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H. N. RIDGWAY
AMUSEMENT DEVICE

Filed Nov. 29, 1920

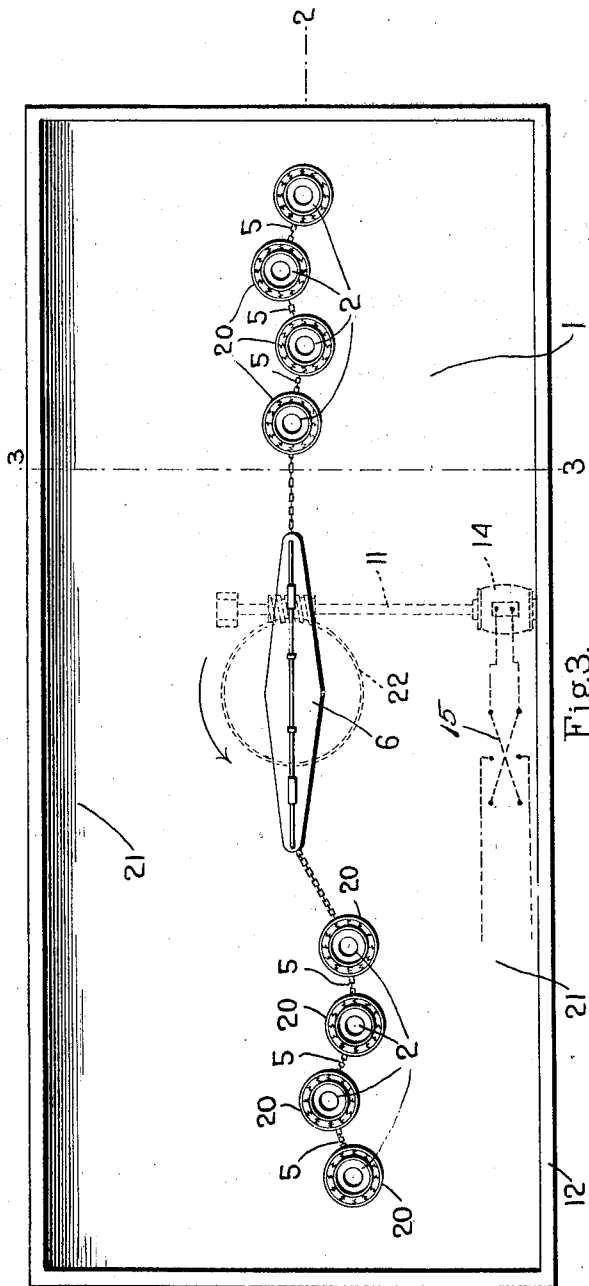


Fig. 1.

Fig. 3.

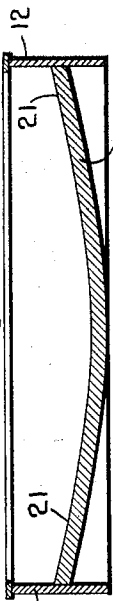
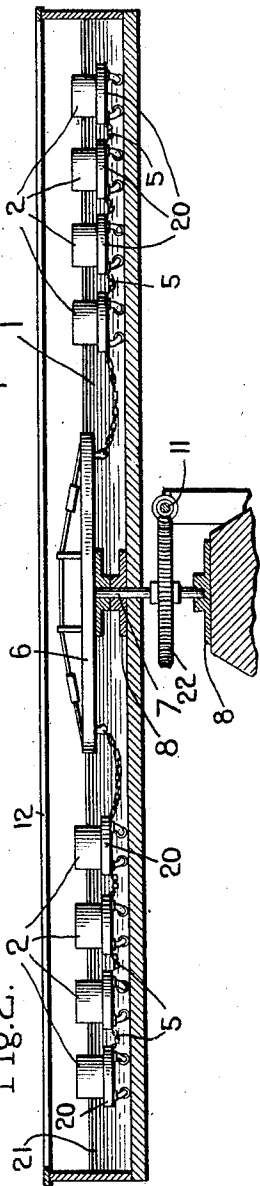


Fig. 2.



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UNITED STATES PATENT OFFICE.

HERBERT N. RIDGWAY, OF WINTHROP, MASSACHUSETTS.

AMUSEMENT DEVICE.

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To all whom it may concern:

Be it known that I, HERBERT N. RIDGWAY, a citizen of the United States, and a resident of Winthrop, county of Suffolk, State of Massachusetts, have invented an Improvement in Amusement Devices, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to an amusement device of that type which comprises a floor or platform and one or more passenger-carrying cars adapted to travel over said platform in any direction.

