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E. A. FALLER.

AMUSEMENT DEVICE.

APPLICATION FILED DEC. 12, 1905.

2 SHEETS—SHEET 1.

Fig. 1

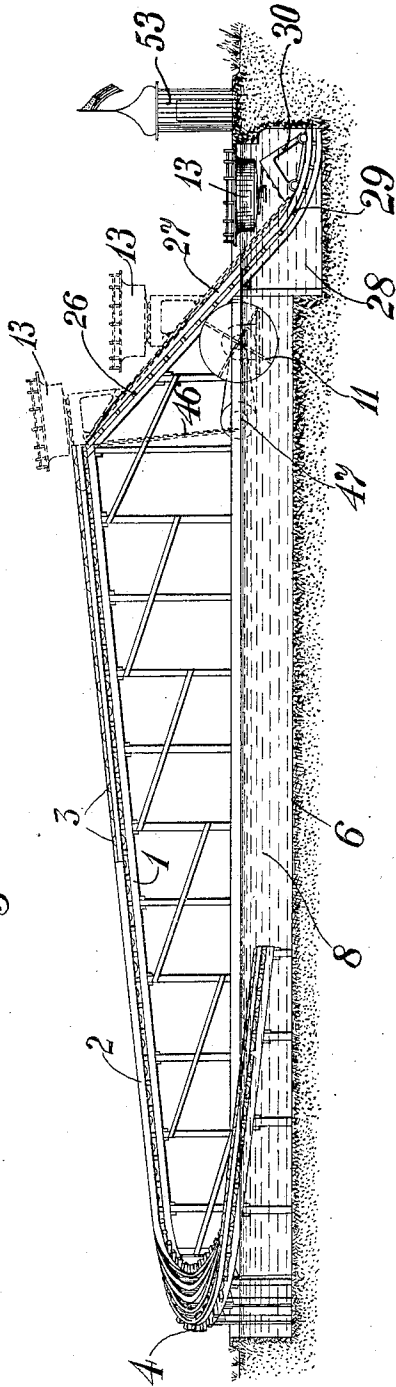
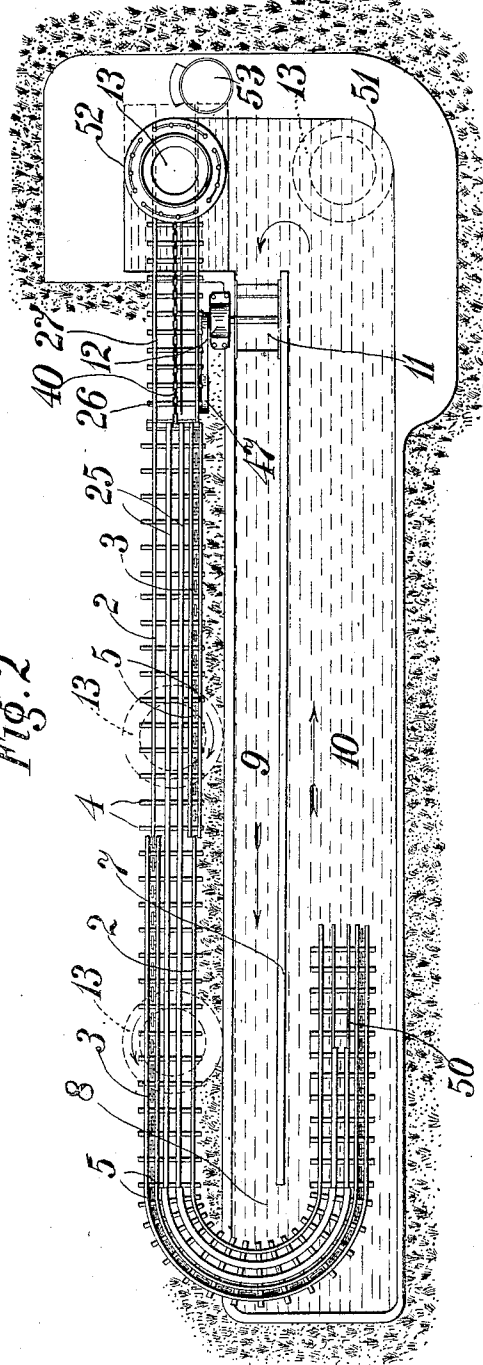


