Sept. 4, 1923. 1,466,963

H. N. RIDGWAY

AMUSEMENT DEVICE

Filed April 27, 1921 2 Sheets-Sheet 1

Fig. 1.

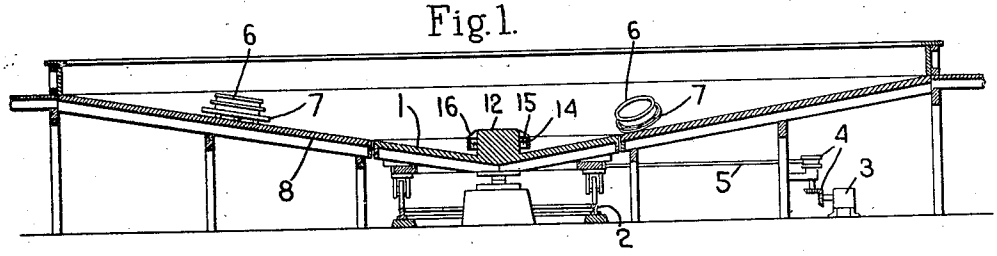


Fig. 2.

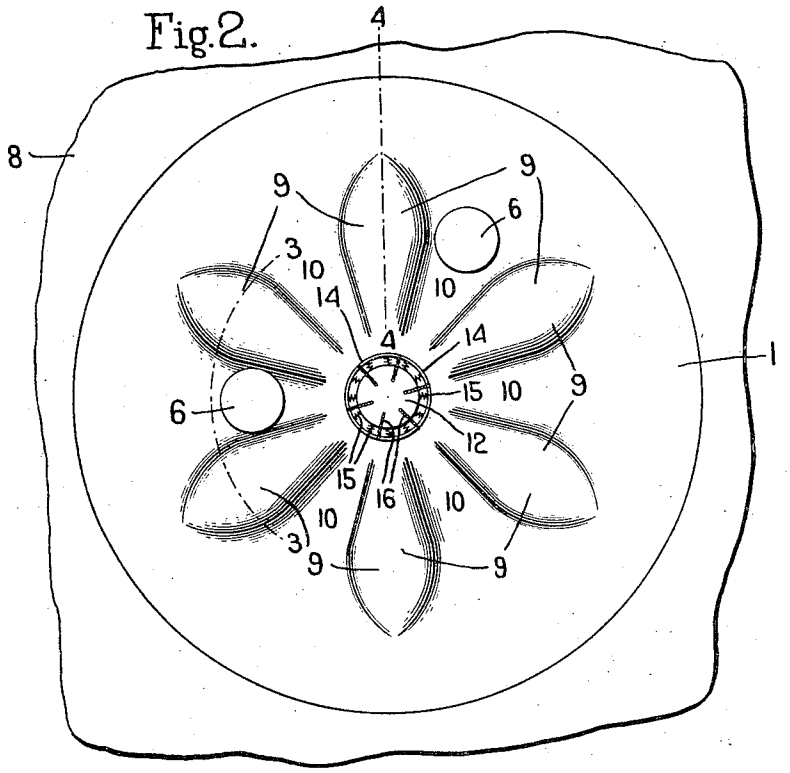


Fig. 3.

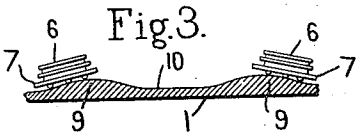


Fig. 4.

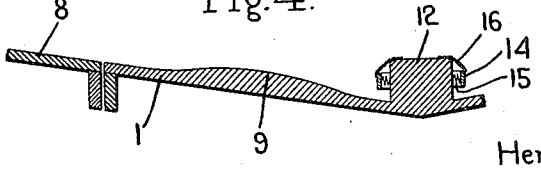


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Fig.5.

