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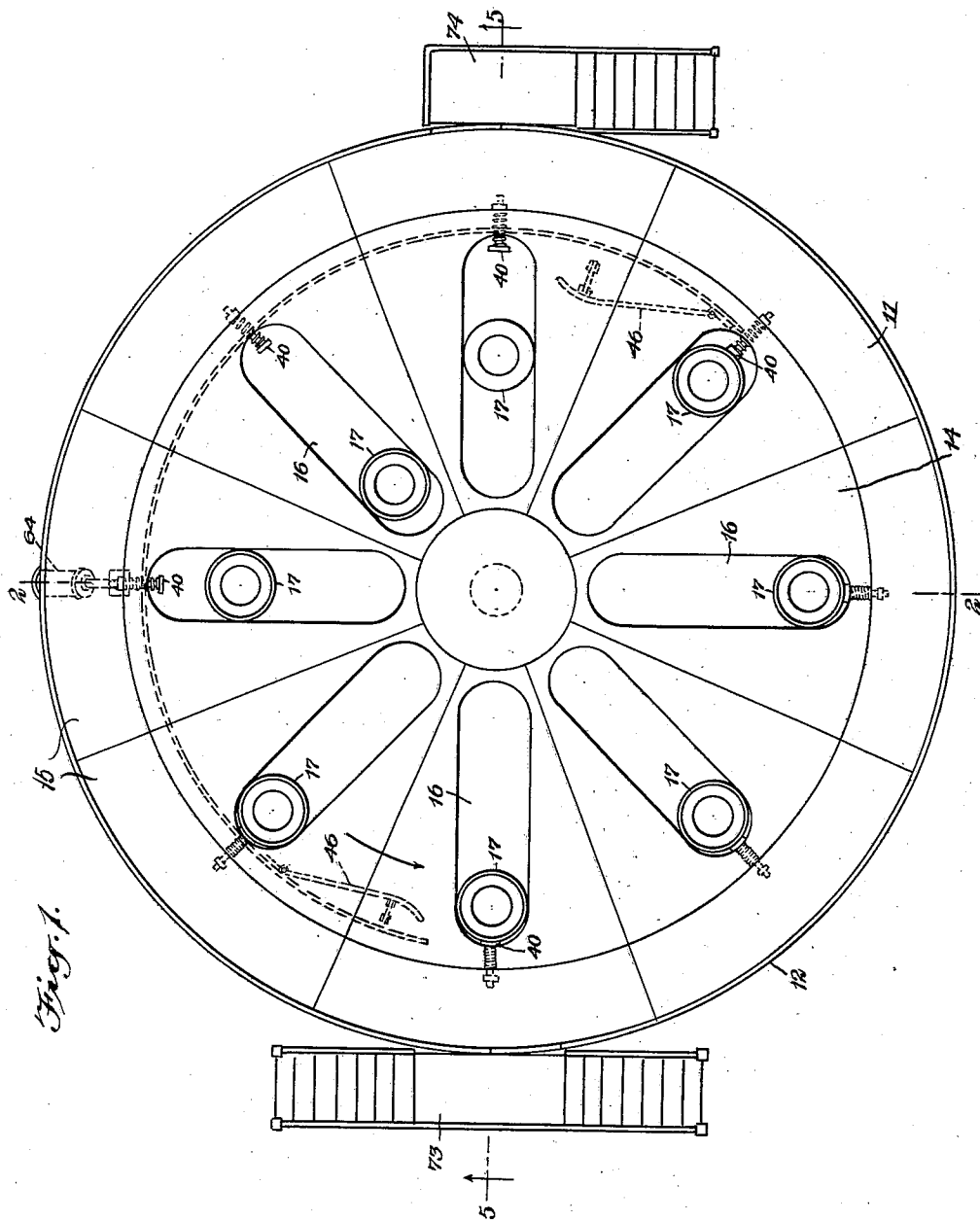
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2,225,411

