

Sept. 14, 1948.

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2,449,466

COUPLING DEVICE FOR USE IN TOY RAILROADS

Filed April 18, 1945

2 Sheets-Sheet 1

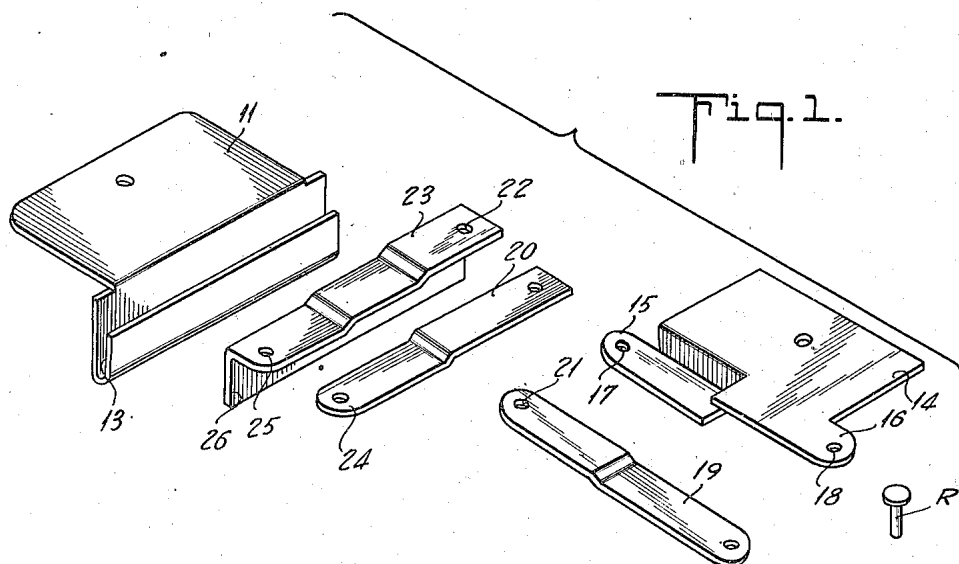


Fig. 2.

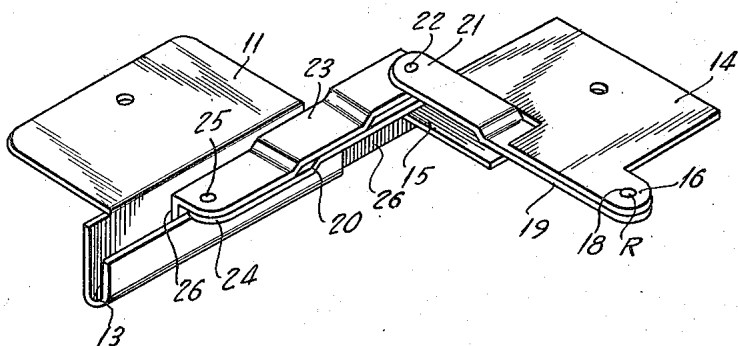
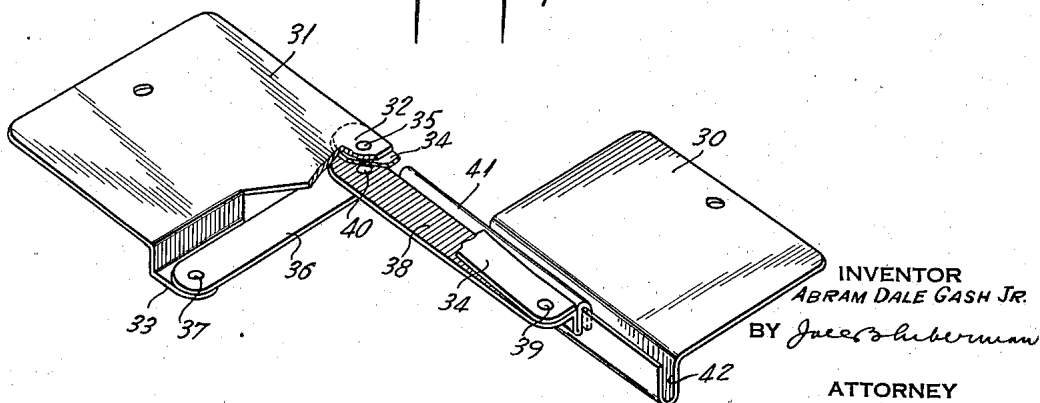


Fig. 7.



