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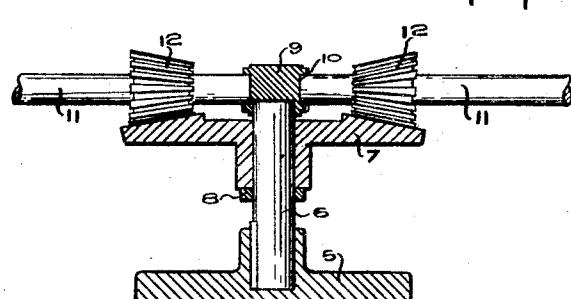
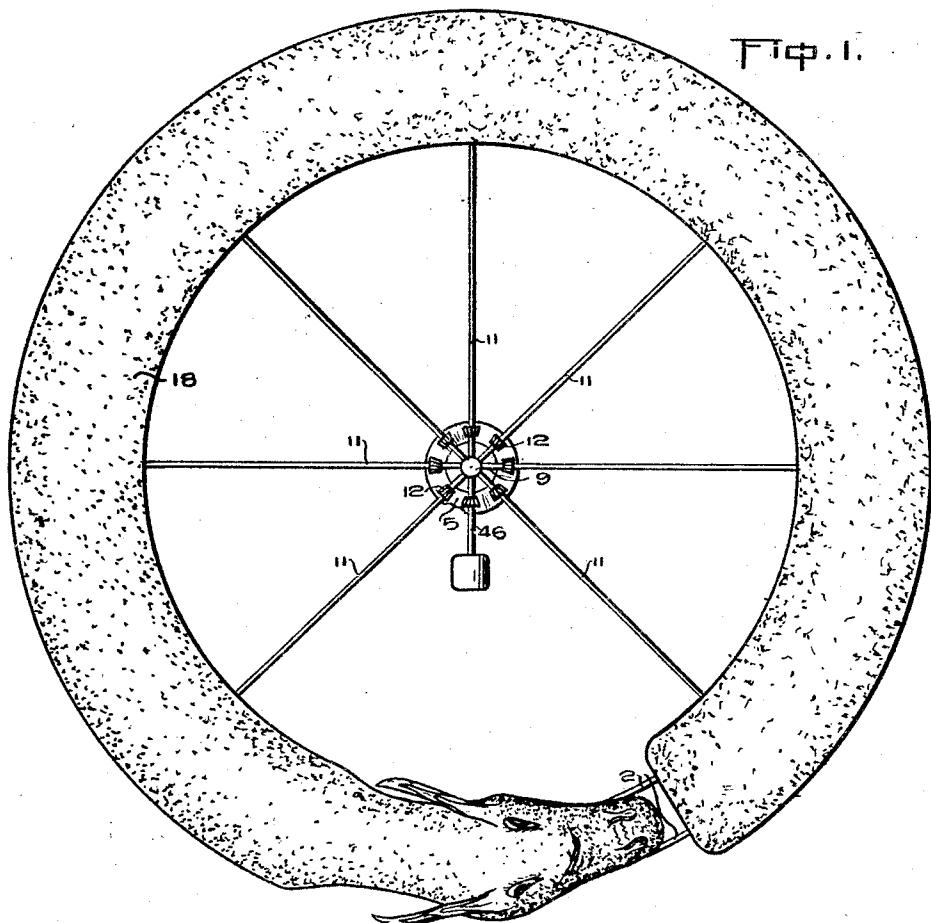
1,558,134