Fig. 2



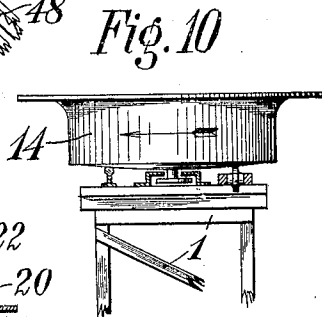
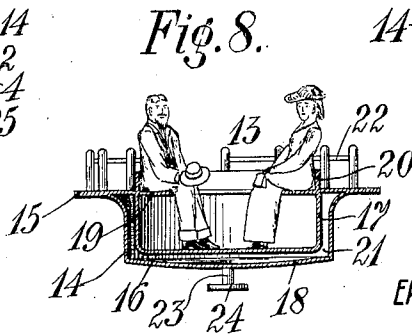
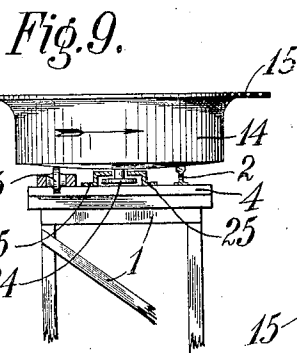
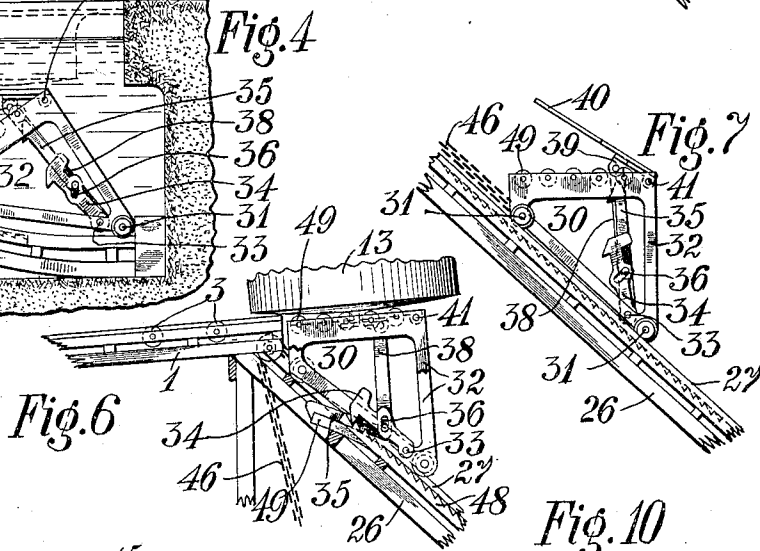
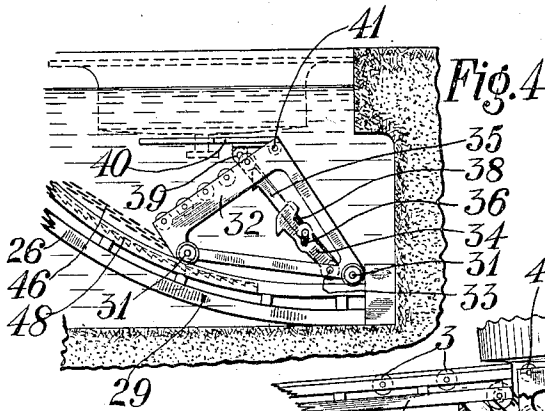
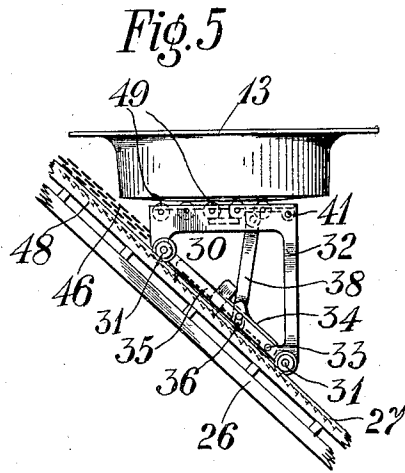
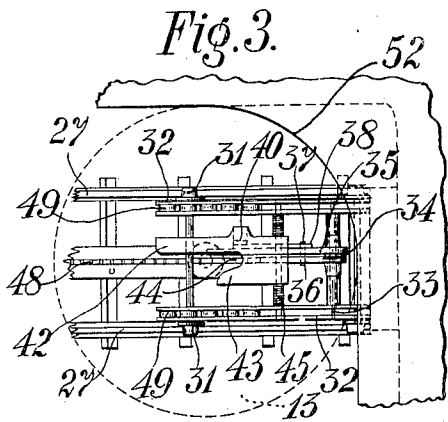
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AMUSEMENT DEVICE.

