Oct. 7, 1924.

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I. W. JONES

MERRY-GO-ROUND

Filed Dec. 29, 1923

2 Sheets-Sheet 1

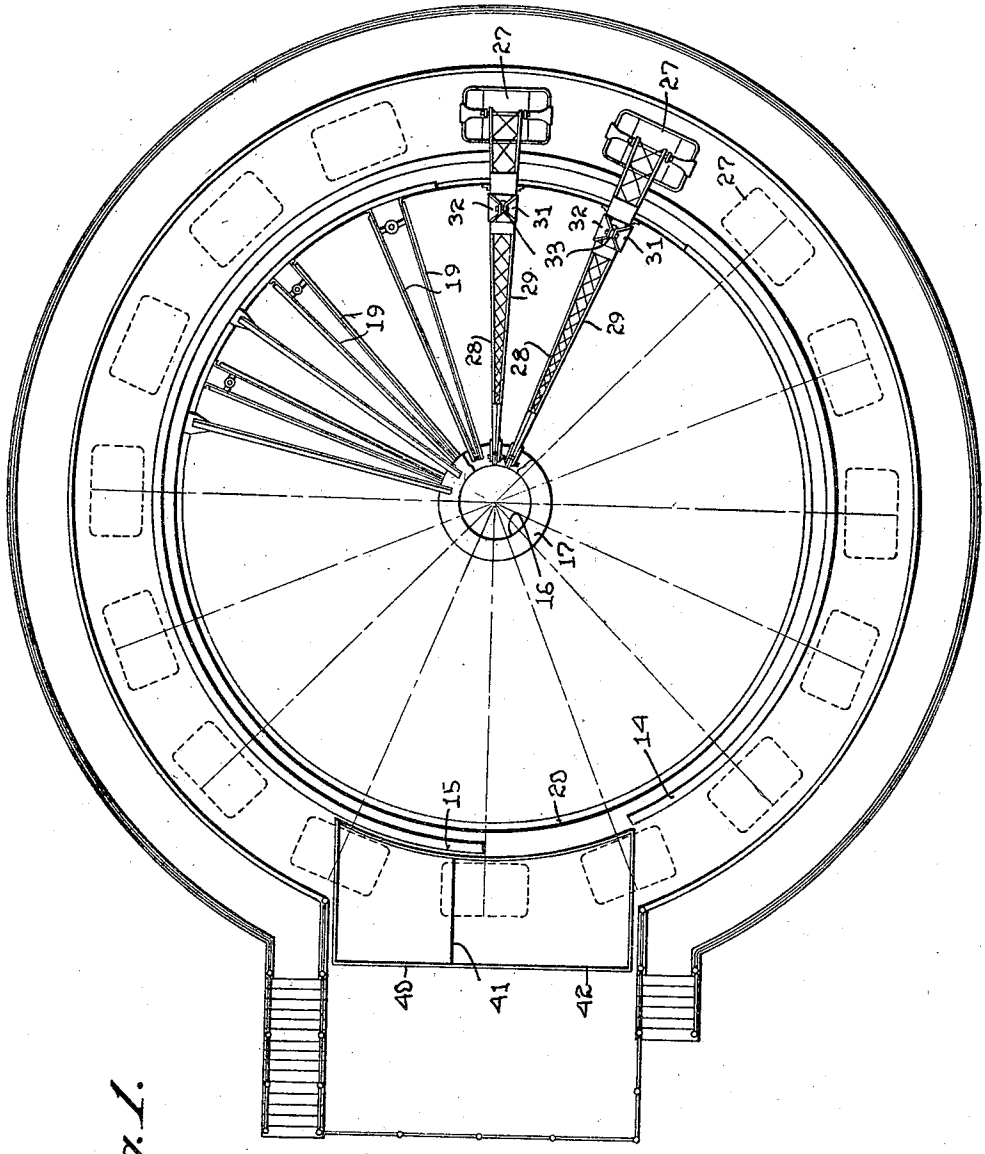

Fig. 1.

