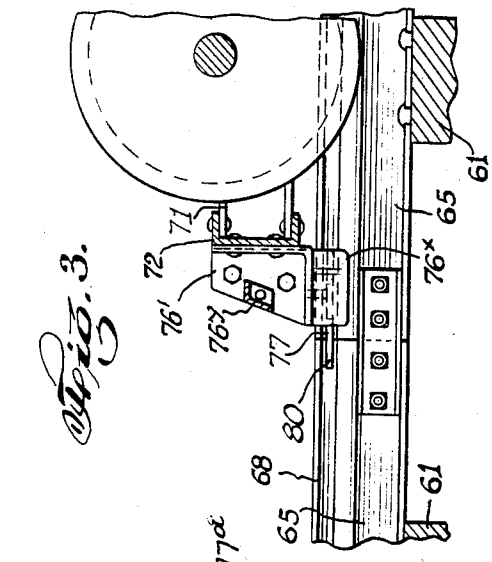


Fig. 3.

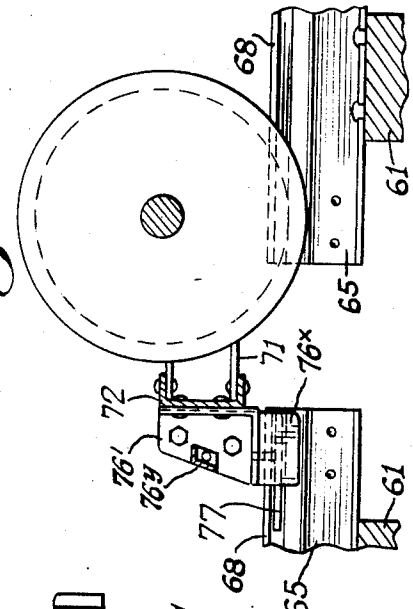


Fig. 4.

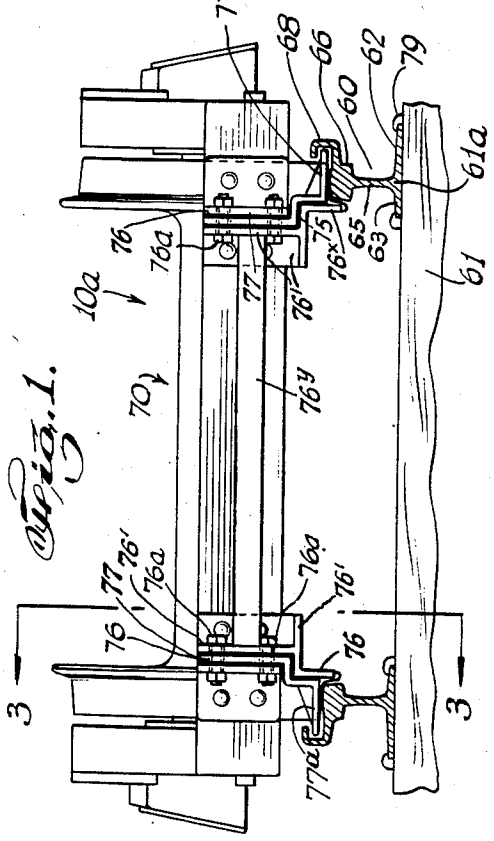


Fig. 1.

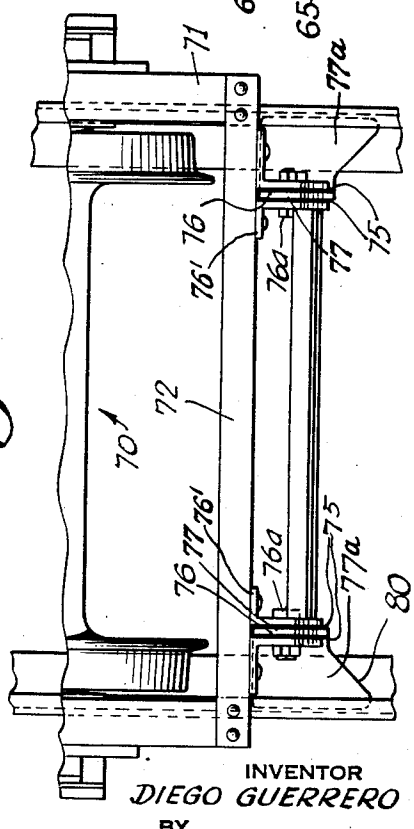


Fig. 2.