No. 831,149.

Specification of Letters Patent.

Patented Sept. 18, 1906.

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To all whom it may concern:

Be it known that I, ERNEST A. FALLER, a citizen of the German Empire, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification.

This invention relates more particularly to that class of amusement devices known as "pleasure-railways," the object of which is to amuse persons at pleasure-resorts. Such devices depend largely for their success upon the novelty of the sensation which they produce, and for this reason some are apt to be more or less hazardous to the lives of those patronizing them.

By the present invention an entirely novel sensation is produced with perfect safety to the passengers, and this by means which may be constructed and operated at moderate cost.

In order to more fully describe my invention, reference will be had to the accompanying drawings, in which—

Figure 1 represents one form of my invention in elevation and partly in section; Fig. 2, a top plan view thereof; Fig. 3, a fragmentary top plan view of the elevating device; Fig. 4, a fragmentary sectional view, partly in elevation, showing the elevator-car in position at its starting-point before elevating the vehicle; Fig. 5, a side elevation showing the elevator-car in the act of transporting the vehicle from the lower to the higher elevation; Fig. 6, a fragmentary side elevation showing the elevator-car at the end of its upward travel; Fig. 7, a fragmentary side elevation showing the elevator-car on the inclined track without the passenger-carrying vehicle, the said car being in the act of descending after having discharged the vehicle at the top of the structure; Fig. 8, a vertical cross-sectional view of the passenger-carrying vehicle; and Figs. 9 and 10, end elevations, partly in section, of the main track and trestle supporting same with the passenger-carrying vehicles in position on the track to more clearly illustrate the method of rotating the vehicle and the means for preventing the same from accidentally leaving the track.

Similar numerals refer to similar parts throughout the several views.

In carrying out the form of my invention herein shown I employ, among other parts, a track built upon an inclined plane and supported by a suitable structure—such, for ex-

ample, as the trestle 1. The track is so constructed that a vehicle moving along the same will be made to turn upon a progressing axis. I accomplish this result in the form of my invention shown by causing the said vehicle to travel by gravity progressively and in doing so to engage at one time upon opposite sides of the axis of rotation of said vehicle two bodies which offer unequal resistance to the linear progress of said vehicle. These two bodies, in the case shown, form the supporting-track for the vehicle and consist of a line of rails 2, adapted to make sliding contact with the vehicle on one side of its axis of rotation, and of series of rollers 3, adapted to make rolling contact with said vehicle on the opposite side of its axis of rotation from said stationary rails. Said rails 2 may be mounted upon the ties 4 of the trestle after the common practice in railway construction and the rollers 3 mounted, as shown, between two substantially parallel supporting-rails 5, also secured to the ties of the trestle. In the drawings I have shown such a track built upon a continuously-ascending inclined plane and having a U-shaped loop at its lower end; but it is obvious that this track may be given any desired course and, if desired, may be made to cross itself at different levels, as in the case of the ordinary coasting pleasure-railways.

The lower end of the track may be made to terminate in a body of water, which may be made to flow continuously in one direction past the termination of said track, so that a vehicle passing off the track into the water may be floated away. For this purpose I may provide a basin 6, provided with a longitudinal partition-wall 7 and filled to a suitable level with water 8. The partition 7 divides the basin into two sections 9 and 10, in which the water may be kept in motion in the direction of the feathered arrows by means of a water-wheel 11, driven by a suitable motor 12.

The vehicle 13 (several of which may be employed for carrying the passengers) should be capable of fulfilling the function of a boat, and for this purpose consists in the form shown, among other parts, of an outer watertight shell, preferably of metal, having a cylindrical body portion 14, terminating at its upper end in an annular flange 15 and provided with an exteriorly-convex body 16. Within this outer shell is mounted an inner cylindrical shell 17, preferably also of metal and provided with a bottom 18, an inwardly-

extending annular flange or ledge 19 to form a seat for the passengers, and an upwardly-extending rim portion 20 to form a back for the said seat. Between the inner and outer shells there is an air-space 21. Around the flange 15 may be mounted a suitable railing 22 as a precaution for the safety of the occupants. The railing 22 is provided around the rim of the boat also for the purposes of manipulation by a boat-hook, and the projecting rim 20 serves also as a splasher to prevent the passengers from getting wet when the boat enters the water.