J. WHITELEY

AMUSEMENT DEVICE

Filed March 6, 1925

4 Sheets-Sheet 1



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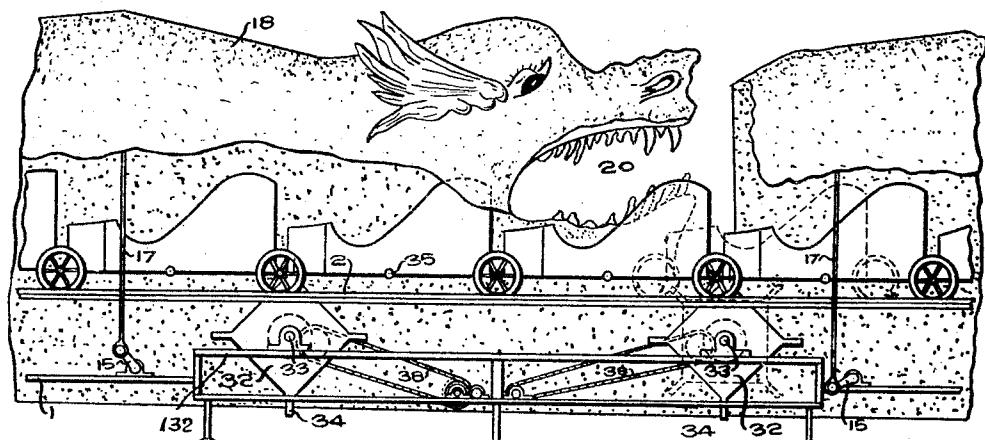


FIG. 3.

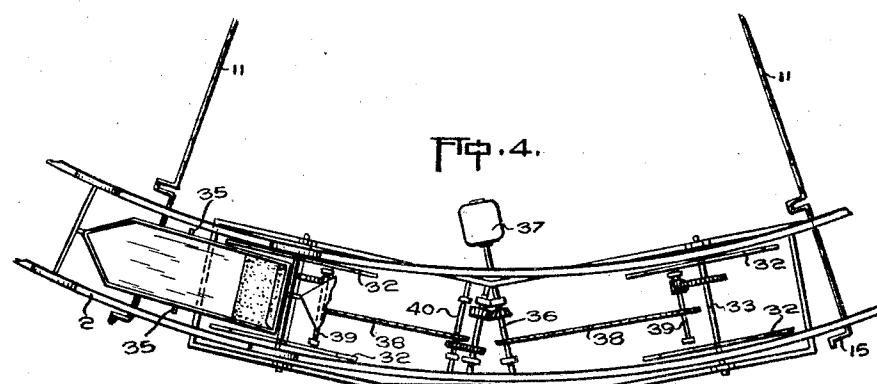


FIG. 4.

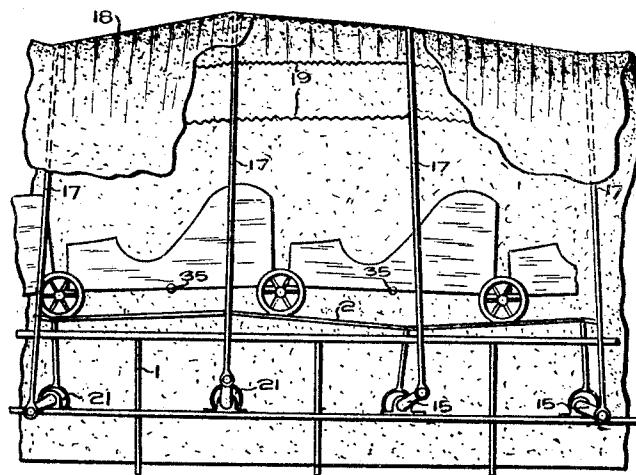


FIG. 5.

