Sept. 16, 1924. 1,508,453

T. D. HOOPER, JR

AMUSEMENT APPARATUS

Filed Jan. 2, 1924 2 Sheets-Sheet 1

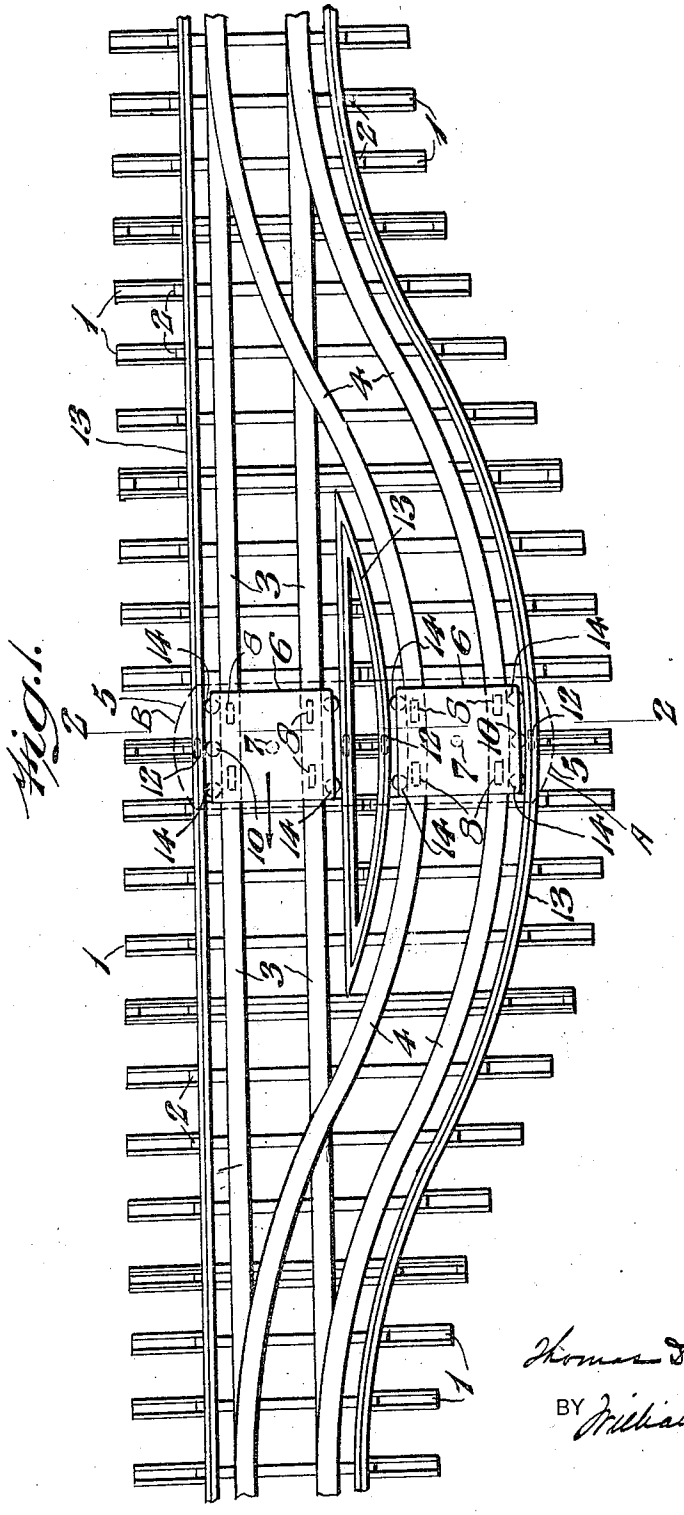

Fig. 1.