To the center of the outer shell 16 is secured a stud 23, to which is rotatably secured a guard-wheel 24. The purpose of this guard-wheel is to prevent the vehicle from leaving the track when it is not intended that it should do so, thereby preventing the occurrence of accidents. For this purpose the guard-wheel 24 is adapted to travel within two substantially Z-shaped guard-rails 25, extending along the center of the track and made fast to the supporting structure, the stud 23 traveling through the slot formed between the said guard-rails. (See Figs. 9 and 10.)

At the elevated termination of the trestle and track thereon may be provided a suitable lift or elevating device for carrying the vehicles from the body of water up to the elevated end of the track. In the form of my invention shown this elevating arrangement consists of an inclined supporting structure 26 and track 27 thereon, leading from the elevated termination of the trestle 1 down into the end 28 of the water-basin, the end of said track-supporting structure terminating in said water-basin having a gradual curve, as at 29, and abutting against the end of the water-basin, as shown. Upon this elevator-track is adapted to travel a car 30 on flanged wheels 31. This car consists, among other parts, of two triangular-shaped side pieces 32, between which are fulcrumed on a rod 33, connecting the said side pieces, two dogs 34 and 35, the dog 35 being connected with the dog 34 by the pin-and-slot connection 36. Fulcrumed to the dog 35 at the point 37 is a lever 38, the upper end of which is pivotally connected, as at 39, to the lower side of a forked or bifurcated guide-lever 40, fulcrumed, as at 41, between the side pieces 32. This guide-lever is provided with a long arm 42 and a short arm 43, and between the two is a slot 44, the object of which will hereinafter more fully appear. The various levers of the car are normally held in the positions shown in Fig. 4 by means of a coil-spring 45. A chain 46, driven by any suitable hoisting device, such as the motor-driven drum 47, may be secured to the car for the purpose of elevating and lowering the same.

Extending up the center of the track is a safety rack-rail 48 for cooperating with the

dog 34, as hereinafter described, to prevent the elevator-car from accidentally traveling down the incline. A series of rollers 49, suitably mounted in each side of the top of the elevator-car, are adapted to support the passenger-carrying vehicle when the latter is upon the said elevator-car.

The operation of the device is as follows: In the position shown in Fig. 1 the passengers get into the vehicle and seat themselves, preferably equally distributed, around its side. (See Fig. 8.) The hoisting-chain is then set in motion, and the car starts up the elevator-incline. It will be observed from Fig. 1 that when the passengers enter the vehicle the latter is supported by the buoyancy of the water. As the elevator-car progresses upward its top passes from an inclined to a horizontal plane and engages the bottom of the passenger-carrying vehicle and lifts the same up, as shown in dotted lines in Fig. 1 and more clearly in full lines in Fig. 5. When the elevator-car and passenger-carrying vehicle assume the relative positions shown in Fig. 5, the weight of the passenger-carrying vehicle causes the guide-lever 40 to descend, and this lever, acting through the lever 38, causes the two dogs 34 and 35 to be sent down, the latter tripping over the teeth of the safety rack-rail 48. When the elevator-car reaches the end of its travel upward, the dog 35 will engage, as shown in Fig. 6, a holding-piece 49, secured to the elevator-supporting structure, and will retain the car in position. The passenger-carrying vehicle is then pushed off the supporting-wheels of the elevator-car onto the main track, the bottom resting upon the rail 2 and rollers 3, and is then given a starting push down the inclined track. As the vehicle progresses along the track the inequality of the resistance afforded by the stationary rails 2 on the one side and the rollers on the other of the central axis of the vehicle will impart to the said vehicle a rotary motion. Thus the vehicle traveling along the track will have two motions, one a progressive motion and the other a rotary motion around its own axis. By dividing the main track into sections in which the fixed track-rails and rollers are made to alternate, as shown in Fig. 2, the vehicle traveling along said track may be made to reverse its direction of rotation. As the vehicle reaches the point indicated in dotted lines near the end of the first section on the right, Fig. 2, this rotation may be in the direction of the arrow there shown. As the vehicle passes into the next section its rotation will be gradually diminished until it ceases for an instant to rotate, after which the direction of the rotation will become reversed, and the body will rotate in the direction shown in dotted lines on the left in Fig. 2. Therefore the traveling vehicle may be made to reverse its direction of rotation with the desired frequency, de-