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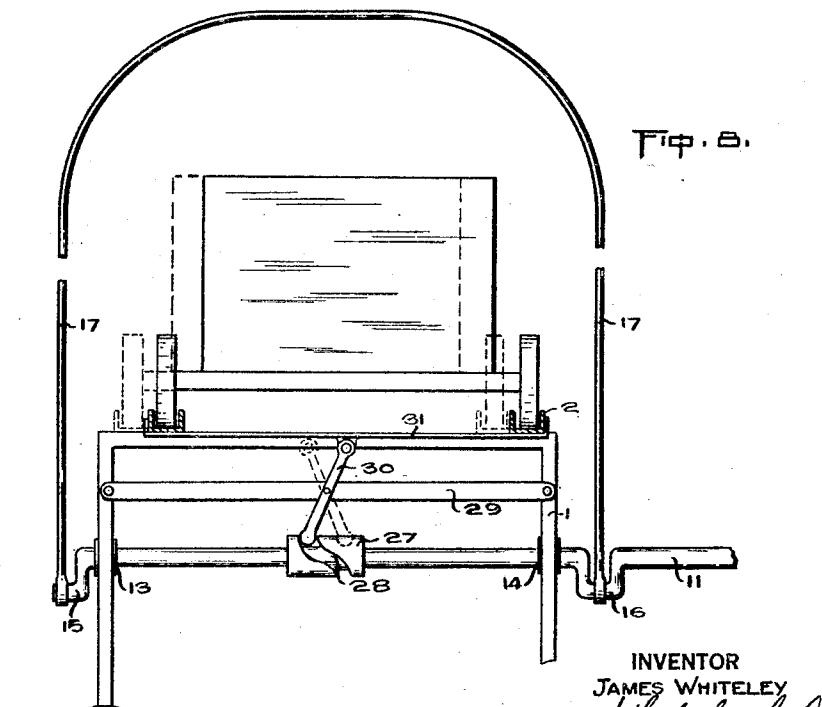
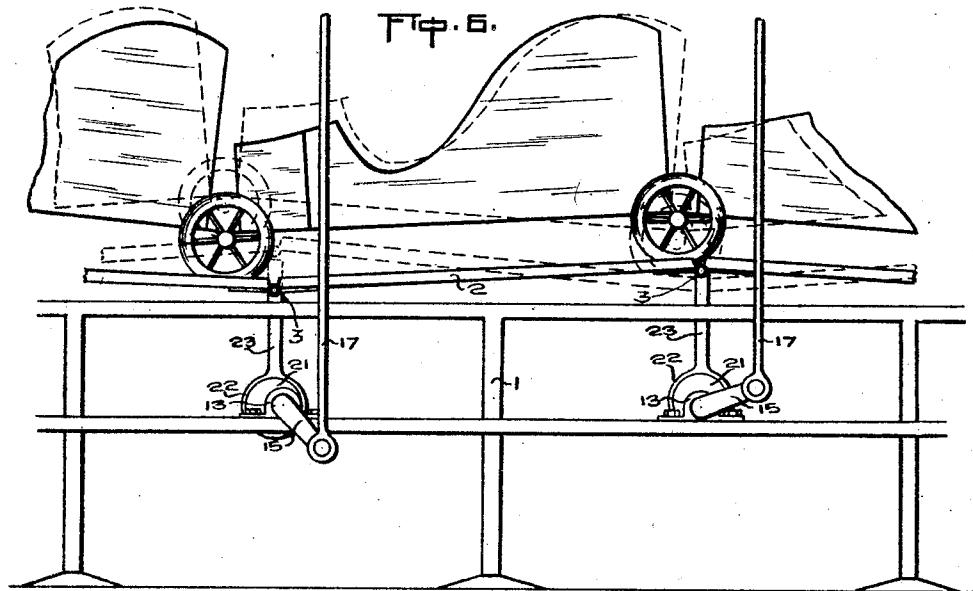
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4 Sheets-Sheet 3



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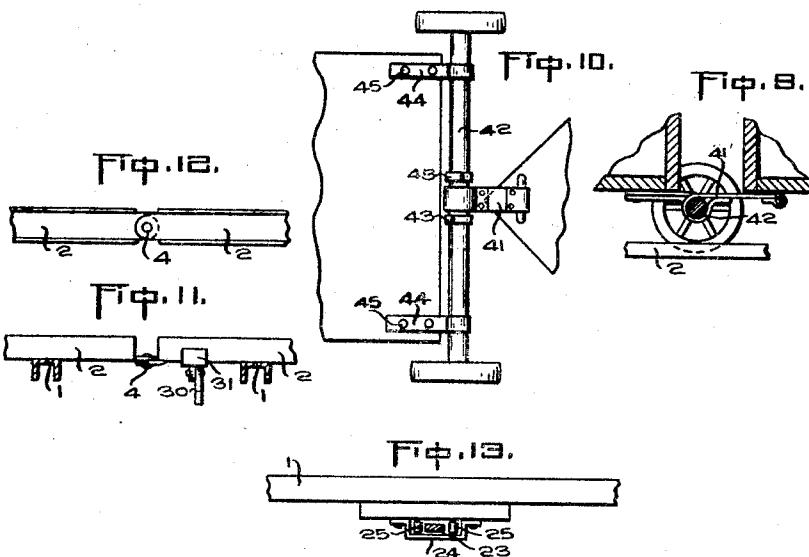
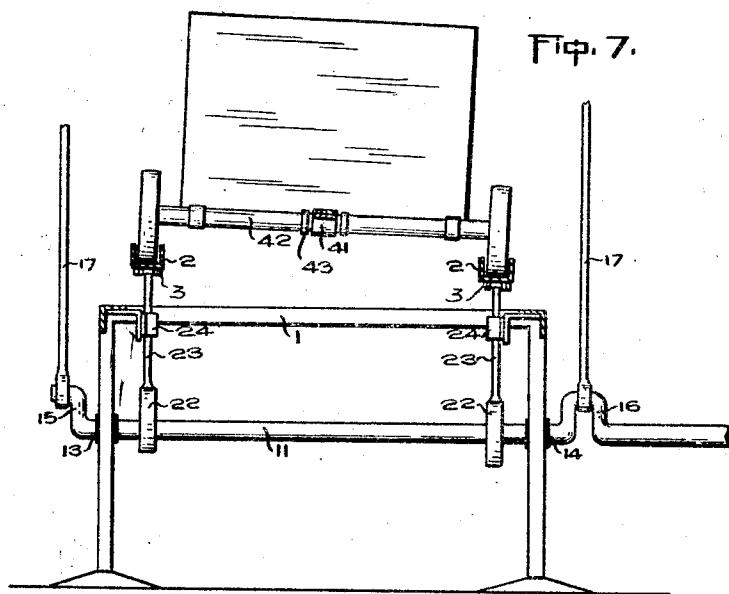
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Filed March 6, 1925

