

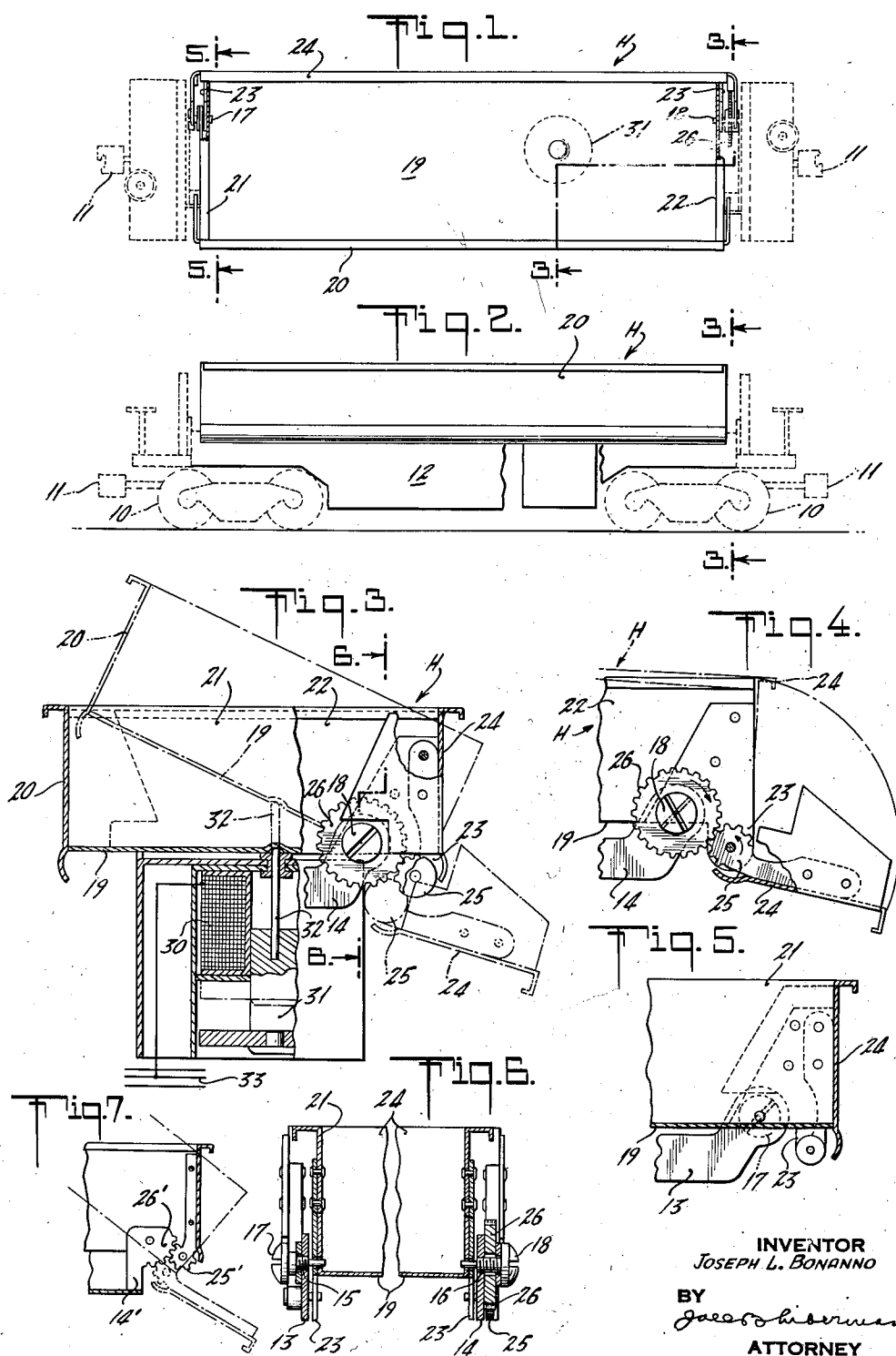
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TOY RAILROAD DUMP CAR

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TOY RAILROAD DUMP CAR

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4 Claims. (Cl. 46-214)

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The present invention relates to toy railroad dump cars, and is more particularly directed toward a hopper or dump car for use on toy railroads.

The invention contemplates a hopper or dump car wherein the dump body has a fixed bottom wall and end walls and one fixed side wall, and the other side wall is hinged so that it can swing down to discharge the contents of the dump body.

In the preferred construction the pivoted side wall is interconnected by gears so as to be actuated back and forth in response to the tilting movement of the car body up and down about a longitudinally extending axis. To avoid close manufacturing tolerances, the nominally fixed gear can be loosened and, when the car body and hinged wall are in closed position, tightened. The dump body is preferably actuated electromagnetically.

The present application is a continuation in part of my abandoned application Serial No. 595,546, filed May 24, 1945.

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 present invention rather than limiting the same.