AMUSEMENT RIDE

Filed Jan. 17, 1940

4 Sheets-Sheet 1



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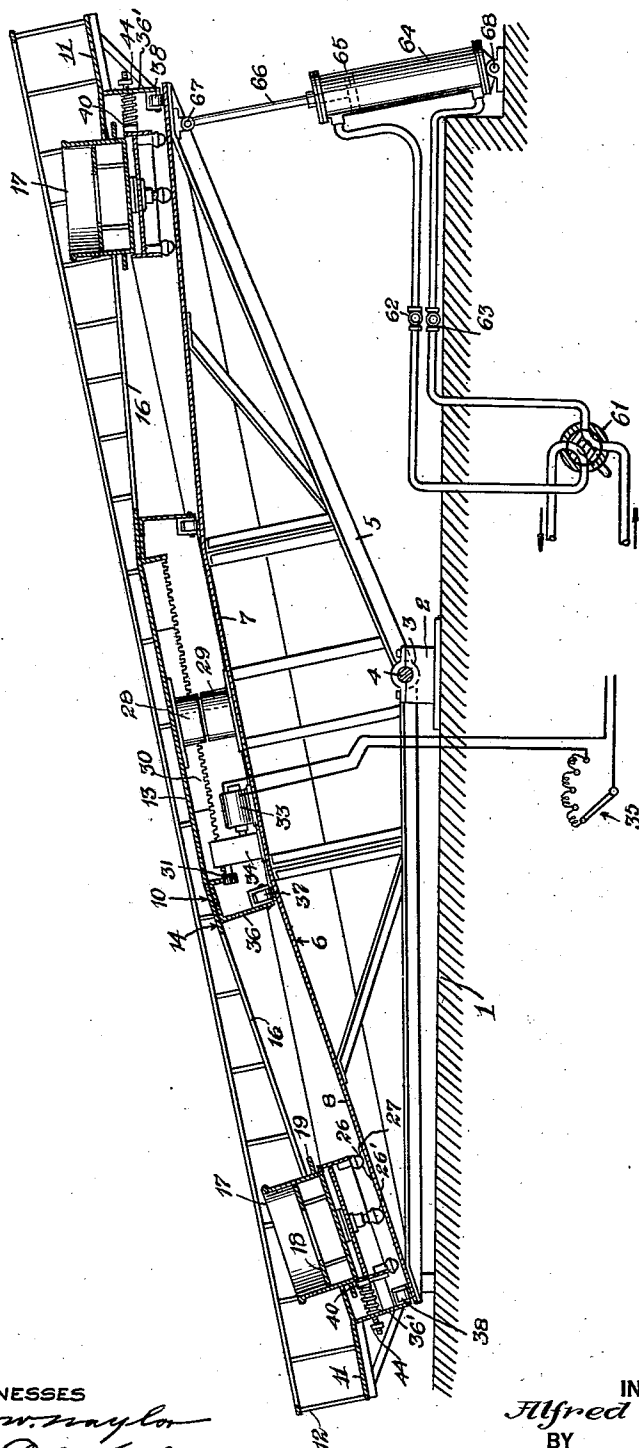
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Fig. 2.



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AMUSEMENT RIDE

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Fig. 3.