4 Sheets-Sheet 4



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## UNITED STATES PATENT OFFICE.

JAMES WHITELEY, OF NORTH TONAWANDA, NEW YORK; ASSIGNOR TO MAYNES CORPORATION, OF DOVER, DELAWARE, A CORPORATION OF DELAWARE.

## AMUSEMENT DEVICE.

Application filed March 6, 1925. Serial No. 18,649.

To all whom it may concern:

Be it known that I, JAMES WHITELEY, a citizen of the United States of America, and a resident of the town of North Tonawanda, county of Niagara, in the State of New York, United States of America, have invented certain new and useful Improvements in Amusement Devices, of which the following is a full, clear, and exact description.

My invention relates to improvements in amusement devices of the type in which passengers are carried in a car or train running on a track enclosed in a tunnel structure, the exterior of the tunnel being preferably designed to simulate the body of a creeping animal such as a dragon. One object of the invention is to devise means for imparting an undulating and transverse 20 rocking motion to the sections of the track as the cars travel thereover. A further object of the invention is to devise means for imparting a transverse side to side movement to portions of the track thus giving a 25 resultant side to side or shaking movement to the cars thereon. A still further object of the invention is to provide movable means successively coming in contact with the cars for propelling them along the 30 track.

My invention consists of an apparatus constructed and arranged all as hereinafter more particularly described and illustrated in the accompanying drawings in which:

Fig. 1 is a plan view of my device.

Fig. 2 is an elevational sectional view of the mechanism for operating the track actuating means.

Fig. 3 is a broken away view of a portion 40 of the device showing the means for propelling the cars along the track.

Fig. 4 is a plan view thereof the tunnel through which the cars travel being removed.

Fig. 5 is a broken away front elevational view of a portion of the interior of the tunnel showing the cars passing over the undulating track.

Fig. 6 is an enlarged front elevational 50 view of a portion of the track supporting frame showing the undulating tracks and the cars thereon, the means being shown for imparting the undulating movement to the track with the corresponding rocking motion to the cars.

Fig. 7 is a vertical cross sectional view through the track supporting structure and track showing one of the cars thereon.

Fig. 8 is a cross sectional view through another portion of the track and track supporting frame showing the means for imparting a side to side movement to the cars passing thereover.

Fig. 9 is a vertical sectional view of the lower front and rear portions of two adjacent cars showing the coupling means therebetween.

Fig. 10 is an inverted plan view thereof.

Fig. 11 is a fragmentary front elevational view of one of the pivotal connections between the sections of one of the rails of the track which impart the side to side movement to the cars.

Fig. 12 is a plan view thereof and,

Fig. 13 is a fragmentary sectional plan view of a portion of the track supporting frame showing a guide attached thereto through which one of the track actuating rods pass.

Like characters of reference indicate the corresponding parts in the different views.

