

May 2, 1933.

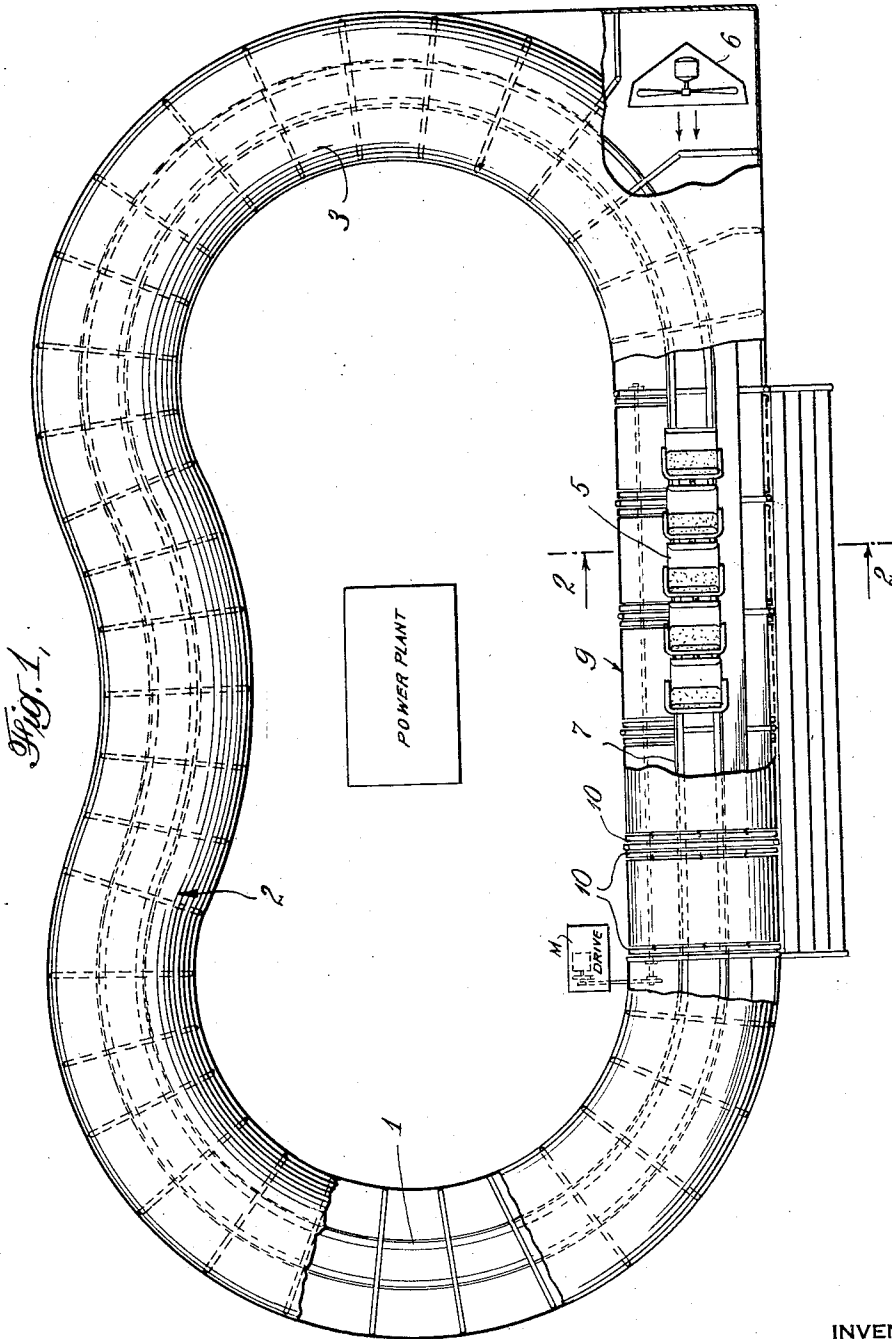
H. F. MAYNES

1,906,763

AMUSEMENT RIDE

Filed March 11, 1932

5 Sheets-Sheet 1



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