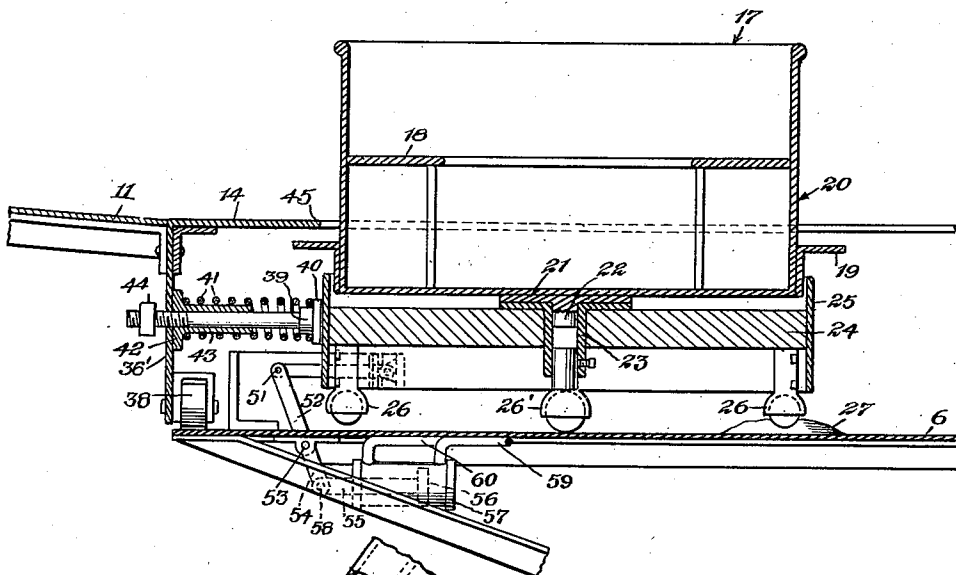
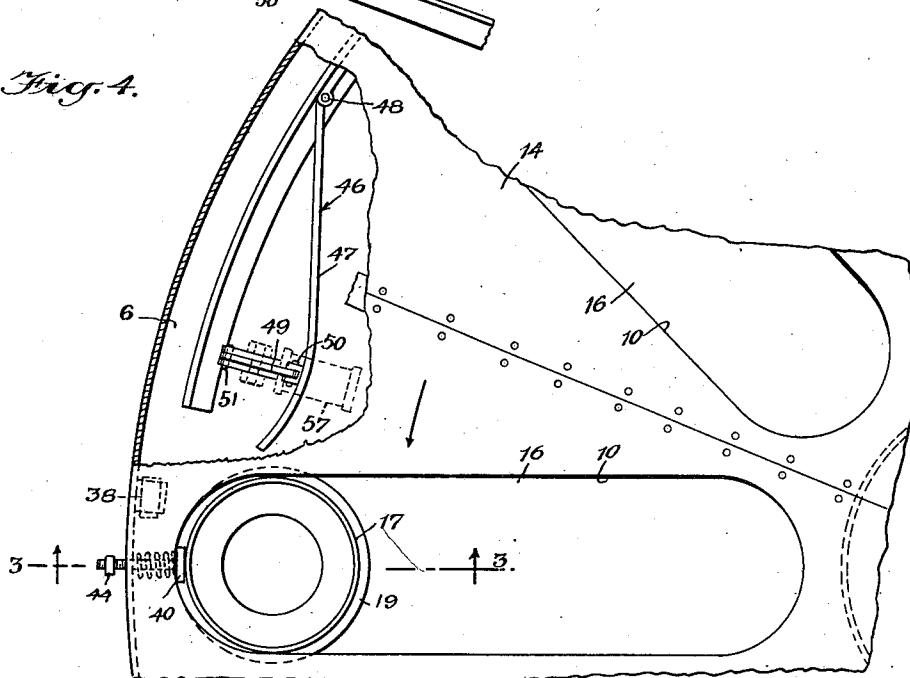


Fig. 4.



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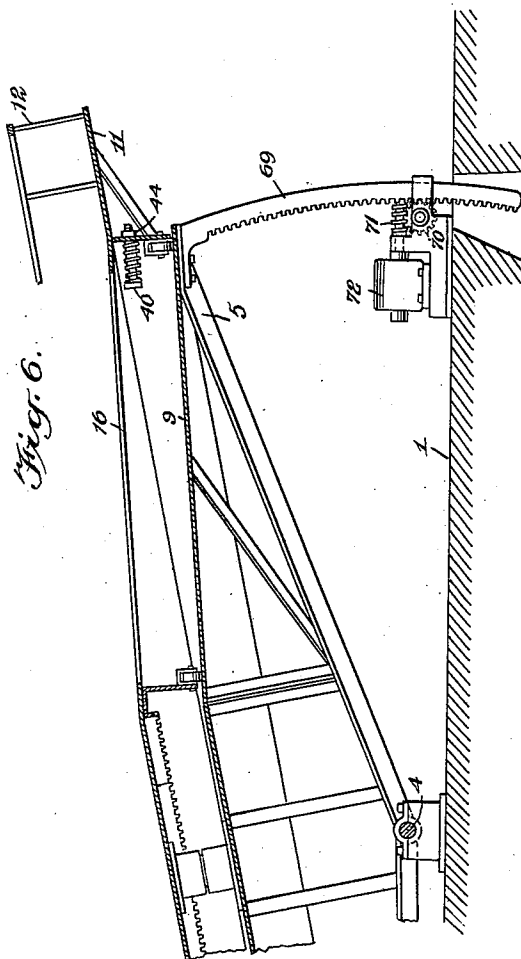
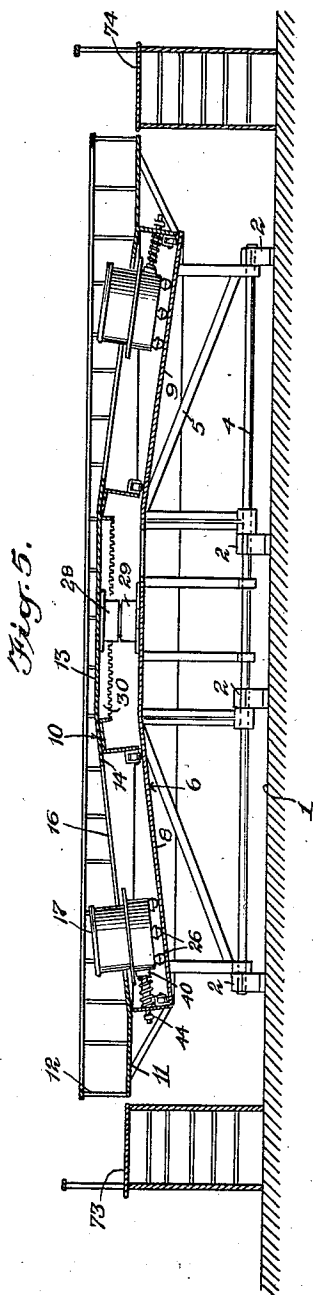
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AMUSEMENT RIDE