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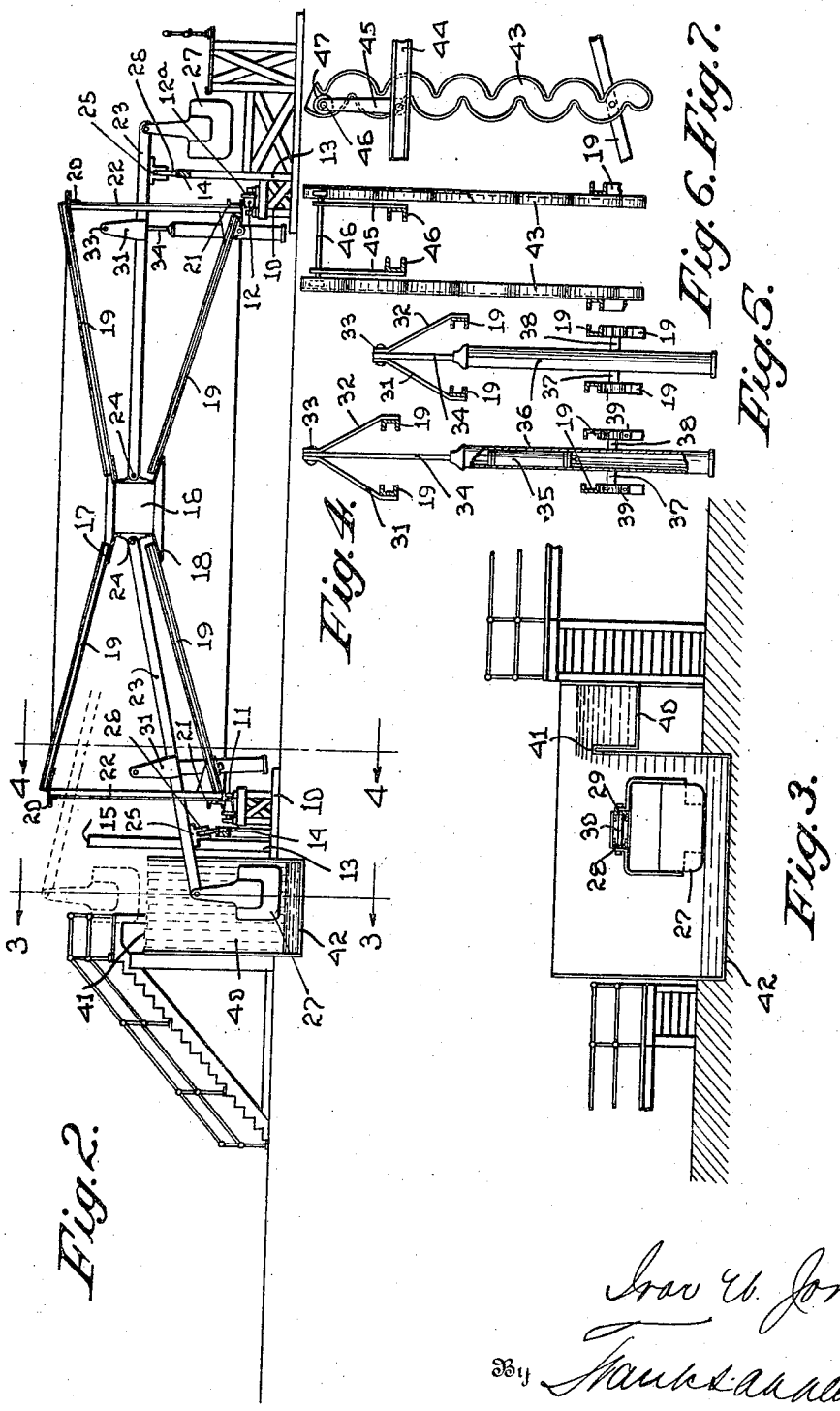

Fig. 2.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 3.