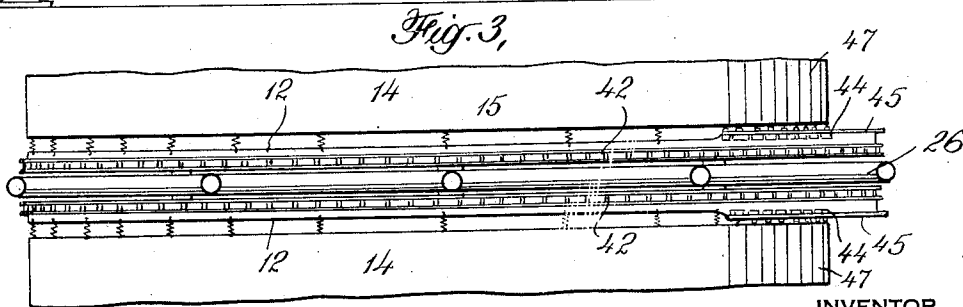
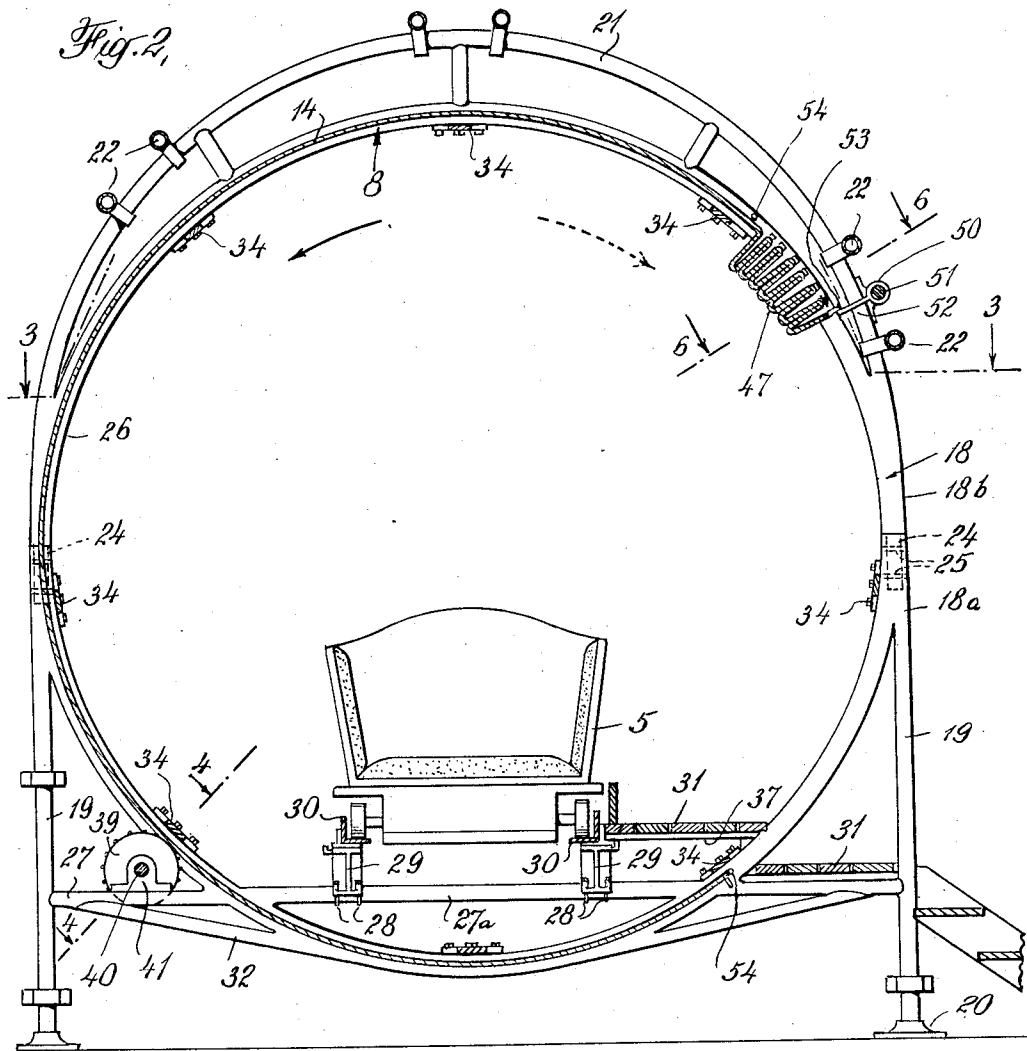
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5 Sheets-Sheet 2