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4 Sheets-Sheet 4



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2,225,411

AMUSEMENT RIDE

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Application January 17, 1940, Serial No. 314,269

4 Claims. (Cl. 272—30)

This invention relates to an improved pleasure apparatus and particularly to what is known as an amusement ride, an object being to provide a construction which is an improvement over my prior Patent No. 1,293,393.

Another object of the invention is to provide an amusement ride wherein the movable members may be caused to move in a given path and also the entire apparatus tilted.

A further object of the invention is to provide an amusement ride having a rotating member with independent cars mounted thereon and means for swinging the rotating member on a central axis so as to tilt the same either while stationary or moving.

A further and more specific object is to provide an amusement ride having a tiltable frame and a rotating platform or carrier thereon, together with freedom of the cars and adjustable deflectors for deflecting the cars at certain points during their revolutions.

In the accompanying drawings—

Fig. 1 is a top plan view of an amusement ride disclosing an embodiment of the invention;

Fig. 2 is a sectional view through Fig. 1 approximately on the line 2—2;

Fig. 3 is an enlarged fragmentary sectional view of Fig. 4 approximately on the line 3—3;

Fig. 4 is an enlarged fragmentary top plan view of part of the structure shown in Fig. 1 with certain portions broken away for illustrating a deflecting member in its association with one of the freely moving cars;

Fig. 5 is a sectional view through Fig. 1 approximately on the line 5—5; and

Fig. 6 is a fragmentary view similar to the right-hand end of the structure shown in Fig. 2 but illustrating a modified form of the tilting structure.

Referring to the accompanying drawings by numerals, 1 indicates the ground or other support on which standards 2 are mounted. These standards are each formed with a bore 3 accommodating the shaft 4 to which a frame 5 is preferably rigidly secured. The frame 5 in cross section as shown in Fig. 2, is an elongated substantially diamond shaped structure with suitable bracing bars transversely at the bottom and at the top with a track member 6 of sheet metal or other suitable material. This track member is provided with a flat center 7 which is usually held horizontal, as shown in Fig. 5, when loading the ride with passengers. Extending from this central platform is an inclined circular section 8. A platform or carrier 10 is spaced above the track

or platform 6. The carrier 10 is of substantially the same shape as the track member 6 but at the periphery is provided with a walk or circular platform 11. A central section 13 of carrier 10 is horizontal when the parts are in the position shown in Fig. 5. This places the section 13 of carrier 10 in a plane parallel to the circular platform 11 which is provided on the extreme outer edge with a fence 12. The carrier 10 is provided with an annular inclined section 14 which is made up of a number of pieces of material 15, as shown in Fig. 1, and in each of the pieces 15 there is provided a radiating slot 16 which extends from near the center of the device to the periphery. There is provided a car 17 for each slot 16 and each of these cars is provided with a seat 18 and flange 19 extending beneath the inclined section or portion 14 of carrier 10. The car 17 is shown in detail in Fig. 3 and from this figure it will be observed that the car body 20 is mounted upon a plate 21 having a pin 22 which is rotatable in a sleeve 23. Sleeve 23 is carried by a platform of wood, metal or other material. The platform 24 is preferably circular and slightly larger than the body 20 which is also circular. A band 25 is rigidly secured to the platform 24 and normally overlaps the body 20 whereby the body 20 may move with the platform 24 or rotate independently thereof. Suitable anti-friction members 26 are connected with the platform 24 for supporting the same and the remaining part of car 17. Preferably, there is a centrally positioned anti-friction member 26', as shown in Fig. 3, and a number of supporting anti-friction members near the outer edge, the latter anti-friction members being slightly shorter than the central anti-friction member. This will allow a certain tilting action, particularly when one of the members strikes the raised portion 27 carried by the track member 6. By reason of the flange 19, the car 17 may freely rotate or slide back and forth in slot 16 and may gyrate by reason of the member 27 without being disengaged from the carrier 10. By reason of this structure it will be seen that there is a certain up and down movement of the car and also a rotary and back and forth movement. All of the cars are constructed as shown particularly in Fig. 3 and move around the central bearing 28 as the carrier 10 rotates. It will be observed that the bearing 28 is supported by member 29 so that carrier 10 may freely rotate.