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UNITED STATES PATENT OFFICE.

IVOR W. JONES, OF BIRMINGHAM, ALABAMA.

MERRY-GO-ROUND.

Application filed December 29, 1923. Serial No. 683,423.

To all whom it may concern:

Be it known that I, IVOR W. JONES, a citizen of the United States of America, and resident of Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Merry-Go-Rounds, of which the following is a specification.

This invention relates to a class of roundabouts or merry-go-rounds, of the type that are used commercially as amusement devices in parks and pleasure resorts, and has for an object the production of a device of this general class which is intended to increase the excitement of the riders, as compared with the result of rides of this kind now in common use or known.

It is furthermore an object of this invention to produce a roundabout having improved scenic effects as compared with those now known, and improved pleasure exciting means in order that the occupant or occupants of a car of the device may have a real thrill, as the car passes over a pool or body of water from which a water-fall is flowing and into which the car with the occupants apparently shoots in its travel, that is to say, the car with the occupants takes a precipitous descent practically vertically, although, of course, there is a slight movement forwardly while the car is descending, due to the momentum which the car has attained.

It is a further object of this invention to produce a merry-go-round having means for supporting a car while it is traveling around an axis and to permit the car to fall after its supporting devices have become disengaged one from the other; and it is a further object to provide cushioning means whereby when the practical limit of the descent has been reached, there will be a cushioning effect to absorb any jar or vibration incident to the arrest of the downward movement of the car.

It is a further object of this invention to produce cushioning devices which may serve to arrest the descent of the car, the said cushioning devices having means whereby the car will be momentarily arrested and then released intermittently during its descent in order that the said descent will be somewhat "jerky", although, under certain conditions of use, it might be desirable to employ a check or cushioning device which did not have the jerky action.

It is a further object of this invention to produce a roundabout of the character indicated that will impart an entirely new impression to occupants of the car, as compared with devices now in common use.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this application wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a plan view of a merry-go-round showing a device embodying the invention;

Figure 2 illustrates a sectional view thereof;

Figure 3 illustrates a sectional view on the line 3—3 of Fig 2;

Figure 4 illustrates a sectional view on the line 4—4 of Fig. 1 with parts broken away and other parts omitted;

Figure 5 illustrates a view similar to Fig. 4 except that the parts are in different positions of adjustments;

Figure 6 illustrates a detail view of a modified car arresting device; and

Figure 7 illustrates a view in elevation of one of the faces of the arresting device shown in Fig. 6, showing parts associated with it.

The accompanying drawing is intended to illustrate one embodiment of the invention and the inventor does not wish to be limited with respect to the details, except as they may be specified by the annexed claims.

As illustrated in the accompanying drawing, the base or framework or trellis 10 is circular, although obviously it can have other configurations.

A series of journal bearings or brackets 11 are located on the frame and journals of conical rollers 12, having flanges 12^a constituting guides, are rotatably mounted therein.

Concentric with the framework just described, a track holding frame 13 is supplied by which the track is supported in an

inclined position, the lowermost portion or point thereof being preferably in spaced relation to that end of the track having the greatest elevation, and for convenience of illustration, the lowermost part of the track is indicated by the numeral 14, whereas that portion of the track having the greatest height is indicated by the numeral 15.

Suitable loading and unloading platforms with appropriate approaches and exits will, of course, be included as a part of the structure for convenience of operation, but the inventor does not wish to be limited with respect to these features, their number, or their arrangement.

A wheel is mounted on the rollers and any suitable mechanism may be provided for driving the frame and causing it to rotate on a horizontal plane, or on an approximately horizontal plane, and in the present embodiment of the invention, the wheel has what might be regarded as a central section or hub 16, with flanges 17 and 18. Radial braces or spokes 19 are provided and they have their inner ends attached to the flanges 17 and 18. There is an upper flanged ring 20 to which the outer ends of the upper braces are connected and a lower ring 21 to which the outer ends of the lower braces are connected. The ring 21 is preferably in the nature of a channel iron whose lower flange rides on the rollers 12 during the rotation of the frame or wheel. The upper ring and lower ring are connected by a plurality of ribs or strips 22 which are preferably of metal and these, in the present embodiment of the invention, are arranged in pairs and constitute guides.