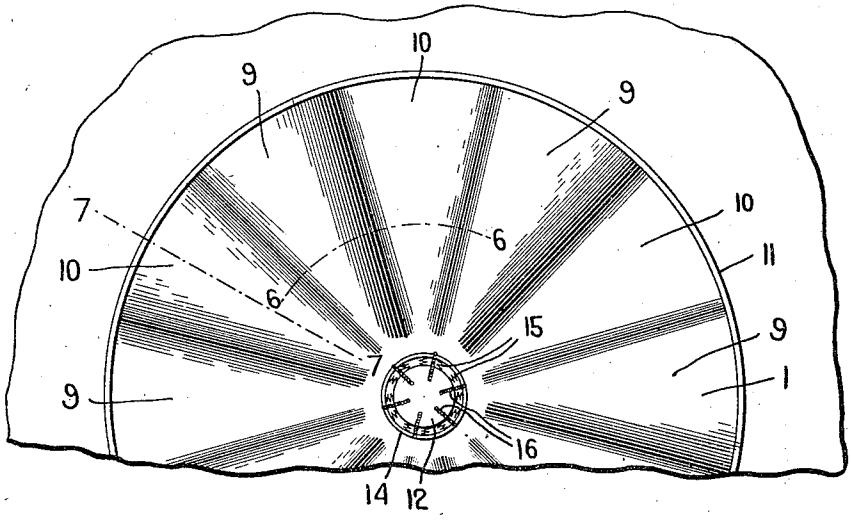



Fig.6.

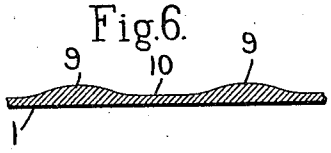



Fig.7.

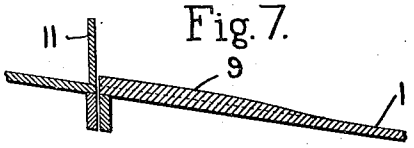



Fig.8.

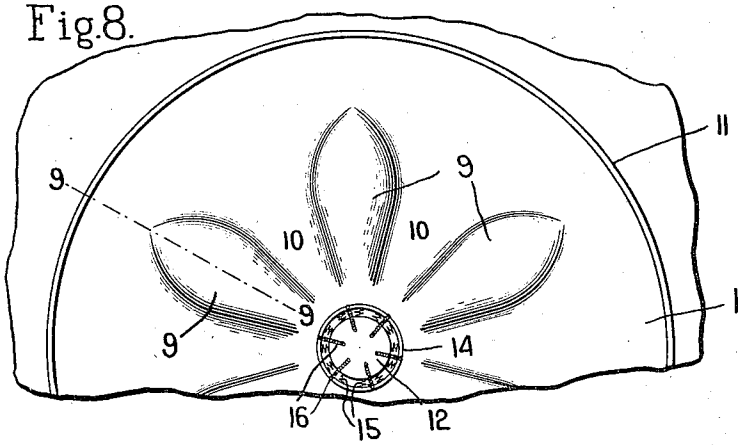
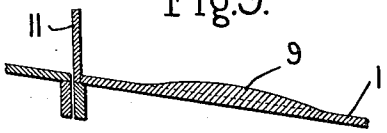



Fig.9.

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Patented Sept. 4, 1923. 1,466,963

# UNITED STATES PATENT OFFICE.

HERBERT N. RIDGWAY, OF WINTHROP, MASSACHUSETTS.

## AMUSEMENT DEVICE.

Application filed April 27, 1921. Serial No. 464,840.

*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 amusement devices of that type comprising a rotatable platform and one or more passenger cars operating on said platform and constructed to travel freely in any direction, said cars receiving their movement by or through the rotary movement of the platform.

In some amusement devices of this type the rotatable platform is surrounded by a stationary platform or spillway which is arranged so that as the rotatable platform rotates the cars are thrown off onto the spillway by centrifugal force. In some amusement devices of this type the spillway is arranged at an inclination so that the cars will gravitate back onto the rotary platform after the centrifugal force by which they are thrown outwardly has expended itself.

One feature of the present invention relates to a rotary platform having a novel construction by which the cars travelling thereover will be given a rocking movement during their travel thus adding to the pleasure and excitement which the passengers experience in the travel of the car. This rocking motion may be imparted to the cars in various ways but preferably by making the surface of the platform with raised portions and depressed portions thus giving a more or less sinuous contour to the platform. The travel of the car over the raised portions and depressed portions will cause the car to have a rocking motion which simulates the rocking motion of a body on the water.