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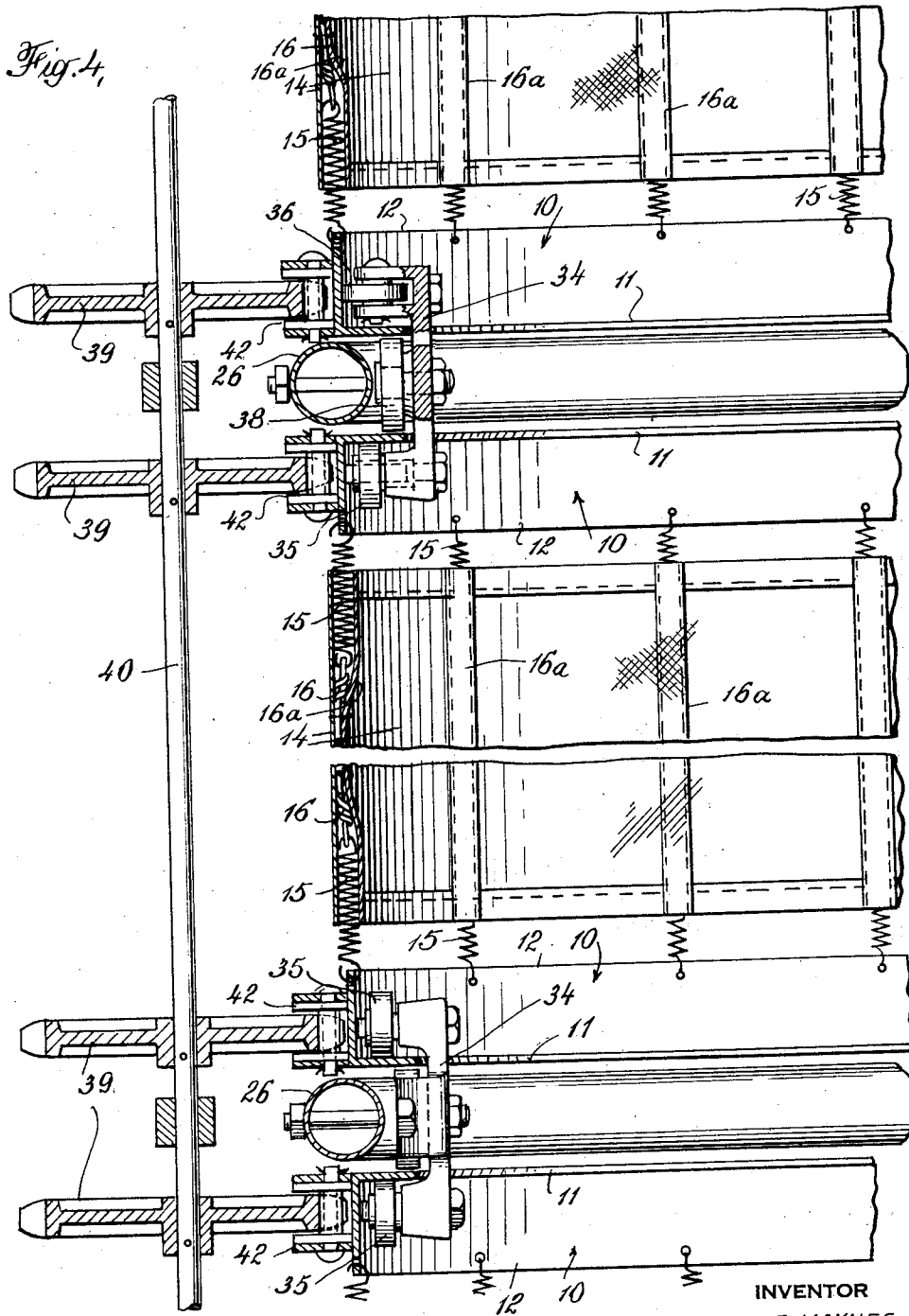
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AMUSEMENT RIDE

Filed March 11, 1932

5 Sheets-Sheet 3



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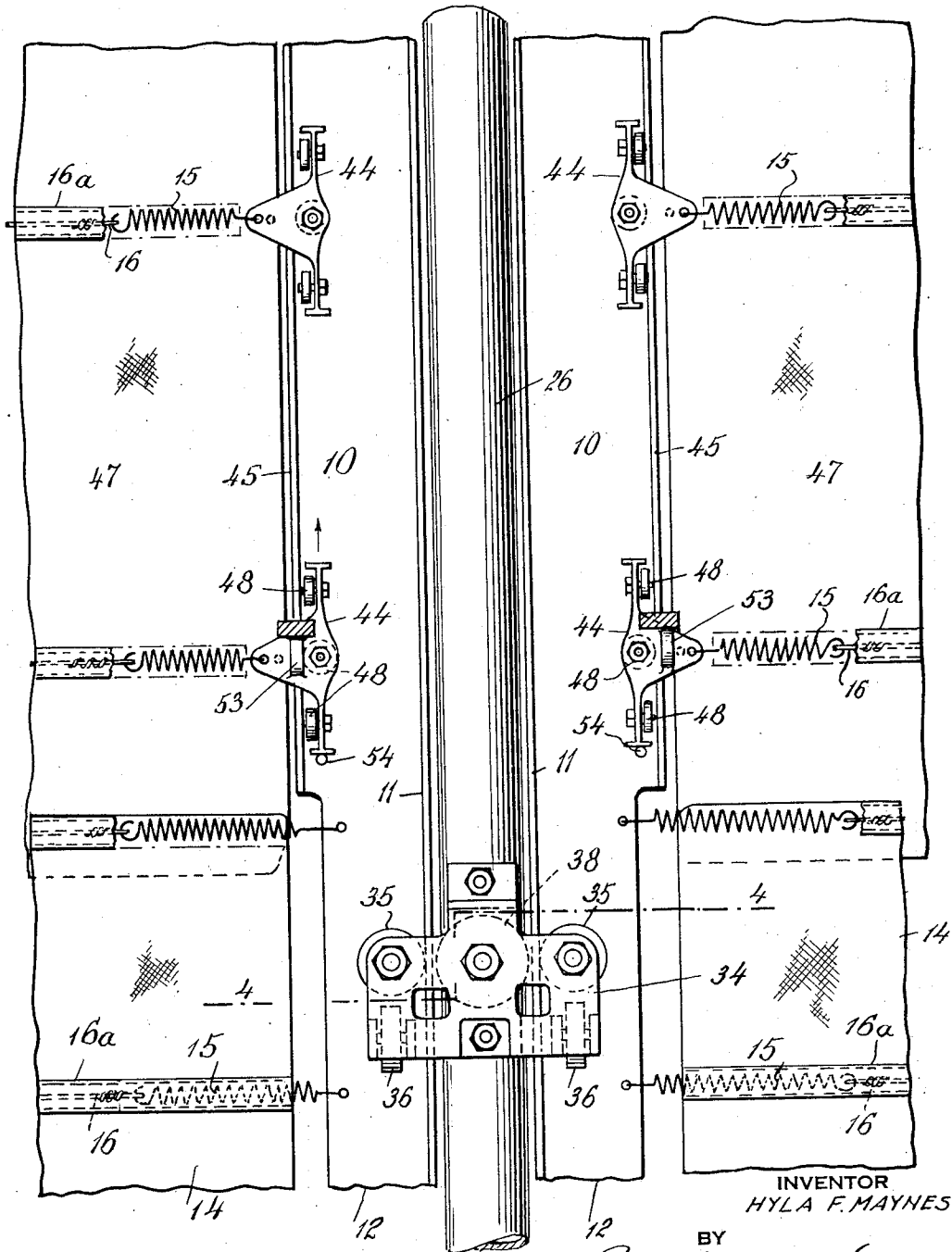
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Fig. 5,