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Fig. 3.

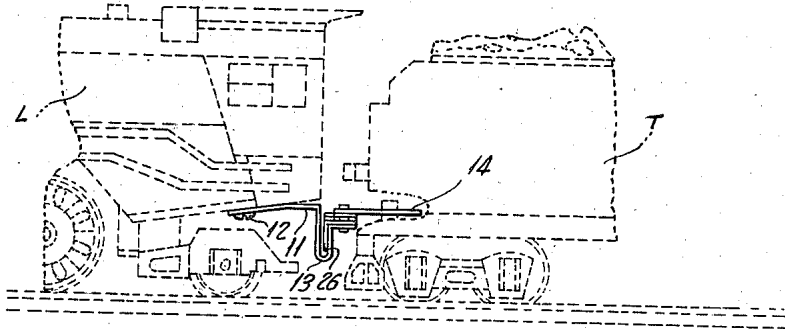


Fig. 4.

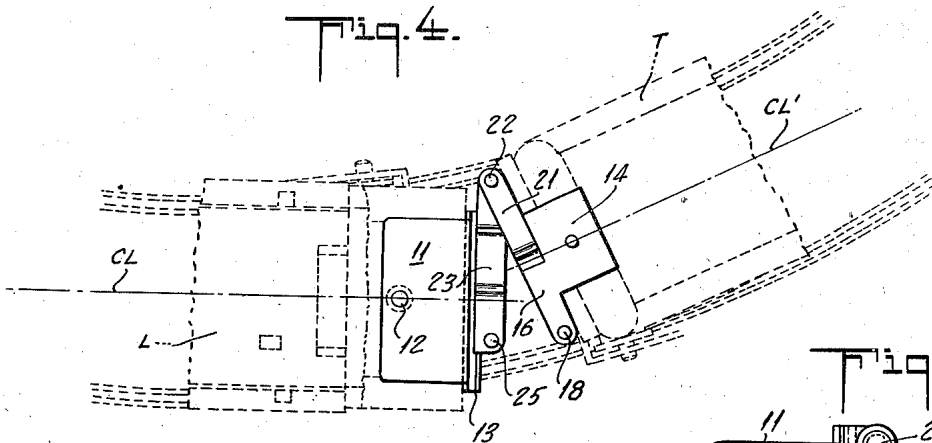
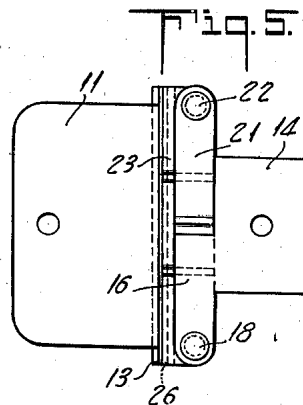
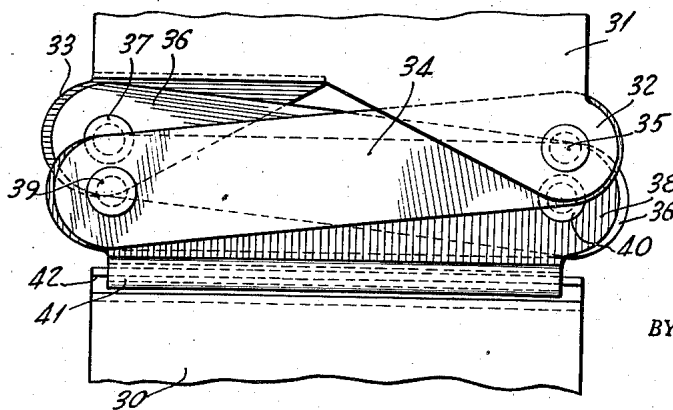


Fig. 5.



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COUPLING DEVICE FOR USE IN TOY
RAILROADS

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9 Claims. (Cl. 213-75)

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The present invention relates to coupling devices for use in toy railroads, and is especially well adapted for coupling a toy locomotive and tender together.