pending upon the number of such sections in the track. As the vehicle approaches the lower terminal of the track it gradually glides off into the water. Being released from the track by the termination of the guard-rails 25 at a point 50, the vehicle, still rotating or spinning, will continue this movement in the water, though at an accelerated velocity, and will drift along in the direction of the lower arrow, Fig. 1, by the movement of the water in the canal or basin until it arrives at the end of the basin from which it started, preferably to the position indicated by dotted lines at 51, Fig. 2, when the occupants of the vehicle may get out. The vehicle is then pushed in the water by the attendants over to the starting-point, and by having the wall of the water-basin curved, as at 52, to conform to the curvature of the vehicle the latter may be readily placed in a position such that the stud 23 upon its bottom will register exactly with the slot 44 in the guide-lever 40. The vehicle will then be in a position to be carried by the elevator up to the starting-point of the main track. If the lifting-chain 46 should break or from some other cause the car should start to go down the elevator-incline before it reaches the top, the dog 34 would drop into engagement with the teeth of the rack-bar 48 and hold the car securely.

A ticket-booth 53 may be placed, as shown, near the point where the passengers enter the vehicle.

Obviously, tunnels or other scenic effects may be provided either along the inclined track or the waterway, as in ordinary types of scenic railways and the like.

It will be observed that the bifurcated lever 40 prevents any possibility of the vehicle running backward or sidewise off the elevator-car. The vehicle cannot run off the said car in a forward direction until it reaches the end of the upward travel on account of the inclined elevator-track. This arrangement, together with the rack and dog catch, insures perfect safety to the passengers so far as the elevation of the vehicle is concerned.

In case it is desired to use more than one boat or car in the operation of this device it becomes necessary to employ some safety devices to prevent collision. It is old in the art to employ such devices, commonly called "block systems," either automatic or manually operated, in roller-coasters and the like, and they consist, in all cases where no attendants are carried on the cars, in elastic planks arranged adjacent to the track and capable of being bulged upward so as to lift the car out of contact with the rails and holding them by friction. In cases where the attendants are carried on the cars block-signal systems similar to those used upon railroads are employed. It is plain that any of these systems can be employed with this device, such

employment being, however, not claimed, as it is old in the art.

What I claim is—

1. In an amusement device, a passenger-carrying vehicle and a mechanical track upon which said vehicle is adapted to travel, said track comprising means to impart to said vehicle a rotary motion around a progressing and substantially vertical axis. 70

2. In an amusement device, a passenger-carrying vehicle and a mechanical track upon which said vehicle is adapted to travel, said track comprising means to impart to said vehicle a rotary motion around a progressing and substantially vertical axis, said means arranged to alternate the direction of said rotary motion. 75 80

3. In an amusement device, a passenger-carrying vehicle and an inclined track upon which said vehicle is adapted to travel by gravity, said track comprising means to impart to said vehicle a rotary motion around a progressing and substantially vertical axis. 85

4. In an amusement device, a passenger-carrying vehicle and a mechanical track upon which said vehicle is adapted to travel, said track comprising means to offer unequal resistance at two points on said vehicle to its progressive movement over said track to cause the said vehicle to rotate. 90

5. In an amusement device, a passenger-carrying vehicle and an inclined track upon which said vehicle is adapted to travel by gravity, said track comprising means to offer unequal resistance at two points on said vehicle to its progressive movement over said track, to cause said vehicle to have a rotary motion around a progressing axis. 95 100

6. In an amusement device, a passenger-carrying vehicle and an inclined mechanical track upon which said vehicle is adapted to travel by gravity, said track comprising means to offer unequal resistance at two points on said vehicle to its progressive movement over said track, said points being on opposite sides of the center of the track, to cause said vehicle to have a rotary motion around a progressing axis. 105 110

7. In an amusement device, a passenger-carrying vehicle, a supporting structure having a track upon which the said vehicle is adapted to travel, said track comprising movable bearing-surfaces adapted to make rolling contact with said vehicle, and a fixed bearing-surface adapted to make sliding contact with said vehicle at a different point from said rolling contact to rotate said vehicle. 115 120

8. In an amusement device, a supporting structure, a track thereon comprising movable bearing-surfaces and a fixed bearing-surface opposite the movable surfaces, a passenger-carrying vehicle having a bottom adapted to rest on said bearing-surfaces. 125

9. In an amusement device, a supporting

structure comprising movable bearing-surfaces and a fixed bearing-surface opposite the movable bearing-surfaces, a cylindrical passenger-carrying vehicle adapted to rest on one end upon said movable and fixed bearing-surfaces simultaneously and to travel progressively over the same.