The object of the invention is to provide an amusement device of this type in which the cars are connected to form a train of cars and in which such train of cars is moved over the floor with an irregular motion so that at some time the cars will follow each other, while at some other time the cars comprising the train will be thrown in different directions relative to each other thereby causing them to bump into each other.

Another object of the invention is to provide an amusement device of this type in which the floor is provided with inclined portion so that as the train of cars is propelled it will at sometimes be drawn up an incline and at other times it will be moved down an incline.

Still another object of the invention is to provide an amusement device in which the floor is concaved in one direction but straight in a direction perpendicular thereto, thus providing a floor having a trough shape and also to provide a car propelling means arranged to draw the cars up one side of the trough and then allow them to slide down toward the center again and then repeat the operation on the other side of the trough.

Other objects of the invention are to provide improvements in amusement devices all as will be more fully hereinafter set forth.

In order to give an understanding of my invention, I have illustrated in the drawings a selected embodiment thereof which will now be described, after which the novel features will be pointed out in the appending claims.

Fig. 1 is a plan view of an apparatus embodying my invention.

Fig. 2 is a section on the line 2—2, Fig. 1.

Fig. 3 is a section on the line 3—3 Fig. 1.

1 indicates the floor or platform and 2 indicates the passenger-carrying cars adapted to travel over said floor or platform in any direction.

The cars 2 may have any suitable construction adapted to permit them to travel freely in any direction, although for some reasons I prefer to employ cars having substantially the construction shown in my prior Patents No. 1,341,219 and No. 1,341,220 both dated May 25, 1920. These cars are cylindrical in shape and are provided with casters 3 constructed to permit them to travel freely in any direction.

Each car is also provided with a bumper 20 which encircles the car.

A plurality of these cars are connected together to form a train of cars, the cars of the train being connected with each other by means of connections 5. Means are provided for propelling the train of cars over the floor with an irregular motion. I will preferably use a propelling means constructed to have an intermittent motion with the result that during the forward movement of the propelling means, the cars of the train will trail each other while when the propelling means is brought to rest the cars will be carried in different directions by their momentum and will bump into each other, thereby giving the passengers more or less excitement.

I have found that where the train of cars is made up of cars each mounted on casters so that they are free to travel in any direction, the successive cars of the train do not follow each other in line, when they are being drawn forward, but each car tends to take a more or less irregular course with the result that the cars are moved back and forth sideways with a more or less irregular motion during their forward progress. This uncertain irregular, and more or less sinuous course which each car takes is in itself a source of pleasure and excitement to the passengers and when the propelling means suddenly comes to rest the impact of the cars against each other and the consequent general mix-up of the cars will greatly increase the excitement and pleasure that the passengers experience.

Any suitable propelling means for the cars may be employed without departing from the invention. I have herein shown a propelling means in the form of an arm

or sweep which is mounted to move over the floor in a circular course. Such arm or sweep is shown at 6 and is in the form of a beam or head secured to a vertical shaft 7 which is journaled in suitable bearings 8. The shaft 7 may be given a rotative movement by any suitable means. In the construction shown, said shaft has a worm gear driving shaft 11 that is rotated by a motor 14.

Where a propelling means of this form is used, I may, if desired employ two trains of cars, one connected to each end of the beam or sweep.

The operating means for the car propelling member 6 will preferably be so constructed that said member 6 will be given a partial turn and then will be suddenly brought to rest or possibly given a slight reverse turning movement, which may be accomplished by manipulating the switch 15 in the motor circuit.

Assuming that the cars of each train are arranged as illustrated in Fig. 1 and that the member 6 is turned in the direction of the arrow. During the first of the forward movement of the member 6 the cars of each train will follow each other, although in so doing each individual car will have more or less of a lateral vibrating movement. As the speed of the member 6 increases the cars will tend to move outwardly by centrifugal force, and when the member 6 has acquired sufficient speed the cars will all be swung out in a radial line by the centrifugal action. If at any time during the movement of the member 6 the said member is brought to rest suddenly, the momentum that the cars have assumed will carry them forward, such forward movement being checked as soon as the flexible connection by which each car is drawn forward becomes taut. The sudden stopping of the propelling member 6 will produce in each train of cars an action something like that which is produced when a row of children join hands and play the familiar game of "snapping the whip." The last car of the train will of course have a greater motion than the other cars and the sudden change in the course of these cars due to the stopping of the member 6, when the cars are being thrown outwardly by centrifugal force will be such as to give a thrilling pleasure to the occupants of the car. The commotion and confusion caused by the cars bumping into each other when the member 6 is stopped can be increased by giving the member 6 a slight backward movement the instant that it is brought to rest.