An arm 23 oscillates between the members of each pair of guides and the inner end of each arm is oscillatably connected to the hub 16, as by a pivot 24. Each arm has a bracket 25 on its lower side in which a roller 26 is journaled, and the roller travels on the track to which reference has already been made, the said track acting as a support for the arms as the frame or wheel is rotated.

In the interests of clearness of description and to avoid alternative terms as designating the rotatable frame or wheel, it will be hereafter referred to as a "wheel", since it approaches a wheel in its construction and is rotatably supported.

A car 27 is suspended or slung from each arm at its outer end and preferably each car is loosely suspended from the arm.

Each arm 23 comprises two channel bars 28 and 29 having their flanges facing each other and the channel bars are connected by a bolt 30 from which the car is suspended.

Cheek pieces 31 and 32 are connected to the channel bars respectively, and converge thereabove. They are connected by a pivot 33 on which a piston rod 34 is oscillatable, the said piston rod being connected to a piston 35 that operates in a cylinder 36. The cylinder is provided with trunnions 37 and 38 that are journaled in brackets 39 secured in appropriate manner to the lower series of spokes 19. It is the purpose of the inventor that the mechanism just described shall operate as a cushioning device or somewhat in the nature of a dashpot, wherein the descent of the piston in the cylinder compresses air in the bottom which serves to gradually arrest the descent of the arm to cushion the fall from the high end of the track to the plane approximately that of the low end of the track.

It will be apparent that an occupant of a car that leaves the high end of the track and falls precipitously in an unsupported device will have a sensation quite different from those who occupy cars that are traveling on inclined tracks in which the car is constantly supported. To aid in developing the descending sensation and imparting a thrill to the ride, the car is caused to travel over a pool of water on a relatively high elevation, from which the water escapes in a manner to simulate a falls, and it is the purpose of the inventor that the car shall descend or fall just after the end of the pool has been reached and that the car shall descend practically parallel with the course of the water in its descent from the higher to the lower level. In the drawing, the pool is identified by the numeral 40, the partition over which the water flows to produce the falls 41, and the lower pool to which the water descends is identified by the numeral 42. Of course the relation of these pools and the fall to the elevated and depressed end of the track may be changed to suit particular requirements, and the space available for the creation of the marine scene.

In the modified device for cushioning the descent of the arm and the car, the lower spokes 19 oscillatably support guides 43, each of which has a zigzag channel in its inner face. The arms are arranged in pairs, in the present embodiment of the invention, and the channels in the two faces are complemental. In this modification, an arm 44 has a hanger 45 oscillatably connected to it and the hanger is provided with a pin or shaft 46 on which a roller 47 is rotatable, the said roller being of a size which will travel in the zigzag channel and cause the arm to descend more slowly than it would if the descent were unobstructed. This modified arm arresting device would give a somewhat jarring or vibrating action to the descending arm and the sensation resulting from its use would be different from that of the cushioning device shown in Figs. 4 and 5.

From an inspection of the drawing and

from the foregoing description, it will apparent that if a wheel is properly driven or rotated, it will carry the cars around the track, and that when the end of the track is reached the car will fall, although its descent will be controlled in order that the occupants of the car will not be injured. It is desirable, of course, that the car should not be allowed to descend to a greater extent than will permit the rollers on the arms to register with the upper surface of the lower end of the track, for it is the intention of the inventor that after the descent, the arms shall be immediately supported again by the track in order that the cars may be elevated as the wheel rotates.

While the cushion device as shown in Figs. 4 and 5 provides for arresting the piston or the descent of the arm by the action of air, it is understood that the inventor contemplates that spring cushioning means could be substituted as an equivalent mechanical device for accomplishing the same result as that contemplated by the use of the pneumatic device.