10. In an amusement device, a passenger-carrying vehicle, a supporting structure having a track upon which the said vehicle is adapted to travel, said track comprising movable bearing-surfaces adapted to make rolling contact with said vehicle, a fixed bearing-surface adapted to make sliding contact with said vehicle simultaneously with and at a different point from said rolling contact, and means to prevent said vehicle from accidentally leaving the track.

11. In an amusement device, a supporting structure having an inclined track comprising a series of rollers arranged in a line on one side of the center of the track, fixed rails on the other side of the center of the track opposite said rollers, and a passenger-carrying vehicle adapted to rest upon said rollers and rails simultaneously and travel over the same by gravity.

12. In an amusement device, a supporting structure having an inclined track comprising a series of rollers arranged in a line on one side of the center of the track, fixed rails on the other side of the center of the track opposite said rollers, a cylindrical passenger-carrying vehicle adapted to rest on one end upon said rollers and rails simultaneously and travel over the same by gravity.

13. In an amusement device, a supporting structure having an inclined track comprising a series of rollers arranged in a line on one side of the center of the track, fixed rails on the other side of the center of the track opposite said rollers, a passenger-carrying vehicle adapted to rest upon said rollers and rails simultaneously and travel over the same by gravity, guard-rails along the center of said track, and means on said vehicle adapted to engage said guard-rails.

14. In an amusement device, a passenger-carrying vehicle adapted to act as a boat, a track upon which said vehicle is adapted to travel, said track comprising means to impart to said vehicle a rotary motion around a progressing and substantially vertical axis, and a body of water into which said boat is adapted to pass from said track.

15. In an amusement device, a passenger-carrying vehicle substantially circular in horizontal cross-section and adapted to act as a boat, an inclined track upon which said vehicle is adapted to travel by gravity, said track comprising means to offer unequal resistance at two points on said vehicle to its progressive movement over said track, to cause said vehicle to have a rotary motion around a progressing and substantially verti-

cal axis, and a body of water into which said vehicle is adapted to pass from said track while rotating.

16. In an amusement device, a passenger-carrying vehicle, an elevated inclined track upon which said vehicle is adapted to travel by gravity, said track comprising means to impart to said vehicle a rotary motion around a progressing and substantially vertical axis as the said vehicle moves over said track, a body of water into which said vehicle is adapted to pass from said track while rotating, and an elevator to lift said vehicle from said water to the elevated track.

17. In an amusement device, a passenger-carrying vehicle, an elevated track upon which said vehicle is adapted to travel, a body of water into which said vehicle is adapted to pass from said track, an elevator to lift said vehicle from said water to the elevated track, said elevator comprising a track extending from a point beneath the surface of said water up to the elevated track, a car adapted to travel on said track to pass under said vehicle when in the water, and to bodily lift said vehicle from said water with the bottom of the vehicle resting on said car in its upward travel, means to propel said car, means on the bottom of the vehicle cooperating with means on the car to hold the vehicle in place on said car, and a safety-catch to prevent said car from accidentally running down said track.

18. In an amusement device, a passenger-carrying vehicle, comprising an outer cylindrical shell having a closed bottom and open top, an annular outside flange around the upper edge of said shell, an inner shell having an air-space between the same and the outer shell, an annular flange on the inner shell to form a seat, and an upward extension on said inner shell to form the back of said seat.

19. In an amusement device, a passenger-carrying vehicle, an elevated track upon which said vehicle is adapted to travel, and elevating means to lift said vehicles from a lower level to the elevated track, said means comprising a track, a car adapted to travel on said track and means to propel the same, said car comprising a truck, a bifurcated lever fulcrumed thereon and adapted to engage the vehicles supported by said truck, a spring acting to normally hold said lever in a predetermined position and against the tension of which said lever is forced down when said vehicle rests thereupon, a holding-dog fulcrumed on said truck, a lever connecting said bifurcated lever with said dog, and a safety-catch also fulcrumed on said track.

In testimony whereof I affix my signature in presence of two witnesses.

ERNEST A. FALLER.

Witnesses:

JAMES R. CHISHOLM,
LOUISE HUMMEL.