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2,254,607

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RAILROAD SAFETY DEVICE

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6 Claims. (Cl. 104—248)

This invention relates to railroad safety devices, and is particularly directed to means for preventing derailment of the trucks or cars of either a toy railroad car or regular railroad.

As applied to regular railroads, the safety means comprises a head on the rail formed with a channel, and the truck is provided with angular brackets adapted to project into the channel of each rail normally clearing the rail, but adapted to engage the top wall of the channel to prevent derailment, the angular brackets have the channel engaging portions pointed forwardly or V-shaped to clear any obstructions that might gather within the channel, and furthermore serving to permit the train to pass over a split rail caused by excessive temperature changes or by other causes.

A further object of this invention is to provide a strong, rugged and durable rail safety device of the character described, which shall be relatively inexpensive to manufacture, and yet practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention:

Fig. 1 is an elevational, cross-sectional view of a set of railroad rails, and a truck thereon provided with safety device to prevent derailment, embodying the invention;

Fig. 2 is a top plan view of the structure shown in Fig. 1;

Fig. 3 is a cross-sectional view taken on line 3—3 of Fig. 1; and

Fig. 4 is a view similar to Fig. 3, but showing a wheel passing over a split rail.

The railroad safety device, according to this invention, includes rails 60 mounted on ties 61. Each rail 60 has a base 61a, the outer portion 62 of which is of greater width that the inner portion 63, for the purpose hereinafter appearing.

The rail 60 has a web 65 and a head 66. Extending from the head of the rail, is a channel shaped, integral portion 68, opening inwardly, for the purpose hereinafter appearing.

The truck is designated by numeral 70 and comprises a frame 71 having end portions 72. Fixed to each end of the truck frame, and insulated therefrom by insulation 75, are a pair of similar, symmetrically disposed, outer brackets 76 supporting members 77 each having an outwardly extending horizontal wall 77a, disposed above the head of the rail and projecting into the channel shaped portion 68. The members 77 are removably attached by bolts 76a to permit disassembly of the members when a car is taken off the track or to permit repairs to the truck. The walls 77a normally do not contact the head of the rails or the channel shaped portions, except to prevent derailment of the train in case of accident, at curves in the track. The flange portion 62 of the rail base 61a extends beyond the channel shaped portion 68 to permit spikes 79 to be driven downwardly into the ties 61. Each wall 77a has an inclined edge 80, and is hence V-shaped, so as to clear the channel shaped member 68 as the train moves.

It will now be understood that the walls 77a will engage the channel shaped portion 68 to prevent derailment.

Furthermore, as illustrated in Fig. 4, the walls 77a will bridge the gaps at split rails, to permit trains to pass over split rails.

The brackets 76 are insulated from the truck so as to permit said brackets to be part of an electric signal system of any suitable construction, whereby a signal may be given when a wall 77a contacts any part of the rail.

The outer brackets 76 are of angle forms, one of their arms are attached upon the end portion 72 of the frame 71 and their other arms are projecting at right angles to this end portion. Inner brackets 76' are slightly spaced from the outer brackets 76 and are also mounted on the end portion 72 of the frame 71. These inner brackets 76 are also of angle shapes and have one of their arms attached to the end portion 72 and their other arms projecting at right angles to the end portion 72 and parallel to the projecting arms of the outer brackets 76. The members 77 have their upper portions engaged in between the projecting arms of the brackets 76 and 76'. The bolts 76a pass through the projecting arms of the brackets 76 and 76' and through the members 77 for rigidly holding the members 77 in position.

The inner brackets 76' have downwardly protecting vertical bottom flanges 76x which terminate adjacent the inner edges of the heads 66 of the rails 65. The walls 77a are disposed at right angles to the bottom flanges 76x, and as before stated, engage over the heads 66 and into the channel shaped portions 68. An angle bar 76y is mounted across the adjacent arms of each of the inner brackets 76' to reinforce these arms for rigidly holding them fixedly in position.

A feature of the construction resides in the fact that when the bolts 76a are removed the members 77 may be slipped forwards out from between the parallel arms of the brackets 76 and 76'. Then the truck may be lifted upwards off the tracks. It should be noted that the bottom

flanges 76x do not interfere with upward lifting of the truck.