In these drawings:

Figure 1 is a top plan view of a toy car;

Figure 2 is a side elevational view of the car;

Figure 3 is an end elevational view with parts in section on the line 3-3 of Figure 1, showing the operating position in full lines and the dump position in dot-and-dash lines;

Figure 4 is an elevation similar to Figure 3 illustrating the adjustment of the gear mechanism interconnecting the chassis of the car and the pivoted side wall;

Figure 5 is a fragmentary sectional view on the line 5-5 of Figure 1 illustrating the pivoting of the dump body to the chassis and the side wall of the dump body to the bottom of the dump body;

Figure 6 is a section on the line 6-6 of Figure 3; and

Figure 7 is a fragmentary view similar to Figure 3, showing a modified form of construction.

The toy car has conventional trucks illustrated at 10, 10 and couplers at 11, 11. The chassis 12 of the car is secured to the trucks in any convenient manner forming no part of the present invention.

The chassis carries near its ends two brackets 13 and 14 provided with tapped holes 15 and 16

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(Fig. 6). Screws 17 and 18 are threaded into these brackets and pivotally support the hopper indicated generally by the letter H. This hopper has a bottom wall 19 below the level of the screws 17 and 18, a fixed side wall 20 and two fixed end walls 21 and 22.

The end walls 21 and 22 have depending tabs 23 on which are pivotally mounted a side wall 24 for the hopper. This side wall carries a toothed sector 25 which is in mesh with a toothed member 26, preferably in the form of a gear mounted on the screw 18. When the screw 18 is loose the car body will rest in the full line position of Figures 3 and 4 and the pivoted side wall 24 will swing down as indicated in full lines in Figure 4. The side wall may then be lifted up against the body, swinging the gear 26 about the screw. If now the body be raised slightly as indicated by dot and dash lines of Figure 4 and the screw 20 tightened, the parts will be secured together in such position that when the car body is allowed to return to the chassis, the side wall will press against the ends of the end walls. This arrangement makes it possible to be certain that the assembled parts will be in the proper position, and avoids the necessity of predetermining the position by precision manufacture of the parts. The sector 25 is preferably much smaller than the gear 26 so that the pivoted side wall has a much higher angular velocity than the body. Thus the lifting of the body the amount indicated in Figure 3 is sufficient to cause the tiltable side wall to swing down to substantially more than 90° so that the contents of the hopper or dump body will slide or roll out of the car and be discharged outside the tracks.

A convenient mechanism for operating the hopper is also provided by the present invention. Here the chassis carries a solenoid coil 30 provided with a plunger 31 which has an extension 32 above the top of the chassis 12. The coil is energized from the rail 33 and this will raise the plunger up to the dot-and-dash line position. The upper end of the plunger engages the bottom of the hopper or dump body and raises it to the dumping position. When the coil is de-energized the hopper drops back to the full line position and the gear train restores the pivoted side wall of the hopper to the closed position.

In the form shown in Figure 7 the bracket 14', corresponding with 14, has sector teeth 26' in mesh with sector 25 for the purposes above described. This construction lacks the adjustment of parts above described.

Since it is obvious that the invention may be

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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 two 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 car comprising a chassis, a dump body having a bottom wall, end walls fixedly secured to the bottom wall, a side wall fixedly secured to the end walls and the bottom wall, and a side wall pivoted to the end walls adjacent an edge thereof and below the level of the bottom wall, means pivoting the end walls of the dump body to the chassis to swing about a horizontal axis above the level of the bottom walls and adjacent the pivoted side wall, a toothed sector carried by the pivoted side wall to turn about the pivot thereof, and a chassis carried, toothed sector concentric about the chassis pivot and in mesh with the first sector, the sectors acting to hold the pivoted wall vertical to form an upwardly opening 5-sided box when the bottom wall is horizontal and to swing the pivoted wall outwardly and downwardly when the body is raised about its pivot.

2. A car as claimed in claim 1, wherein the pivot means for the dump body includes a screw threadedly carried by the chassis and the second toothed sector is in the form of a gear revoluble about the screw when loose and clampable by the screw against rotation about the pivot.

3. A car as claimed in claim 1, wherein the radius of the first sector is substantially smaller than that of the second so that the angular movement of the pivoted side wall is substantially greater than that of the body.

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4. A toy railroad car comprising a car body having a bottom wall, end walls fixedly secured to the bottom wall, a side wall fixedly secured to the end and bottom walls, an opposite side wall pivoted to the body below the bottom wall, and swingable from an upper closed position to a lower open position, a toothed sector carried by the pivoted side wall and concentric about its pivot, a chassis on which the car body is pivoted to swing about a longitudinally extending axis above the body bottom wall and adjacent the free edge of the body bottom wall, a second toothed sector, and a sector clamping screw for non-revolvably securing the second sector to the chassis with an axis concentric with the body pivot at selected positions of adjustment and in mesh with the first sector whereby the position of the pivoted wall relative to the car body may be adjusted, the first sector being substantially smaller than the second so that the angular movement of the pivoted side wall is substantially greater than that of the body as the body swings about its pivot.

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