An annular rack 30 is secured to carrier 10 at the center thereof, as shown particularly in Figs. 2 and 5. A pinion 31 continually meshes with 55

rack 30 and this pinion is driven by electric motor 33 through suitable transmission gears 34. A control rheostat 35 controls the current supplied to motor 3 to cause the motor to function at any desired speed. As shown particularly in Fig. 2 the rack 30 is preferably made from sheet material and welded or otherwise rigidly secured to carrier 10.

An inner annular member 36 is also welded or otherwise secured to the metal carrier 10 and carries a number of anti-friction members 37 which continually rest on track 6. As shown particularly in Fig. 3, there is provided an outer depending annular flange 36' which may be integral with carrier 10 or rigidly secured thereto. Flange 36' carries a number of anti-friction members 38 which roll on the track member 6. This allows the carrier 10 to freely rotate while the track member 6 is normally held stationary, either in the position shown in Fig. 5 which may be called a horizontal position, or the position shown in Fig. 2 which may be called a tilted position. It will be understood that the tilt may be anywhere between a horizontal position and the tilted position in Fig. 2. The latter position is the extreme tilted position. When in the extreme tilted position the upper portion of section 14, as shown in Fig. 2, is inclined slightly so that the cars will gravitate toward the center of the ride. As the ride rotates the cars will gravitate outwardly. The outward movement is augmented by centrifugal action.

Arranged in line with the center of the slots 16 are cushioning abutments 39, as shown particularly in Fig. 3. Each of these abutments is provided with a head 40 adapted to be struck by the annular band 25 and also adapted to be pressed by the spring 41 which presses against the base 42 of a tubular guide 43. A nut 44 is threaded on the abutment 39 so as to limit the movement under the action of spring 41. The spring 41 is intended to prevent the cars from hitting the outer edge 45 when moved outwardly with some considerable force. This gives a nice cushioning action which will quickly slow down the movement of the car, usually stopping the same before the car strikes edge 45.

In order that the cars at spaced intervals may be moved radially inwardly, there are provided a plurality of deflecting members 46, as shown particularly in Fig. 4. As illustrated in dotted lines in Fig. 1, there are two of these deflecting members but, if desired, more may be used or even less. Each deflecting member has a curved contact bar 47 hinged at 48. A link 49 is pivotally connected at 50 to the bar 47 and at 51 to a lever 52 which is pivotally mounted at 53 on a bracket carried by the track member 6. The outer end 54 of lever 52 is connected with a piston rod 55 connected with a suitable piston 56 in cylinder 57. A slot in rod 55 may accommodate journal pin 58 so that there will be no pinching action as the piston 56 moves back and forth. Air, steam or liquid under pressure is adapted to be supplied and exhausted through pipes 59 and 60 so as to cause piston 56 to move back and forth. When the piston 56 is moved to the right, as shown in Fig. 3, bar 47 will be swung outwardly away from the center of the apparatus and when the piston 56 is moved to the left, as shown in Fig. 3, the bar 47 will be swung inwardly so that when any of the cars 17 strikes the same, the respective cars will be deflected so as to move radially inwardly. If the ride is moving slowly this inward movement will be for only a short distance but if

the ride is moving at a fair rate of speed, the deflection of the cars will be greater. The operator can regulate this by varying the speed or rotation of the carrier 10 or may vary the inward movement by varying the position of bar 47. Preferably, the cylinders 57 for the respective bars 47 are connected together so that these bars may swing inwardly or outwardly simultaneously.

