To all whom it may concern:

Be it known that we, FREDERICK C. BAUER and CARL BAUER, both citizens of the United States, residing at Glenside, county of Montgomery, State of Pennsylvania, have invented, new and useful Toy Gravity Railway, of which the following is a specification.

Our invention consists of a novel construction in toy railways, which will permit of a simpler and easier mode of operation and thereby afford a more effective means of entertainment and amusement.

Our invention further consists of a novel construction in toy railways, of the general type disclosed in our prior Patents Nos. 1,368,781, February 15, 1921, on toy railway, and 1,472,783, dated November 6, 1923, on toy railway and known as a gravity railway, wherein the weight of the car alone is utilized as the motive power, and whereby the entire structure is so simplified as to greatly reduce the cost of manufacture and at the same time produce a more serviceable toy.

For the purpose of illustrating our invention we have shown in the accompanying drawings forms thereof which are at present preferred by us since it will give in practice satisfactory and reliable results, although it is to be understood that the various instrumentalities of which our invention consists can be variously arranged and organized and that our invention is not limited to precise arrangement and organization of these instrumentalities as herein shown and described.

In the drawings in which like reference characters designate like parts throughout:

Figure 1 represents a side elevation view of a construction embodying our invention, and showing the general arrangement of the tower, elevator, car and track.

Figure 2 represents a section on line 2—2 of Figure 1 with the car removed.

Figure 3 represents a side elevation of a portion of a rail column, illustrating the means for coupling the various sections of the railway.

Figure 4 represents a plan view of a coupling clamp.

Figure 5 represents a vertical sectional view of the tower, elevator and car shown in Figure 1, with the elevator at the uppermost point of its travel.

Figure 6 represents a section of the roof of the tower taken on line 6—6 of Figure 5.

Figures 7 and 8 represent views in elevation of two modifications of the standards composing the tower.

Figure 9 represents a section on line 9—9 of Figure 7.

Referring to the drawings, 1 designates the base, to which are secured the four standards 2, 3, 4 and 5, composing the elevator tower 6, and supporting upon their upper and lower levels respectively of the tower 6 are attached the two terminals of a sectional railway track 8, of any desired length or shape, such as a circular, elliptical or spiral shape, so that a car released onto the upper terminal of the track will descend along the path of the track onto the lower level of the elevator tower 6; impelled by the force of gravity only.

Within the tower 6 is the elevator 9 adapted to travel between the lower and upper levels of the tower; to receive the car 10 at the lower level; to automatically discharge the car 10 at the upper level; and to positively secure the car while conveying the same from the lower to the upper level. These ends are attained by certain novel details of construction in said elevator, to be described hereinafter.

The standards 2, 3, 4 and 5 composing the elevator tower 6, are each composed of a vertical or guide post 11; the inclined bracing post 12 and the intervening web 13; the two posts and the web all being integral and formed of a single piece of sheet metal having its edges rolled into the tabular posts 11 and 12, as shown in Figures 7 and 8. On the lower portion of the web 13, we form a lug 14 at a right angle thereto and integral therewith, and having the hole 15 for receiving the screws 16, for securing the standards to the base 1. To provide additional support for the standards 2, 3, 4 and 5, the lower ends of the posts 11 extend beyond the lugs 14 and project into the holes 17 in the base 1, provided therefor.

Between the standards 2, 3, 4 and 5 is the elevator 9, comprising the horizontal and vertical frame members 18 and 19 respectively; the cross-bars 20 and 21 for supporting the tilting floor 22, the cross bar 23 for limiting the travel of the car 10 in its movement onto the floor 22, as well as limiting the angular movement of the floor 22 when releasing the car onto the upper terminal of the track 8. On the upper part of the
to each horizontal member there is permanently secured a coupling clamp 44, while to each end of the respective track sections there is secured a shoe 45. The clamps 44 consist of a web portion 46 having the reinforcing ribs 47 and the two spiral ends 48 adapted to be snapped over the two adjacent shoes of two sections of the track and retain them in position as shown in Figures 1 and 3.

It will now be apparent that we have devised a new and useful toy gravity railway, which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while we have, in the present instance, shown and described a preferred embodiment thereof which will give in practice satisfactory and reliable results, it is to be understood that this embodiment is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described our invention what we desire to secure by Letters Patent is:

1. In a toy gravity railway, a car, a tower, an elevator adapted to travel within said tower and to receive said car, said elevator having a pivotally movable floor, and a fixed stop rigidly secured to said elevator, and adapted to permit said car to pass over said stop in one direction, while retaining the same in the opposite direction.

2. In a toy gravity railway, a railway, a car adapted to travel on said railway, an elevator tower, and an elevator adapted to travel within said tower, and means on said tower for subsec- 125 5 horizontal members 42 and 43 respectively. to the elevator and extending through said 130
opening, and having the front face thereof inclined so as to permit said car to pass over it.

5. In a toy gravity railway, an inclined railway, a car adapted to travel on said railway, and means for elevating said car from the lower to the upper terminal of said railway, said means consisting of an elevator having a pivotally movable floor adapted to receive the said car, and a fixed stop rigidly secured to said elevator and adapted to retain said car on said floor, and having the front face thereof inclined so as to permit said car to pass over it.

6. In a toy gravity railway, an inclined railway, a car adapted to travel on said railway, and means for elevating said car from the lower to the upper terminal of said railway, said means consisting of a tower, an elevator adapted to travel within said tower and having a pivotally movable floor, an opening through said floor, a fixed stop rigidly secured to said elevator and extending through said opening, and a stop on the said tower adapted to engage the fore edge of the said floor to limit the upward travel of the elevator and to move said floor into an inclined position.

7. In a toy gravity railway, an inclined railway, a car adapted to travel on said railway, an elevator tower, and an elevator adapted to travel within said tower, said tower comprising a plurality of vertical standards and a roof therefor, each standard comprising a vertical tubular guide post, an inclined tubular bracing post and an intervening web, all integral and formed of a single sheet of metal.

8. In a toy gravity railway, an inclined railway composed of a plurality of track sections, each having a shoe at the respective ends thereof, and a plurality of columns for supporting said railway each having coupling clamps thereon for uniting the several sections of track and securing the same to the columns, said clamp comprising a reinforced body and two spiral clamping ends.

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