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AMUSEMENT RIDE

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5 Sheets-Sheet 5

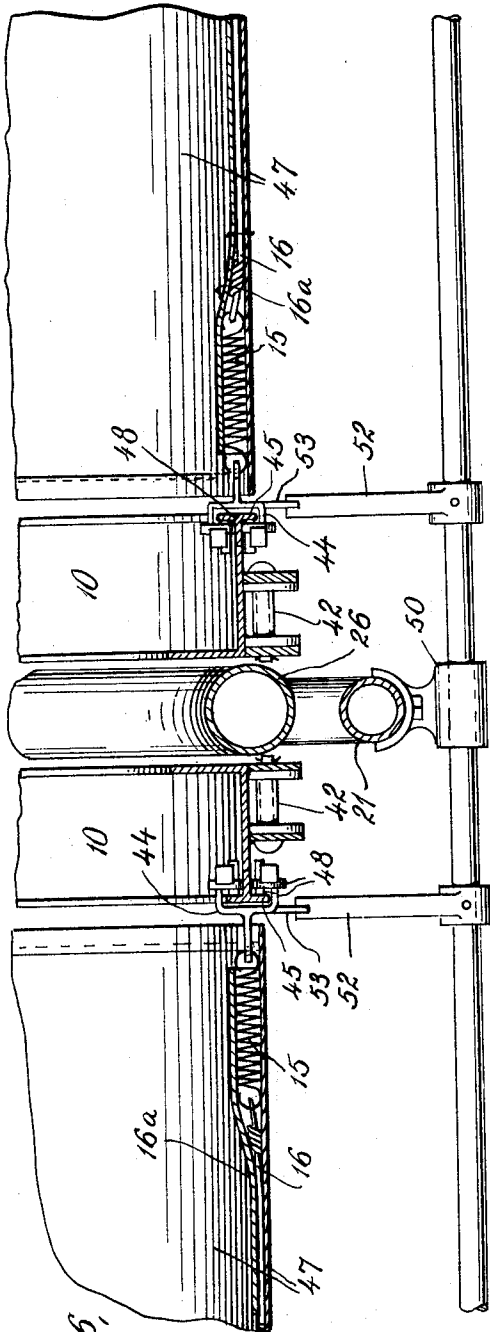


Fig. 6,

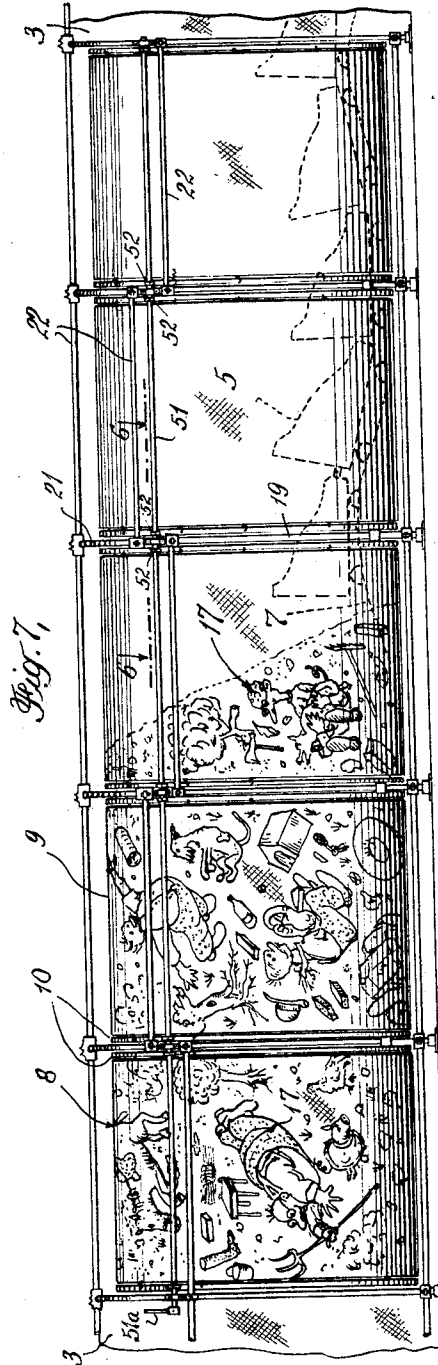


Fig. 7,

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UNITED STATES PATENT OFFICE

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AMUSEMENT RIDE

Application filed March 11, 1932. Serial No. 598,163.