1 is the main frame of my device, being substantially circular and adapted to carry the circular track 2 on its upper face; such track being composed of a plurality of 85 connected sections of channel iron. A number of such sections being connected together by means of the hinges 3 suitably secured to their lower faces and other sections pivotally connected together by pins 90 4 as illustrated in Figures 11 and 12.

5 is a pedestal situated at the center of the circular frame 1 and having an upwardly extending post 6 secured therein.

7 is a beveled gear rotatively mounted 95 on such post and supported upon the collar 8 which is pinned or otherwise suitably secured to the post.

9 is a bearing block secured upon the upper end of the post 6 and having a plurality of recesses 10 therein adapted to receive the inner ends of a plurality of radial shafts 11 which extend outwardly to the frame 1, the ends of such shafts being designed to rotate freely in the recesses 10. Each of the radial shafts 11 has a beveled pinion 12 secured thereon and meshing with the beveled gear 7. One of the radial shafts is shortened and coupled to an electric motor or any other suitable source of 110

power and constitutes the driving shaft 46 for the mechanism as shall be hereinafter described.

The outer ends of the radial shafts 11 pass through the frame 1 being journalled in a pair of bearings 13 and 14 secured to the frame, and 15 and 16 are cranks provided on the shafts in the vicinity of the outer and inner faces of the frame 1 as illustrat-

ed in Figures 6, 7, and 8. 17 are a plurality of upwardly extending inverted U shaped members the lower ends of which are journalled upon the cranks 15 and 16 the members constituting the supporting means for the tunnel 18 which is preferably constructed of heavy fabric or other suitable material. The lower edges of the fabric extending downwardly into proximity with the base of the frame 1.

19 are a plurality of spiral springs extending between adjacent members 17 and adapted to constitute a flexible connection between their upper ends.

The exterior of the tunnel 18 is designed to simulate a creeping animal and a gap 20 is provided in the circular tunnel in which entrance to and egress from the cars is made. One side of the gap is fashioned to constitute the head of the animal and the other side the tail.

A number of radial shafts 11 are each provided with a pair of eccentrics 21 upon which are mounted eccentric straps 22 which are connected to upwardly extending rods 23 which pass through and reciprocate in guides 24, each guide being provided with a pair of rollers 25 to minimize the friction between the rods 23 and the guides.

The connected sections of the channel 40 irons which compose the track 2 are hinged together at points above where the radial shafts pass through the frame 1 and the upper ends of the rods are pivotally connected to the hinges 3 connecting the sections 45 as is illustrated in Figures 6 and 7. It will be seen on referring to Figure 7 that the angular position of the inner and outer eccentrics is not the same on the radial shaft, thus the rods 23 are not reciprocated in unison which provides an erratic motion to the track sections. On a number of the radial shafts 11 which are not provided with eccentrics 22, I provide a cam or guide 27 in which is cut a spiral groove 28. On 50 the frame 1 a transverse cross member 29 is provided and a vertical lever 30 is pivoted thereon, the upper end of such lever being pivotally connected to a tie rod 31 the ends of which are secured to the rails of the track 2. As the radial shaft 11 rotates the cam 27 thereon will also rotate, and as the lower end of the lever 30 is in the groove 28 in such cam, the arm will oscillate and thus cause a side to side movement of the 55 track 2 as is illustrated in Figure 8.

The shape of the cams on the different radial rods is altered so that a shorter or longer motion is effected at each point. Where the cars and track are moved in a vertical direction as illustrated in Figure 7, 70 the pairs of eccentrics on each radial rod are set differently as are also the pairs of cranks 15 and 16 so that an erratic of both track and tunnel is achieved.

For propelling the cars along the track I 75 provide rotatable members 32 secured upon transverse shafts 33 which are journalled upon a frame 132 which is positioned underneath the track. The members 32 have a plurality of outwardly extending lugs 34 80 which come in contact with the axles of the cars as the members 32 rotate and push the cars along the track. Where the distance between the front and rear axles of the car is too great for the lugs 34 to successively 85 come in contact therewith, I provide outwardly extending rods 35 in the vicinity of the center of each car against which the lugs 34 will also come in contact. For rotating the members 32 any suitable mechanism can 90 be used, such as a driving shaft 36 connected with an electric motor 37 and a pair of endless sprocket chains 38 rotating counter shafts 39 which are suitably geared to the shafts 33. To attain the same direction of 95 rotation it is necessary to insert an idler shaft 40 in one chain connection.