The bottom flanges 76x are offset laterally from the vertical arms of the brackets 76' forming shoulders upon which the members 77 rest. The members 77 have complementary offset portions nestled on said shoulders as clearly shown in Fig. 1.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In combination, a pair of rails having heads formed with channel shaped portions on the outer top edges thereof and opening inwards, a truck having flanged wheels engaging the tops and inner edges of said heads of the rails and having a frame, a pair of inner brackets mounted on the end of said frame and having vertical bottom flanges adjacent the inner edges of said heads, a pair of outer brackets mounted on the end of said frame and slightly spaced from said inner brackets, members having horizontal walls extending over said heads and into said channel shaped portions and having vertical walls engaging between said inner and outer brackets, and fastening elements engaging through said brackets and said vertical walls.

2. In combination, a pair of rails having heads formed with channel shaped portions on the outer top edges thereof and opening inwards, a truck having flanged wheels engaging the tops and inner edges of said heads of the rails and having a frame, a pair of inner brackets mounted on the end of said frame and having vertical bottom flanges adjacent the inner edges of said heads, a pair of outer brackets mounted on the end of said frame and slightly spaced from said inner brackets, members having horizontal walls extending over said heads and into said channel shaped portions and having vertical walls engaging between said inner and outer brackets, and fastening elements engaging through said brackets and said vertical walls, said brackets being of angle shape and having one of their arms attached on the end of the frame and the other of their arms projecting at right angles to the end of the frame and extending parallel to each other.

3. In combination, a pair of rails having heads formed with channel shaped portions on the outer top edges thereof and opening inwards, a truck having flanged wheels engaging the tops and inner edges of said heads of the rails and having a frame, a pair of inner brackets mounted on the end of said frame and having vertical bottom flanges adjacent the inner edges of said heads, a pair of outer brackets mounted on the end of said frame and slightly spaced from said inner brackets, members having horizontal walls extending over said heads and into said channel shaped portions and having vertical walls engaging between said inner and outer brackets, and fastening elements engaging through said brackets and said vertical walls, said brackets being of angle shape and having one of their arms attached on the end of the frame and the other of their arms projecting at right angles to the end of the frame and extending parallel to each other, and said members being engaged between the parallel extending arms of said brackets.

4. In combination, a pair of rails having heads formed with channel shaped portions on the outer top edges thereof and opening inwards, a truck having flanged wheels engaging the tops and inner edges of said heads of the rails and having a frame, a pair of inner brackets mounted on the end of said frame and having vertical bottom flanges adjacent the inner edges of said heads, a pair of outer brackets mounted on the end of said frame and slightly spaced from said inner brackets, members having horizontal walls extending over said heads and into said channel shaped portions and having vertical walls engaging between said inner and outer brackets, and fastening elements engaging through said brackets and said vertical walls, said brackets being of angle shape and having one of their arms attached on the end of the frame and the other of their arms projecting at right angles to the end of the frame and extending parallel to each other, and said members being engaged between the parallel extending arms of said brackets, said fastening elements comprising bolts engaged through the vertically extending arms of the brackets and through the vertical walls of said members.

5. In combination, a pair of rails having heads formed with channel shaped portions on the outer top edges thereof and opening inwards, a truck having flanged wheels engaging the tops and inner edges of said heads of the rails and having a frame, a pair of inner brackets mounted on the end of said frame and having vertical bottom flanges adjacent the inner edges of said heads, a pair of outer brackets mounted on the end of said frame and slightly spaced from said inner brackets, members having horizontal walls extending over said heads and into said channel shaped portions and having vertical walls engaging between said inner and outer brackets, and fastening elements engaging through said brackets and said vertical walls, said bottom flanges being offset laterally from said inner brackets forming shoulders, and said members having complementary offset portions resting on said shoulders.

6. In combination, a pair of rails having heads formed with channel shaped portions on the outer top edges thereof and opening inwards, a truck having flanged wheels engaging the tops and inner edges of said heads of the rails and having a frame, a pair of inner brackets mounted on the end of said frame and having vertical bottom flanges adjacent the inner edges of said heads, a pair of outer brackets mounted on the end of said frame and slightly spaced from said inner brackets, members having horizontal walls extending over said heads and into said channel shaped portions and having vertical walls engaging between said inner and outer brackets, and fastening elements engaging through said brackets and said vertical walls, and a bar mounted between said inner brackets.

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