Air, steam or liquid from any suitable source may pass through the master valve 61, as shown in Fig. 2, and then through the control valves 62 and 63 for providing liquid at either end of the cylinder 64 which cylinder is provided with the piston 65 connected with the piston rod 66. Rod 66 is pivotally mounted at 67 while the cylinder 64 is pivotally mounted at 68. The cylinder may be supplied with fluid under pressure or may be exhausted of fluid through either of the control valves 62 or 63 so as to tilt the ride to the position shown in Fig. 2 or to any intermediate desired position. Instead of using this form of means for tilting the ride an auxiliary form may be used, as shown in Fig. 6, wherein an arch-shaped rack 69 is bolted or otherwise rigidly secured to the frame 5 and continually meshes with pinion 70 which is actuated by a worm 71. Worm 71 may be actuated by an electric motor 72 or by a hand-actuated crank, as preferred. As shown in Figs. 1 and 5, there is provided a loading platform 73 and an unloading platform 74. It will be evident that both platforms could be used for loading and unloading without departing from the spirit of the invention. Preferably, the apparatus is moved to a horizontal position, as shown in Fig. 5, when loading or unloading. This will permit the passengers to step out of the cars on the circular plate at 11 and then to one of the loading or unloading platforms.

I claim:

1. An amusement ride including a frame, hinge means for hinging the frame in a fixed position, a reciprocating member secured to said frame adjacent one end of the frame, hand controlled means for reciprocating said reciprocating member for tilting said frame to a desired angle, a track member mounted on top of said frame, a plurality of cars mounted to move over said track member, each of said cars having an annular radiating flange, means for moving said cars over said track member and a carrier having a radiating slot for each of said cars, said cars being positioned so that a portion thereof will project through said slots while said flange is positioned beneath the undersurface of said carrier for preventing said cars from leaving said track member.

2. An amusement ride including a stationary frame, a frusto-cone shaped sheet metal track member mounted on said frame and rigidly secured thereto, a carrier of substantially the same shape as the track member mounted to rotate over said track member, said carrier having a plurality of radially extending slots, a car extending through each of said slots, said cars being mounted on said track member and movable in a circle by said carrier as the carrier rotates, said carrier having a depending annular flange at its periphery, a plurality of rollers carried by said flange positioned to contact with said track member for supporting the carrier at the periphery, a swinging car deflector connected to said annular flange at spaced intervals, power actuated means for swinging said deflector inwardly and outwardly whereby when any of the deflectors are swung inwardly each car adjacent the periphery of the carrier will be deflected radially

inwardly as it passes the deflector, and power-actuated means for rotating said carrier.

3. An amusement ride including a supporting frame, a track member carried by said frame, said track member presenting an inverted disk-like structure, a carrier of substantially the same shape as said track member spaced from the track member, means at the center of the carrier for rotatably supporting the carrier, means acting on the carrier adjacent the center thereof for rotating the carrier, said carrier having a plurality of substantially radiating slots, a plurality of cars mounted to move over said track member, there being one car for each of said slots, said cars projecting through the slots, an annular depending band secured at its upper edge to the periphery of the carrier, and a resilient abutment carried by said band opposite each of said slots, each of said abutments including a tubular guard carried by said band extending radially inwardly, a headed bolt slidably mounted in said tubular guard and normally extending therefrom, a coil spring acting on the head of said bolt and on base of said tubular guard for resiliently urging said bolt radially inwardly and a stop secured to said bolt adjacent the end opposite said head.

4. An amusement ride including a supporting frame, a track member carried by said frame, said track member presenting an inverted disk-like structure, a carrier of substantially the same

shape as said track member spaced from the track member, means at the center of the carrier for rotatably supporting the carrier, means acting on the carrier adjacent the center thereof for rotating the carrier, said carrier having a plurality of substantially radiating slots, a plurality of cars mounted to move over said track member, there being one car for each of said slots, said cars projecting through the slots, a bar having one end pivotally connected to said track member near the periphery thereof, said bar being positioned so that the free end may swing inwardly toward the center of said track member, said bar being positioned so that said cars will strike the same if the bar is swung outwardly a certain distance for causing the cars to move radially inwardly along said slots, and means for swinging said free end inwardly and outwardly, said last mentioned means including a link pivoted at one end to said bar and extending substantially radially of said track member, a lever pivotally mounted on said frame, one end of said lever being pivotally connected to said link, a piston rod pivotally connected to the other end of said lever, a piston secured to said piston rod, a cylinder for said piston, and manually controlled means for admitting and exhausting fluid under pressure into said cylinder at the respective ends for causing said bar to swing inwardly and outwardly.

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