Where the toy train employs a steam type locomotive it is always provided with a tender which must be coupled to it so that the locomotive can draw the train and the locomotive and tender can traverse the curving track. Heretofore the couplers in use for this purpose have made it necessary to have the tender trail behind the locomotive a distance which is much greater, in proportion, than in regular railroad practice, and hence the toy locomotive-tender combination has not given the most desirable simulation of the full size combination.

It is an object of the present invention to provide coupling devices particularly suitable for this purpose wherein the tender and locomotive are kept as close together as the two vehicles can possibly be placed. With this construction the tender is kept close to the locomotive, not only on straight track, but on curving track, and the locomotive and tender are able to take the sharpest turns which toy railroad operation requires.

The accompanying drawings show, for purposes of illustrating the present invention, two embodiments in which the invention may take form, it being understood that the drawings are illustrative of the invention rather than limiting the same.

In these drawings:

Figure 1 is a perspective view showing the various parts employed in making up a coupler;

Figure 2 is a perspective view of the coupler assembled with the two coupler parts swung open;

Figure 3 is a side elevational view of a locomotive and tender coupled together;

Figure 4 is a top plan view of the locomotive and tender coupled together and in the position assumed on curving track;

Figure 5 is a top plan view of the coupler elements alone in the position when on straight track;

Figure 6 is a top plan view showing part of a modified form of coupler construction; and

Figure 7 is a perspective view of a complete coupler utilizing the parts shown in Figure 6.

In the construction illustrated in Figures 1-5, inclusive, the locomotive L is connected to a mounting plate 11 by a screw 12. This plate has an upwardly opening, transversely extending channel 13 disposed just to the rear of the locomotive body. The tender T carries a mounting

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plate 14 having a lower lateral extension 15 and an upper extension 16, the extensions being pierced as indicated at 17 and 18. These extensions are just in front of the body of the tender.

A link 19 of the same effective length as the spacing of holes 17 and 18 is secured to the upper extension by a pivot stud R, while a second link 20 of similar length is secured to the other extension by another pivot stud. The free end 21 of link 19 is connected at 22 by another pivot stud to one end of a third link 23, while the free end 24 of link 20 is similarly connected at 25 to the other end of link 23, the spacing of pivots 22 and 25 is the same as the length of the links 19 and 20. The third link 23 has a depending flange or fin element 26.

The tender can be coupled to the locomotive by merely placing it on the track and lowering the fin element 26 into the channel 13. When the locomotive and tender are on a straight track the pull is taken directly, the parts being in the position shown in Figures 3 and 5. It will be noted that the tender is very close to the firebox end of the locomotive, i. e., in the proper position to correspond with steam railroad practice.

When the train passes over a curved track, as in Figure 4, the center lines CL for the locomotive and CL' for the tender are no longer in alignment. In taking a right hand turn the angle link 23 slides in the channel and the linkages open up as indicated in Figures 2 and 4 (the former exaggerated). The link 20 remains under the horizontal part of 23 and link 19 remains close to mounting plate 14. The draw bar pull is then transmitted to the tender as though the two vehicles were pivoted together at 17 and 22. The links do not open up to permit the tender to trail a distance behind the locomotive. On passing about a left hand turn the operation is reversed and the apparent pivotal connection between the locomotive and tender is at 18, 25, these pivot points shifting downwardly as far below the center line as the pivot points 17 and 22 are above the center line CL in Figure 4.

In the modified form of construction shown in Figures 6 and 7 the channel shaped element 30 may be carried by the tender, while the linkage system is carried by the locomotive. A plate 31 is secured to the locomotive and this plate has upper and lower lateral extensions 32 and 33. A link 34 is pivoted to the upper extension at 35, while link 36 is pivoted to the lower extension at 37. Link 34 is pivoted to a third link 38 at 39, while link 36 is pivoted to the link 38 at 40. The link 38 has a downwardly extending fin-like

element 41 adapted to enter into the channel 42 of tender carried element 30. This device operates the same as the one above described but may have some looseness of connections when draw bar pull is applied as indicated by the spacing of the pivot points vertically in Figure 6.

Since it is obvious that the invention may be embodied in other forms and constructions within the scope of the claims, I wish it to be understood that the particular forms shown are but a few of these forms, and various modifications and changes being possible, I do not otherwise limit myself in any way with respect thereto.