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2 Sheets-Sheet 2

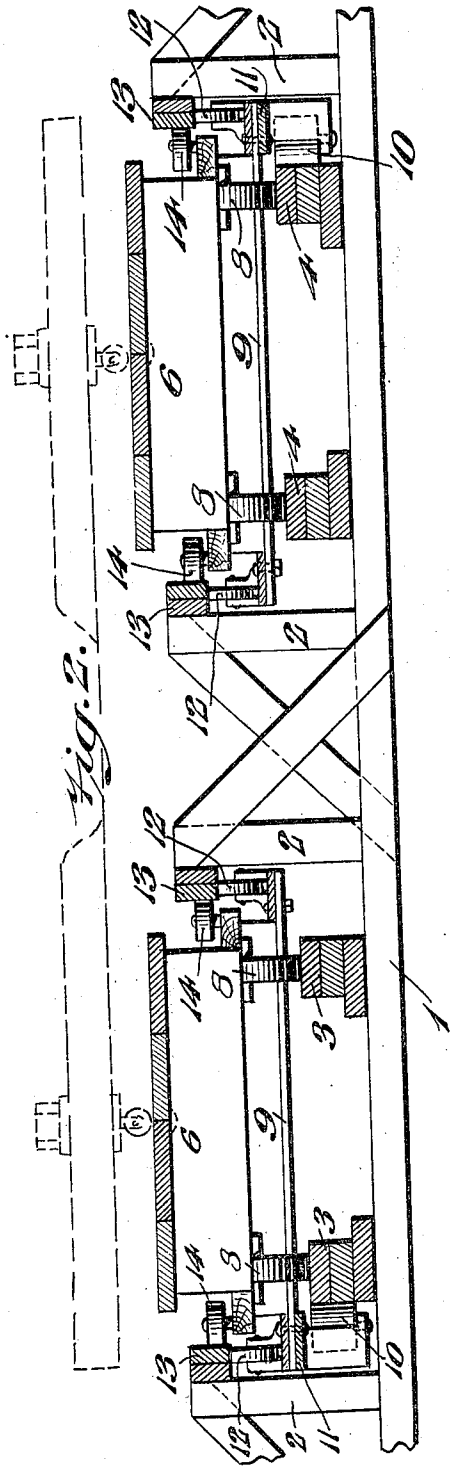

Fig. 2.

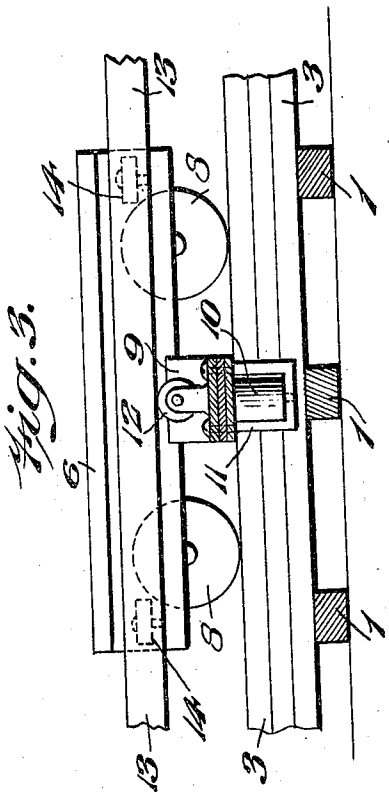

Fig. 3.

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Patented Sept. 16, 1924. 1,508,453

UNITED STATES PATENT OFFICE.

THOMAS D. HOOPER, JR., OF MERCHANTVILLE, NEW JERSEY.

AMUSEMENT APPARATUS.

Application filed January 2, 1924. Serial No. 683,854.

To all whom it may concern:

Be it known that I, THOMAS D. HOOPER, Jr., a citizen of the United States, residing at Merchantville, in the county of Camden and State of New Jersey, have invented a certain new and useful Amusement Apparatus, of which the following is a specification.

The present invention, generally stated, has relation to the type of amusement apparatus shown and described in my U. S. Letters Patent No. 1,101,630, dated June 30, 1914, and No. 1,360,953, dated November 30, 1920. According to the construction of parts shown and described in each of these patents it is necessary to employ flanged traction wheels for the trucks in order to secure the reversal of car movement in the travel of a car over the tracks of a scenic railway. Obviously, by the employment of flanged wheels, frogs in the rail equipment are necessary at the points of intersection of the main track with a loop. A certain amount of danger is present in a track construction of this kind particularly when used in conjunction with scenic railways.

The principal object of the present invention therefore, is to overcome this disadvantageous feature and provide a passenger car of an amusement apparatus, commonly known as a scenic railway, with means independently of its traction wheels for causing a car under the influence of gravity to reverse itself bodily at a loop without changing its course of transit. A further object of the present invention is to provide means upon a passenger car for preventing a truck from an upward movement with respect to the rails. A still further object is to provide means for preventing lateral movement of a car in its transit over the tracks of the railway. Other and further objects of the present invention relate to the provision of general details of construction, arrangement and combination of parts for attaining the results sought by the foregoing objects.

The invention consists of the novel construction hereinafter described and finally claimed.

The nature, characteristic features and scope of the invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which:

Fig. 1, is a fragmentary view, in plan, of a scenic railway incline, including a loop.

Fig. 2, is a view in cross-section taken upon the line 2—2 of Fig. 1, and

Fig. 3, is a fragmentary view, in elevation, of a truck and one of its guiding rollers.

For the purpose of illustrating my invention I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of the instrumentalities as herein shown and described.