For coupling the cars together I provide a forwardly extending strap 41, the inner 100 end of which is connected to the under side of the front of each car, the forward end of the strap being designed to encircle the rear axle 42 of the preceding car, collars 43 being pinned or otherwise secured to the axle on each side of the strap 41 so 105 as to prevent it moving longitudinally thereon. The rear axle 42 is secured to its car by means of straps 44 which encircle the axle, their free ends being secured by 110 bolts 45 to the bottom thereof.

The operation of my device is as follows:

When the driving shaft 46 is rotated the bevel gear 12 thereon is also rotated and as it meshes with the bevel gear 7 which is 115 rotatively mounted on the post 6 such bevel gear will rotate thus rotating the radial shafts 11 through the medium of the bevel gears 12 thereon with which it meshes. When the shafts 11 rotate the different sections of the track 2 are undulated and swing 120 from side to side and the tunnel 18 is moved in a sinuous manner as before described, the cars on the track being moved forwardly by means of the rotating members 32. The intermittent movement of the cars along the track to allow for the entrance and egress of the passengers is controlled by an electric switch which controls the electric motor 37, and as the propelling mechanism is 125 entirely independent from the car rocking 130

and shaking mechanism it will be seen that the cars are rocked and shaken irrespective of whether they are driven along the track or are stationary.

5 From the above description it will be seen that I have devised an apparatus which will be capable of furnishing amusement to a considerable number of persons at the one time, as quite a number of different movements can be applied to the track through the variation of the throws and angular positions of the operating cranks and cams, and furthermore, by painting the exterior 10 of the tunnel structure to represent the body of a creeping animal, and by providing the means for giving the animal a sinuous movement, a very realistic and curiosity inviting appearance is attained.

15 What I claim as my invention is:

20 1. An amusement apparatus comprising a track, a plurality of passenger conveying cars adapted to run thereon, means for undulating the track whereby a rocking motion is imparted to the cars and means for imparting a side to side motion in a horizontal plane to the track with a corresponding motion to the cars as they pass thereover.

25 2. An amusement apparatus comprising a track, a plurality of passenger conveying cars adapted to run thereon, and means for imparting a side to side motion in a horizontal plane to the track with a corresponding motion to the cars as they pass thereover.

30 3. An amusement apparatus comprising a track, a plurality of cars adapted to run thereon, a tunnel structure thereover formed to simulate a creeping animal, and means for imparting an undulating movement to the track and tunnel.

35 4. An amusement apparatus comprising a track, a plurality of cars adapted to run thereon, a tunnel structure thereover formed to simulate a creeping animal, and rotatable means for imparting an undulating movement to the track and tunnel.

40 5. An amusement apparatus comprising a track, a plurality of cars adapted to run thereon, a tunnel structure thereover formed

to simulate a creeping animal, and means for imparting a side to side movement in a horizontal plane to the track and an undulating movement to the tunnel.

55 6. An amusement apparatus comprising a circular track, a plurality of cars adapted to run thereon, a driving mechanism disposed centrally of the track, power conveying means radiating from the driving mechanism to the track, and means interposed between the power conveying means and the track to produce a rocking motion of the cars thereon.

60 7. An amusement apparatus comprising a track formed of a plurality of pivotally connected sections, rotatable shafts, connections between the shafts and the sections of the track for causing movement of the sections when the shafts are rotated.

65 8. An amusement apparatus comprising a track formed of a plurality of pivotally connected sections, a flexible tunnel structure covering the track, rotatable crank shafts, and a plurality of connections interposed between the crank shafts and the sections of the track, and the crank shafts and the tunnel for causing movement to the sections of the track and the tunnel when the cranks are rotated.

70 9. An amusement apparatus comprising an undulating circular track, a plurality of cars adapted to run thereon, a rotatable central gear disposed centrally of the circular track, a plurality of radially extending shafts extending from the center to the periphery of the circular track, gears secured to the radial shafts and meshing with the central gear to rotate the radial shafts, and means between the track and the shafts for causing the track to undulate as the shafts 75 rotate.

75 10. An amusement apparatus comprising a track having two rails, a plurality of passenger conveying cars adapted to run thereon, and means for undulating the rails independently of each other whereby a rocking and undulating motion is imparted to the cars.

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