While considerable excitement and pleasure will be derived by the passengers if the floor 1 is a horizontal floor yet such pleasure and excitement will be increased if the floor is provided with incline portions arranged

so that as the cars are propelled forwardly they will first be drawn up an inclined portion of the floor and then will be allowed to slide down an inclined portion of the floor.

While these incline portions may be provided for in a variety of ways without departing from my invention yet I prefer an arrangement such as shown in the drawings in which the floor has a general trough shape, it being concave in one direction and straight in the opposite direction. In the drawings the floor has a general rectangular shape and it is concave in a transverse direction but straight in a longitudinal direction. This is plainly shown in Fig. 3 which is a transverse section. With this arrangement the floor has the inclined portions 21 at each side and where the propelling means has a circular motion the result will be that the cars will be drawn up one incline during one-quarter of a revolution of the propelling member and will then be drawn along the top of the incline, and during the second quarter of the revolution the cars will begin to slide down the incline toward the center of the platform. These operations are repeated during the third and fourth quarter revolutions of the arm. If the propelling member starts from rest and is moved through one half revolution and then is brought to rest again, said propelling member will tend to draw the cars up the inclined side of the floor during the first quarter revolution but the action of gravity will cause the last of the cars of the train to swing downwardly toward the center with the result that the cars will assume an angular position relative to the beam or arm 6. During this one-quarter revolution of the member 6 it will be operating with a progressively increasing speed thus developing a progressively increasing centrifugal force which tends to throw the cars outwardly against the action of gravity so that by the time the cars have been carried completely through the one-quarter revolution they will be thrown out from the center of the floor by the centrifugal force. As the arm 6 begins its second quarter revolution it tends to draw the first car of the train downwardly toward the center. The remaining cars are acted on by centrifugal force which augments the action of gravity and results in throwing them out from the arm in a radial line so that when the second quarter revolution has been completed the cars will have somewhat the position shown in Fig. 1. If at this time the member 6 is suddenly brought to rest and perhaps given a slight backward movement the cars will be swung around against each other with considerable force thus causing great excitement for the occupants.

With the above construction it will be ob-

served that during the first quarter revolution the action of gravity and centrifugal force are acting on the cars oppositely, the centrifugal force tending to throw the cars upwardly and the action of gravity tending to draw them toward the center. During the second quarter revolution, however, the centrifugal action and the action of gravity work on each car in the same direction, each thus augmenting the action of the other.

While I have shown herein a construction in which the propelling member has two trains of cars attached thereto, yet I wish to state that the number of trains is immaterial to the invention and that a device involving one or more trains may be employed as desired.

The floor space 1 may if desired be bounded by a railing 12.

The particular character of the car propelling member is immaterial to the invention although for many reasons, I prefer to employ one which has a rotary motion as indicated. My invention however contemplates the use of any device for propelling a train of cars over the floor 1 with an irregular motion.

While I have illustrated herein a selected embodiment of my invention I do not wish to be limited to the constructional features shown.

I claim:

1. In an amusement device, the combination with a floor space, of a plurality of cars each constructed to move freely in any direction, flexible connecting members connecting the cars together in the form of a train, and a car propelling member to which said train is connected and means capable of moving said car propelling member over the floor with an irregular motion.

2. In an amusement device, the combination with a floor space, of a train of cars, each car being constructed to move freely in any direction, a car propelling member to which said train of cars is attached, and

means capable of giving said car propelling member an irregular rotative movement.

3. In an amusement device, the combination with a floor space, of a plurality of cars, each adapted to travel in any direction, means for flexibly connecting said cars to form a train of cars, a car propelling member to which said train is connected, means to give the car propelling member a rotative movement, which means is capable of being brought to rest suddenly.

4. In an amusement device, the combination with a floor space having inclined portions, of a train of connected cars, each car constructed so that it is free to travel in any direction over the floor space, and a movable car propelling member connected to the train of cars and operating to move it up and down the inclined portions.

5. In an amusement device, the combination with a floor space having a general trough-shape, of a car constructed so that it is free to travel in any direction and means connected to the car and arranged to propel said car first up and then down the inclined sides of the trough-shaped floor.

6. In an amusement device, the combination with a trough-shaped floor space, of a train of cars, each car constructed so that it is free to travel in any direction over the floor, and a rotatable car propelling member for moving the train of cars up and then down the inclined sides of the trough-shaped floor.

7. In an amusement device, the combination with a floor space having inclined portions, of a train of cars each constructed so that it is free to travel in any direction, a car propelling member constructed to draw a train of cars over an upwardly-inclined portion of the floor space and then over a downwardly-inclined portion.

In testimony whereof, I have signed my name to this specification.

HERBERT N. RIDGWAY.