This invention relates to an amusement ride which, besides providing a novel form of intertainment, lends itself to use as a ballyhoo for attracting attention to the ride.

5 The ride of the invention may in general character resemble that described in my United States Patent No. 1,535,237, dated April 28, 1925, in which a passenger-carrying vehicle, such as a car or train of cars, travels around an enclosed endless trackway—and the term "trackway" is used here-
10 in a broad sense to include any roadway over which a vehicle is designed to travel—preferably tortuous and undulating and provided with suitable mirth-provoking devices to lend novelty to the ride. According to the present invention the portion of the enclosure which extends along the midway or public thoroughfare comprises a rotatable
15 barrel completely surrounding the trackway and through which the cars are arranged to pass.

Mechanism is provided for opening a portion of the barrel during its rotation to expose the car and its occupants to public view. Preferably the length of trackway extending through the barrel is so designed as to impart motion to the car tending to unsettle its occupants, and as the barrel is opened
20 from time to time to unexpectedly expose the passengers to view the resulting merriment and confusion directs the attention of the crowds passing in the midway to the ride.

Since the revolving barrel will normally extend across substantially the entire front of the lot occupied by the ride, the portion of the barrel capable of being opened is preferably of such dimensions as to permit loading and unloading of the cars through
35 the side of the barrel.

The outer surface of the barrel may bear upon it markings so as to produce a kaleidoscopic effect or form a traveling picture when the barrel is rotated. These markings, for
40 example when pictorial may be appropriately chosen and so arranged upon the barrel as to create the illusion of a cyclone in which the characters and objects depicted are carried skyward.

50 Other features of the invention reside in

the novel construction of the barrel, the mechanism for rotating the barrel and the means whereby a portion of the barrel may be opened and closed during its rotation.

The invention will be better understood by 55 reference to the attached drawings showing a preferred embodiment in which:

Fig. 1 is a plan view of the ride;

Fig. 2 is a cross-sectional view through the rotatable barrel taken along the line 2—2 of Fig. 1 and showing one of the stand- 60 ards for supporting the barrel;

Fig. 3 is a detail of a portion of the barrel in plan view taken along line 3—3 of Figure 2 showing the top of a standard and the manner in which a fabric covering is connected to the end hoops of the units constituting the barrel; 65

Fig. 4 is a detail cross-sectional view of the barrel taken along line 4—4 of Figures 2 and 5 illustrating the structure by which the hoops are rotatably mounted on the standards, and the drive mechanism; 70

Fig. 5 is a fragmentary showing of a portion of the barrel as viewed from its inside and illustrating the mode of supporting the ends of the canvas sheets covering the barrel so that the barrel can be opened for a portion of its circumference to expose its interior to view; 80

Fig. 6 is a section taken along line 6—6 of Figures 2 and 7 showing the manner in which the operating rod is arranged to engage the leading carriage of the string of carriages carried upon each hoop whereby to open and close the barrel; and 85

Fig. 7 is a side elevation of the barrel indicating the type of markings which the barrel may bear on its circumference.

As illustrated in Fig. 1 of the drawings, 90 the ride according to the present embodiment comprises a tortuous and undulating trackway 1 enclosed throughout its length within a darkened tunnel 2, the major part of which tunnel is constituted by a canopy 3. A car 5, or a train of such cars, carrying a load of passengers is adapted to run along the trackway and as the cars encounter the undulating portions of the trackway the passengers are bumped up and down or jostled back and 100

forth. The cars may be electrically driven and the tunnel may be provided with air-blasts, noise producers and illuminated scenic effects designed to startle or amuse the patrons, a device for directing a blast of air against the car being designated by the numeral 6 in Fig. 1. One such form of ride is shown in my prior Patent No. 1,535,237 above mentioned, to which reference is made for a more complete description of certain details of constructions not contained in the present specification. It will be understood that the ride shown in that patent has been adopted merely to illustrate one type of ride in connection with which the present invention may be employed and that other types may be readily modified to incorporate the novel features of the invention.

The trackway is formed with a generally straight but undulated stretch of track 7 of any suitable length flanking the midway and supported a short distance above the ground level. The section of tunnel corresponding to this straight run of track comprises a cylindrical barrel 8 of sufficiently large diameter to accommodate the cars 5 and in addition afford adequate overhead clearance for the passengers seated in the cars.