Referring to the drawings in detail, so much of a scenic railway is shown as is necessary to an understanding of the invention. While the following description will be restricted to a scenic railway it is obvious that the invention may be readily embodied in toy form. The numeral 1, designates cross-ties and numeral 2, bucks of an incline of a scenic railway. 3, designates the main set of rails as mounted upon cross-ties 1, and 4, designates rails forming a loop, the cross-ties being extended at intervals for this purpose. Adapted for travel over an incline, under the influence of gravity, are passenger cars 5, each of which is mounted upon a pair of trucks 6. Each truck has swivelled relation as at 7, with a passenger car. Each truck in practice is equipped with four traction wheels, which are designated 8, and which in the present instance are devoid of flanges. The rails over which these traction wheels travel are of rectangular cross-section, see Fig. 1, having broad, flat tops which rails are also flangeless. The traction wheels 8 are of relatively large width. Each truck 6 is provided with a laterally disposed cross-piece 9, usually of channel iron, and each cross-piece is provided with a single guiding roller 10 upon the outer side of a truck. These rollers, which are suspended from said cross-pieces in brackets 11, follow the outside rails of both main and loop tracks. Other rollers 12 are present and are adapted to track beneath guide rails 13 supported by the bucks. The guide rails 13 follow the main and loop tracks. The purpose of these rollers 12 and rails 13 is to prevent upward movement of a truck, that is to prevent a truck leaving the rails during transit of a passenger car over the railway. In order

to prevent lateral or sidewise movement of a truck, rollers 14 are provided at each corner of a truck. These rollers bear against the inner faces of the rails 13 previously described. By this arrangement and construction of parts both swaying and jumping of a truck is obviated. The axes of the rollers 10 and 14 are vertically arranged and the axes of the rollers 12 are horizontally arranged. In operation, it being assumed that a car is travelling in the direction of the arrow in Fig. 1, along the main track, the forward end A of the car will follow the loop tracks because the guide roller of said truck must follow the outer loop track. At point of divergence of the loop tracks, however, the roller at the rear end of the car, or that marked B in Fig. 1, is caused to follow the main outer track with the result that the rear end of the car is swung forward and as it has a shorter distance to go, the rear truck precedes what was the front truck and temporarily becomes the leading truck. By the exchange of truck places the body of the car, because of its swivelled connections with said trucks, has been shifted end for end so that the passengers therein are now seated backwardly instead of forwardly in the original position of the car. To promote the comfort of the occupants of a car it is desirable to immediately re-shift the car body and preferably upon the opposite side of the main rails so that the passengers shall not be subjected to dizziness. To effect this re-shifting a duplicate loop construction is employed, but which is not illustrated, this reversing of cars being clearly illustrated in my aforesaid patents. Obviously, such reversal need not necessarily take place immediately and as many loops and in as many locations as desired may be employed as practice may dictate, the essential feature of the present invention being the use of flangeless traction wheels and the employment of guide rollers co-operating with flat rails for effecting reversal of a passenger car without interfering with its original course of transit.

It will now be apparent that I have devised a novel and useful construction which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description and while I have in the present instance shown and described the preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same 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 my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof and guiding means independent of the traction wheels carried by each truck and arranged to so track said rails that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit.

2. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding means independent of the traction wheels carried by each truck and arranged to so track said rails that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit, and means to hold said trucks against upward movement.

3. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding means independent of the traction wheels carried by each truck and arranged to so track said rails that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit, and means to prevent sidewise movement of said trucks.

4. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding means independent of the traction wheels carried by each truck and arranged to so track said rails that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit, means to hold said trucks against upward movement and means to prevent sidewise movement of said trucks.

5. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding rollers carried at one side of each truck arranged to

track upon the outer faces of said rails so that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit.

6. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding rollers the axes of which are vertically disposed, carried at one side of each truck arranged to track upon the outer faces of said rails so that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit.

7. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding means independent of the traction wheels carried by each truck and arranged to so track said rails that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit, guard rails following the line of said tracks and rollers carried by the trucks for tracking beneath said guard rails.

8. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding means independent of the traction wheels carried by each truck and arranged to so track said rails that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit, guard rails following the line of said tracks and rollers the axes of which are horizontally disposed carried by the trucks for tracking beneath said guard rails.

9. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding means independent of the traction wheels carried by each truck and arranged to so track said rails that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit, guard rails following the line of said tracks and rollers carried by said trucks for tracking upon the inner vertical faces of said guard rails.

10. In amusement apparatus, an incline provided with a single set of traction rails, a loop arranged along the line of said rails, a pair of trucks including traction wheels adapted for travel over said rails under the influence of gravity, a car supported by said pair of trucks and having swivelled relation with each thereof, guiding means independent of the traction wheels carried by each truck and arranged to so track said rails that upon reaching a loop, the car is caused to reverse itself bodily without changing its course of transit, guard rails following the line of said tracks and rollers the axes of which are vertically disposed carried by said trucks for tracking upon the inner vertical faces of said guard rails.

In testimony whereof, I have hereunto signed my name.

THOMAS D. HOOPER, Jr.

Witnesses:

William J. Jackson,

Lilly C. Olson.