When my invention is applied to an amusement apparatus in which the rotatable platform is surrounded by a spillway, one feature of the invention relates to an arrangement of raised portions by which the time necessary to develop the required centrifugal force to throw the cars off onto the spillway may be considerably reduced and this is accomplished by arranging the raised portions so that they help to overcome the inertia of the cars as the rotatable platform starts to rotate so that the cars will turn with the rotatable plaform until sufficient centrifugal force is developed to throw them onto the spillway.

Another feature of my invention relates to a rotatable platform constructed so that the cars naturally gravitate toward the center thereof and provided at the center with a resilient bumper which causes the cars to rebound when they strike it.

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

Fig. 1 is a cross sectional view of an amusement apparatus embodying my invention.

Fig. 2 is an enlarged plan view of the rotatable platform.

Fig. 3 is a section on the line 3—3, Fig. 2.

Fig. 4 is a section on the line 4—4, Fig. 2.

Fig. 5 is a plan view of a rotatable platform showing a different embodiment of my invention.

Fig. 6 is a section on the line 6—6, Fig. 5.

Fig. 7 is a section on the line 7—7, Fig. 5.

Fig. 8 is a plan view of a rotatable platform showing still a different embodiment of the invention.

Fig. 9 is a section on the line 9—9, Fig. 8.

My invention may be embodied in an amusement device in which the cars are confined to the rotatable platform or in an amusement device in which a spillway is provided outside of the rotatable platform so that the cars which are thrown from the platform by centrifugal force may pass on to the spillway. An amusement device of this latter type is illustrated in my patent, United States, No. 1,279,911 dated September 24, 1918 and in Figs. 1 and 2 I have shown my present invention as applied to this type of amusement apparatus. In said figures, 1 indicates a rotatable platform which is constructed to rotate about its center and is supported on a circular track 2, said platform being rotated by any suitable means, such for instance, as a motor 3 which is geared to the platform by means of gearing 4 and a shaft 5. This platform 1 is shown as having a dished surface with the center thereof lower than the peripheral portion.

Outside of the rotatable platfrom 1 is a

stationary platform 8 which is also shown as inclined upwardly from a stationary platform to its periphery.

6 indicate passenger-carrying cars each adapted to contain a plurality of passengers and each constructed to travel freely in any direction. Each car is preferably circular in shape and is surrounded by a buffer 7 as usual in amusement devices of this kind.

The parts thus far described are, or may be, all as shown in my prior Patent No. 1,279,911 and in the operation of the device the cars 6 will naturally gravitate toward the center of the rotatable platform and as the latter is rotated they will be thrown by centrifugal force outwardly onto the stationary platform 8 which forms a spillway. As soon as the centrifugal force with which the cars were projected off from the rotary platform has expended itself the cars will gravitate back toward the rotatable platform.

In accordance with my present invention I construct the rotatable platform 1 so that it will give the cars a rocking motion as well as the outward motion due to centrifugal force and this is preferably accomplished by providing the surface of the platform 1 with raised portions having sloping sides over which the cars may travel, said raised portions forming between them valleys. The movement of any car from one valley over a raised portion and down into the next valley will give the car a rocking motion while it is travelling over the surface of the platform.

In Fig. 2 these raised portions of the platform are indicated at 9 and the valleys between the raised portions are indicated at 10. In the construction shown the valleys are at the same level as the main body of the platform and the raised portions 9 are raised from said platform.

These raised portions may extend in various directions without departing from the invention and as illustrating one possible arrangement I have shown them as having a general radial direction. In Fig. 2 the raised portions extend radially but terminate a distance from the periphery of the disk 1 and the outer ends of the raised portions are preferably rounded or pointed somewhat as shown.