The barrel 8 is made up of a series of independent cylindrical units 9 arranged end-to-end and each unit constituting a longitudinal section of the barrel. This has the advantage of permitting the track 7 to be readily associated with the barrel when the ride is initially set up. These units are identical in construction so that a description of one will serve as a description of all. Each unit 9 comprises a pair of hoops 10 of a size determining the diameter of the barrel. The hoops are disposed in parallelism a suitable distance apart and each hoop is formed of an angle iron bent into circular shape and having one of its flanges 11 projecting radially inward toward the center of the hoop and its other flange 12 extending perpendicularly thereto and directed lengthwise of the unit as shown in Fig. 4.

Between the two hoops constituting the ends of a unit extends a sheet 14 of flexible material such as canvas. The sheet is associated with the hoops 10 by means of short coil springs 15 connected to the ends of wire stays 16 extending lengthwise of the unit and which may be received within pockets 16a provided on the sheet at spaced intervals around the circumference of the unit. The other ends of the coil springs engage openings in the flanges 12, whereby the canvas is supported upon a skeleton in substantially the annular shape of the hoops. The sheet 14 is of sufficient length to completely encircle a unit and have its ends slightly overlapped. Upon the exterior of the canvas are painted humorous characters or other representations as indicated at 17 in such order that as the

barrel rotates in a direction so that the side presented to the view of the crowd in the midway moves from the ground upward, the things depicted on the barrel appear to be rising through the air, as in a cyclone.

The barrel is mounted for rotation within supporting standards 18 spaced apart lengthwise of the barrel. The individual standards as shown in Fig. 2 comprise a pair of upright 19 disposed upon opposite sides of the barrel and having flat metal plates 20 on their lower ends to afford solid engagement with the ground. The upper ends of the pairs of companion uprights are connected by arched members 21 spanning the top of the barrel. The standards are maintained in correctly spaced relation by means of stay-rods 22 reaching between adjacent standards as shown in Fig. 7. For ease of assembly and disassembly the standards 18 are made in two half-sections 18a and 18b united by tongue-and-slot connections 24 and pins 25 slidable within registering openings through the slots and tongues. The constituent elements of the standards may consist of metal pipe sections suitably fashioned so as to be conveniently loaded upon a vehicle and transported from place to place; and they may embody the assembly mechanism disclosed in my United States Patent No. 1,674,734, dated June 26, 1928, so as to permit them to be quickly set up and knocked down.

Between the two uprights 19 of each standard is secured a ring 26 (Fig. 2) which may also be formed of pipe, this ring being of the same diameter as the hoops 10. The ring occupies a position intermediate the two inwardly projecting flanges 11 of the hoops forming the adjacent ends of juxtaposed units but affording a slight clearance between the rings and hoops so as not to retard the rotation of the hoops. The standards 18 not only rotatably support the barrel 8 but also support above the ground level the straight run of track 7 which traverses the barrel. For this purpose a cross-tie 27 extends horizontally between the uprights 19 of each standard at such an elevation as to intersect the lower half of the ring 26 to define a chord member 27a. To this chord member is fastened, as by means of clevis bolts 28, a pair of I-beams 29 which support upon their upper flanges the rails 30 of track 7. A loading platform 31 extends alongside the track, a part of this platform being supported upon the cross-ties 27 lying outside the ring and another part of the track at a higher elevation being supported upon members 37 which rest at one end on top of an I-beam and at their other end against the ring. A truss element 32 joining the cross-tie with the bottom of the ring adds strength and rigidity to the standard.

In the interior of the barrel and rigidly clamped to the rings 26 at spaced intervals

around their inner circumferences are brackets 34. As shown in Figs. 4 and 5, each bracket spans the two inwardly projecting flanges 11 of the end hoops of adjacent units and upon these brackets are mounted pairs of rollers 35 and 36 rotatable about axes at right angles to each other. One pair of rollers 35 contacts with the inner surfaces (that is the surfaces located inside the barrel) of the radial flanges 11 of the hoops to prevent axial separation of the hoops and the rollers 36 engage the inner circumferential surface of the flanges 12 and support the hoops. For maintaining the hoops against axial movement toward each other, the bracket carries a roller 38 disposed between the opposed outer surfaces of the two flanges 11 and acts as a thrust bearing. By virtue of this construction the units constituting the barrel are revolvably supported upon roller bearings and precluded from any appreciable lateral or axial displacement during rotation.

Rotation is imparted to the units making up the barrel by spur gears 39 fixed upon a drive shaft 40 running lengthwise of the barrel adjacent its circumference and journaled in bearings 41 located upon the cross-ties 27. Two gears are provided for each unit, arranged to mesh with chains 42 fixed to the outer or circumferential surfaces of flanges 12 of hoops 10 as shown in Figs. 3 and 4. The shaft 40 may be driven by a reversible electric motor M, current for which is furnished from a power plant as indicated in Fig. 1; or it may be driven from any other source of power through a suitable clutch or transmission under the control of the attendant in charge of the ride whereby the direction of rotation of the barrel may be reversed at will.