What is claimed is:

1. A toy railroad vehicle having a transversely extending upwardly opening channel shaped member at one end, and a second toy railroad vehicle having a pivotally carried member at one end having a fin adapted to enter the channel from above when the vehicles are on the usual track and to slide along the channel to accommodate for horizontal disalignment of the vehicles, the pivot for said pivotally carried member being to one side of the center of the vehicle.

2. A toy railroad vehicle having a transversely extending upwardly opening channel shaped member at one end, and a second toy railroad vehicle having a member carried thereby at one end having a fin adapted to enter the channel shaped member from above when the vehicles are on the usual track and to slide along the channel to accommodate for horizontal disalignment of the vehicles, and means for so connecting the fin member and second vehicle together that the fin member can swing about either of two fixed vertical pivots disposed on opposite sides of the center line of the said second vehicle, the fin being slidable in the channel as the vehicles traverse curved track.

3. A coupler for toy railroad vehicles comprising two members interengaging one another to exert a traction pull or push but slidable transversely relative to one another, one member being directly connected to one vehicle, the other member being connected to the other vehicle through two links pivoted to both the said other member and said other vehicle and of the same length as the distance between their pivots.

4. Toy railroad vehicle coupling means comprising a mounting plate rigidly fastened to the end of one vehicle, a swingable plate having a pivotal connection with the mounting plate laterally of the center line of the vehicle and a downwardly extending fin, the plate being swingable from a position transverse of the longitudinal axis of the vehicle to an oblique position, and a second mounting plate on the other vehicle having an upwardly opening transverse channel into which the fin may be inserted from above for coupling the vehicles together, the fin being slidable lengthwise of the channel when the axis of one vehicle is shifted relative toward the axis of the other vehicle in the direction of the pivotal connection of the plates.

5. The combination with two toy railroad vehicles each having wheeled trucks adapted to travel over straight and curved track, of means for coupling the vehicles together comprising a member carried by one of the vehicles at its end and including an upwardly opening transversely extending channel having a fixed position relative to the vehicle and a member carried by the other vehicle to move laterally therewith and

having a downwardly extending fin entering the channel and shiftable along the channel.

6. Means for coupling together two toy railroad vehicles comprising an assemblage adapted to be secured to one vehicle and including a mounting plate having two laterally extending elements one at a higher level than the other, an upper link pivoted at one end to the upper laterally extending element, a lower link pivoted at one end to the lower laterally extending element, the lengths of the links equalling the spacing of the pivots, and a third link of the same length as the other two and having one end connected to the free end of the lower link, said free end connections being so disposed that one of the first two links has its "free" end vertical of the pivot of the first mentioned of the other link, the third link having a depending flange, and a channel member adapted to be secured to the other vehicle.

7. In a coupler in combination, a link of angle shaped cross section with a dependent vertical fin and a horizontal upper part provided with pivot means at its ends, two links each of the same length as the pivot means spacing and each having an end pivoted to the first link at one of said pivot means, the latter links being foldable so as to be vertically disposed relative to one another and the horizontal part of the first link, and a vehicle connected part having laterally disposed elements provided with pivot means spaced the same distance as the lengths of the said links each of the latter two links being connected to one of the laterally disposed elements.

8. A toy railroad coupler comprising a plate adapted to be fixedly carried by one vehicle and having an upwardly opening transversely extending channel, a second plate adapted to be fixedly carried by the other vehicle, two links each having an end pivotally connected to the second plate at points equidistant from the center line of the second plate and at different levels and crossing said center line, and a third link interconnecting the ends of the first two links and having a depending flange receivable in the channel, the lengths of all the links being equal to the spacing of the pivots in the second plate, the links being at different levels so that they can swing in under one another.

9. In a coupling device for toy railroad vehicles, an attachment plate adapted to be interconnected to three equal length links, one link having an end connected to an end of the other two, the remaining ends of the said other two links being connected to the attachment plate at points spaced an amount equal to link length and disposed to cross one another, and an element carried by the other vehicle and having a sliding connection with the first mentioned link in a direction lengthwise of that link.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
397,902	Elliott	Feb. 19, 1889
590,880	Choate	Sept. 28, 1897
1,852,916	Boisselier	Apr. 5, 1932
2,117,148	Clark	May 10, 1938