When the rotatable platform 1 is at rest the cars will naturally gravitate toward the center thereof and will also gravitate into the valleys 10. When the platform 1 is rotated the cars will be subjected to centrifugal force which will increase as the speed of rotation increases until the cars are thrown off the platform onto the spillway 8. As the platform starts up from a stationary position the inertia of the cars will tend to prevent them from moving around with the platform but at the same time any car which is in one of the valleys will be acted on by one of the raised portions which will tend to move the car around with the platform until the centrifugal force is sufficient to throw the car over onto the spillway. As the cars gravitate back onto the rotary platform from the spillway they will pass over some of the raised portions 9 and thus will be given a rocking motion. Moreover where there are a plurality of cars operating at the same time the cars will bump in to each other more or less and thus the cars which are on the platform will be travelling in an indeterminate direction and each car will be carried over the raised portions 9 in various directions thus producing an irregular rocking motion which is exhilarating and increases the pleasure which the passengers derive from their rides in the cars.

I regard this radial arrangement of the raised portions 9 as very desirable especially in the construction shown in Figs. 1 and 2 wherein a spillway 8 is employed outside of the rotary platform 1 because in this construction the said raised portions 9 tend to overcome the inertia of the cars when the rotary platform begins to rotate thus causing the cars to rotate with the platform instead of allowing the platform to turn around under the cars. Where the cars are thus compelled to rotate with the platform 1 the time required in which to develop sufficient centrifugal force to throw the cars outwardly onto the spillway is very greatly reduced over that which is required where the rotary platform has a smooth surface, such as shown in my above-mentioned Patent No. 1,279,911.

Moreover the rotary arrangement of the valleys 10 is an advantage in that it tends to guide the cars in a radial directon as they are thrown off from the rotating platform.

In Figs. 5 to 9 I have shown constructions embodying my invention in which the cars are confined to the rotary platform and this is accomplished by placing a wall 11 just outside of the rotary platform as shown in Figs. 5 and 7 or by placing such a wall on the periphery of the rotary platform as shown in Figs. 8 and 9. In either case the cars will be confined to the rotary platform.

The extent and direction of the raised portions 9 may be varied without departing from my invention. In Fig. 2 they are shown as terminating at a distance from the edge of the rotary platform. In Figs. 5 and 7 they are shown as extending from the center clear to the periphery of the platform. While the radial arrangement of these raised portions is that which I prefer yet I do not wish to be limited to such an arrangement as my invention contemplates any arrangement of raised portions which

will provide a rocking motion to the cars as they travel in their inderterminate path over the rotary platform.

Another feature of my invention relates to the provision of a buffer located centrally of the rotatable platform and which acts to cause any cars gravitating toward the center of the platform to rebound more or less. This buffer is shown as a post 12 rigidly secured to the platform 1 at the central portion and surrounded by a resilient buffer. This buffer comprises a resilient ring 14 surrounding the post 12 and spaced therefrom by suitable springs 15. This ring is sustained in position by means of suspenders 16 attached to the top of the post.

I claim:

1. In an amusement device, the combination with a rotary platform turnable about a vertical axis, of a plurality of passenger-carrying cars thereon and each adapted to travel freely in any direction, said platform having an unobstructed surface in a radial direction whereby the cars are free to travel radially by centrifugal action as the platform rotates, said platform also having means to assist in overcoming the inertia of the cars as the platform starts in rotation thereby to quickly develop sufficient centrifugal force to throw the cars to the outer periphery of the platform.

2. In an amusement device, the combination with a rotary platform, of a plurality of passenger-carrying cars thereon and each adapted to travel freely in any direction, said platform having radially-arranged raised portions with valleys between them of sufficient size to receive the cars.

3. In an amusement device, the combination with a rotary platform, of a stationary spillway encircling the platform, and a plurality of passenger-carrying cars each adapted to travel freely in any direction, said rotary platform having radially-arranged raised portions with valleys between them of sufficient size to receive the cars whereby said raised portions will retain the cars in the valleys until sufficient centrifugal force is developed to throw the cars onto the spillway.

4. In an amusement device, the combination with a rotary platform, of a plurality of passenger-carrying cars thereon and each adapted to travel freely in any direction, said platform having raised portions thereon over which the cars may travel thereby to give the cars a rocking motion.

5. In an amusement apparatus, the combination with a rotatable platform, of a plurality of cars thereon each adapted to travel freely in any direction and means to cause said cars to have a rocking motion as they pass over the platform.

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

HERBERT N. RIDGWAY.