As has been indicated the canvas sheets 14 are supported upon the stays 16 disposed between the end hoops of the various units and together form the elongated cylindrical wall of the barrel 8. The means for opening the barrel to permit ingress and egress of the passengers and to expose the cars during operation of the ride will now be described.

For a predetermined distance around a unit commencing at a point coinciding with the overlapped ends of the canvas sheet 14, the springs 15 connected to the ends of the stays 16 supporting the end portion of the sheet instead of being fastened directly to the flanges 12 are instead connected to carriages 44 traversible along guide rails 45 carried by the hoops 10 at opposite ends of the unit. The portion of the sheet supported by these carriages defines in effect a curtain 47 adapted to be folded up or shirred for a substantial distance around the circumference of the barrel to form a gap of about 80 degrees extending the length of the unit. The guide rails 45 are welded to the lateral edges of the longitudinally extending flanges 12 of the

hoops constituting the two ends of a unit and are of T-shape with the stem of the T forming a continuation of the flange 12 and the crossbar disposed perpendicularly thereto or radially of the unit. The carriages 44 span the crossbar portion of the rails and are provided with rollers 48 engaging opposite sides of both the stem and crossbar portions of the rails as shown in Figs. 5 and 6. The carriages support the curtain at suitably spaced intervals so that when the carriages are farthest separated as limited by their connection with the curtain, the curtain is spread to close the gap and slightly overlap the ends of the sheet, while when the carriages are run together or bunched the curtain is collapsed in the manner shown in Figs. 2 and 3 with the canvas neatly folded together to form the gap.

The units are disposed at the time the ride is set up so that the curtains of all the units are in alignment longitudinally of the barrel and the curtains 47 of all the units are arranged to be raised and lowered simultaneously during rotation of the barrel to open and close the barrel. This is accomplished by the following mechanism. Parallel to the barrel and supported in bearings 50 (Fig. 2) on the standards 18 is an operating rod 51 having fastened thereto a plurality of fingers 52, which when the shaft is rocked by swinging the handle 51a are projected into the path of an abutment 53 formed on the leading carriage of the string or train of carriages carried on each guide rail 45. When the barrel is rotating clockwise as indicated in Fig. 2 with the curtains drawn, engagement of the fingers 52 with the abutments on the leading carriages 44 of the string will cause these carriages to be momentarily arrested so that continued rotation of the barrel operates to run the carriages together to fold up the curtain. Further rotation of the barrel kicks the fingers out of the path of the abutments 53. On the other hand, when it is desired to draw the curtain to close the gap, the direction of rotation of the barrel is reversed by the attendant in charge of the ride and the operating rod 51 rocked to again project the fingers into the path of the abutments 53. This time, however, the fingers will engage the opposite sides of the abutments and hold the carriage stationary while continued movement of the barrel strings the carriages out along the guide rails and draws the curtain closed. The curtains are maintained in either their raised or lowered positions by the inertia of the carriages by which they are supported. Stops 54 are provided on the guide rails 45 for arresting the carriages at the limits of their movements and relieve the curtains from stresses.

The mode of operation of the ride is as follows: While the barrel 8 is stationary and the curtains folded up, passengers pass up onto the loading platform 31 through the

gap in the wall of the barrel from which they enter the cars 5 drawn up beside the platform within the barrel. When the passengers have taken their seats the loading platform is cleared and power is connected to the drive shaft 40 which simultaneously rotates the various units composing the barrel 8 in a counter-clockwise direction as viewed in Fig. 2. The attendant now grasps the handle 51a and rocks the operating rod 51 in such a manner as to project the fingers into engagement with the abutments 53 on the leading carriages 44 to cause the folded curtains 47 to be spread out to close the gap as heretofore explained. The barrel is allowed to run free for an interval of time during which the cars travel around and around the endless trackway in the darkened tunnel.

From time to time the attendant changes the direction of rotation of the barrel and pulls the lever 51a to fold up the curtains, as previously described, and unexpectedly expose the cars and their occupants to view as they pass over the eccentric stretch of track 7. The direction of rotation of the barrel is then reversed and the curtains drawn closed. The operations of opening and closing the curtains may be performed at frequent intervals by the attendant in charge of the ride until the time allotted for the ride has expired, at which time the barrel is brought to rest. Before the barrel comes to a stop the curtains 47 will have been raised so that the passengers may step from the cars onto the platform when the cars come to a halt and pass out of the barrel through the gap formed by the raised curtains.

The ballyhoo feature of the barrel which results from the provision of markings upon the exterior of the barrel which when the barrel is in rotation create in effect a traveling picture, has already been described. These markings need not take the form suggested herein but will depend upon the fancy of the builder of the ride. When characters are depicted in the position they assume when falling or rising through the air a very striking effect is attained.

I claim:

1. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway, means for rotating said barrel, and means for opening said barrel.

2. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel enclosing a portion of the trackway, means for rotating said barrel, and means for opening and closing said barrel.

3. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel,

a barrel enclosing a portion of the trackway, means for rotating said barrel, and means for opening and closing said barrel during its rotation.

4. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel enclosing a portion of the trackway, means for rotating said barrel, and means for opening and closing said barrel, said last named means being selectively operable during rotation of the barrel.

5. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway, means for rotating the barrel, a loading platform extending lengthwise adjacent the exterior of the barrel, and means for removing a circumferential section of the barrel to provide access from the platform to a vehicle located within the barrel.

6. In an amusement ride, the combination of a passenger carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway, means for rotating the barrel, a loading platform extending lengthwise adjacent the exterior of the barrel, and means for removing a circumferential section of the barrel to provide access from the platform to a vehicle located within the barrel, said portion of the trackway within the barrel being constructed to impart a series of abrupt directional changes to the vehicle.

7. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway composed of a plurality of hoops arranged in spaced relation, rollers supporting said hoops, sheets of flexible material extending between said hoops, and means for driving said hoops.

8. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway composed of a plurality of hoops arranged in spaced relation, rollers supporting said hoops, sheets of flexible material extending between said hoops and constituting the wall of the barrel, means for rotating the hoops in synchronism and means for collapsing a section of said wall during rotation of the barrel of sufficient size to permit access to the cars through the wall of the barrel.

9. In an amusement ride, the combination of a passenger carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway composed of a plurality of hoops arranged in spaced relation, rollers supporting said hoops, sheets of flexible material extending between said hoops and drive mechanism

for rotating the barrel, said drive mechanism comprising a chain fixed to the circumference of a hoop, a gear engaging the chain and means for rotating the gear.

5 10. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway composed of a plurality of hoops arranged
10 in spaced relation, rollers supporting said hoops, sheets of flexible material extending between said hoops and constituting the wall of the barrel, drive means for rotating the barrel in either direction, and means operable
15 when the barrel is driven in one direction to remove a section of the wall for approximately the whole length of the barrel.

11. In an amusement ride, the combination of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway composed of a plurality of hoops arranged in spaced relation, rollers supporting
20 said hoops, sheets of flexible material extending between said hoops and constituting the wall of the barrel, drive means for selectively rotating the barrel in either direction, means operable when the barrel is driven in one
25 direction to remove a section of the wall for a substantial distance longitudinally of the barrel, and means operable when the barrel is driven in the reverse direction for replacing the section of the wall.

12. In an amusement ride, the combination
35 of a passenger-carrying vehicle, a trackway upon which the vehicle is adapted to travel, a sectional barrel surrounding a portion of the trackway composed of a series of juxtaposed longitudinal units, each unit comprising
40 hoops arranged in spaced relation and forming the ends of the unit, sheets of flexible material extending between said hoops, a plurality of standards arranged lengthwise of the barrel and interposed between the ends
45 of the units composing the barrel, brackets carried upon the standards spanning the hoops forming the opposite ends of adjacent units and rollers mounted upon said brackets and engaging the hoops for revolubly supporting the units.
50

13. In an amusement device the combination of a horizontally rotatable barrel comprising supporting hoops and a flexible fabric carried by and extending between the
55 hoops, and means for shirring up a circumferential section of the fabric during rotation to expose the interior of the barrel and for extending said shirred-up section to close the barrel.

60 14. In an amusement device the combination of a horizontally rotatable barrel comprising supporting hoops, carriages mounted on the hoops and movable circumferentially thereof, and a flexible fabric carried by the
65 carriages and extending between the hoops,

and means for engaging a carriage during rotation of the barrel to shirr up the fabric.

15. In an amusement device the combination of a horizontally rotatable barrel comprising supporting hoops, carriages mounted
70 on the hoops and movable circumferentially thereof through a limited arc, and a flexible fabric carried by the carriages and the hoops and extending between the hoops, and means for engaging a carriage during the rotation
75 of the barrel to shirr up a circumferential section of the fabric.

16. In an amusement ride the combination of a passenger-carrying vehicle, a trackway along which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway composed of hoops arranged in parallel spaced relation, a sheet of flexible material extending between the hoops, guide rails
80 mounted upon the hoops, a string of carriages connected to the flexible sheet and adapted to travel along each guide rail, means for rotating the barrel and means for causing said carriages to travel along the guide
85 rails during rotation of the barrel, said last named means comprising a finger projectible into engagement with one of the carriages of each string of carriages so as to close up or spread out the carriages along the guide rail.
90

17. In an amusement ride the combination of a passenger-carrying vehicle, a trackway along which the vehicle is adapted to travel, a barrel surrounding a portion of the trackway composed of hoops arranged in spaced
95 relation, sheets of flexible material extending between the hoops, guide rails mounted upon said hoops, a string of carriages connected to the flexible sheets and adapted to travel along each guide rail and means for rotating
100 said barrel in opposite directions, means for causing said carriages to travel along said guide rails during rotation of the barrel, said last named means comprising a plurality of
105 fingers projectible into engagement with the leading carriage of each string of carriages so as to close up or spread out the carriages along the guide rails.
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In testimony whereof I affix my signature.

HYLA F. MAYNES.

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