I claim:

1. A roundabout having a substantially circular track, a car carrying means adapted to be supported by the track and with relation to which track the said means travels, means adapted to be driven carrying the said first mentioned means with relation to the track, the said track having a gap where the said car carrying means is unsupported and into which gap the car carrying means descends precipitously, and means for arresting the car carrying means in its descent.

2. A roundabout having a substantially circular track, a car supporting element for traveling in engagement with the track whereby the said element is supported, means for moving the said element around the track, the said track having a gap where the element is unsupported and into which gap the element descends precipitously, and means for arresting and cushioning the car carrying element in its descent.

3. In a roundabout, a track arranged substantially circular with a gap therein whereby two ends of the track are present, means for supporting the track on an incline whereby one end is materially higher than the other end, a car carrying element including means supported by the track, means for driving the car carrying element around the track until it runs from the high end of the track and from which it falls, and means for cushioning the fall of the said car carrying element in its descent.

4. A roundabout having a substantially circular track, a car carrying means adapted to be supported by the track and with relation to which track the said means travels, means adapted to be driven carrying the said first mentioned means with relation to the track, the said track having a gap where the said car carrying means is unsupported and into which gap the car carrying means descends precipitously, means for arresting the car carrying means in its descent, and a water-fall having its course of descent at the gap in the track in a position back of the course traveled by the car carrying means in its descent.

5. In a roundabout, a track arranged substantially circular with a gap therein whereby two ends of the track are present, means for supporting the track on an incline whereby one end is materially higher than the other end, a car carrying element including means supported by the track, means for driving the car carrying element around the track until it runs from the high end of the track and from which it falls, means for cushioning the fall of the said car carrying element in its descent, and a water-fall having its course of descent at the gap in the track in a position back of the course traveled by the car carrying means in its descent.

6. A roundabout having a substantially circular track, a car carrying means adapted to be supported by the track and with relation to which track the said means travels, means adapted to be driven carrying the said first mentioned means with relation to the track, the said track having a gap where the said car carrying means is unsupported and into which gap the car carrying means descends precipitously, means for arresting the car carrying means in its descent, a simulated pool at the high end of the track and a simulated water-fall therefrom past which the car carrying means and the car descend when it leaves the track.

7. A roundabout having a substantially circular track, a car carrying means adapted to be supported by the track and with relation to which track the said means travels, means adapted to be driven carrying the said first mentioned means with relation to the track, the said track having a gap where the said car carrying means is unsupported and into which gap the car carrying means descends precipitously, and a water-fall having its course of descent at the gap in the track in a position back of the course traveled by the car carrying means in its descent.

8. A roundabout having a substantially circular track, a car carrying means adapted to be supported by the track and with relation to which track the said means travels, means adapted to be driven carrying the said first mentioned means with relation to the track, the said track having a gap where the said car carrying means is unsupported and into which gap the car

carrying means descends precipitously, a marine scene including a pool of water at the high end of the track, and a water-fall escaping therefrom in the direction of travel of the car carrying means, over which pool the car carrying means carries the car and approximately parallel with the course of the water-fall the car carrying means descends precipitously.

9. A roundabout comprising a rotatably mounted frame, arms extending radially therefrom and pivoted to the frame for vertical movement, a track substantially concentric with the periphery of the frame, said track being supported on an incline with a gap between the highest and lowest portions of the track, rotatable devices on the arms supported by the track, cars suspended from the arms, and means for cushioning the descent of the arms when the said arm supporting device leaves the track.

10. A roundabout comprising a rotatably mounted frame, arms extending radially therefrom and pivoted to the frame for vertical movement, a track substantially concentric with the periphery of the frame, said track being supported on an incline with a gap between the highest and lowest portions of the track, rotatable devices on the arms supported by the track, cars suspended from the arms, and means for cushioning the descent of the arms when unsupported by the track and for maintaining them in position to be engaged by the low end of the track as the frame rotates.

IVOR W. JONES.