May 14, 1940. A. VOLLBRECHT 2,200,684

PASSENGER CARRYING AMUSEMENT DEVICE

Filed Nov. 20, 1939 3 Sheets-Sheet 1

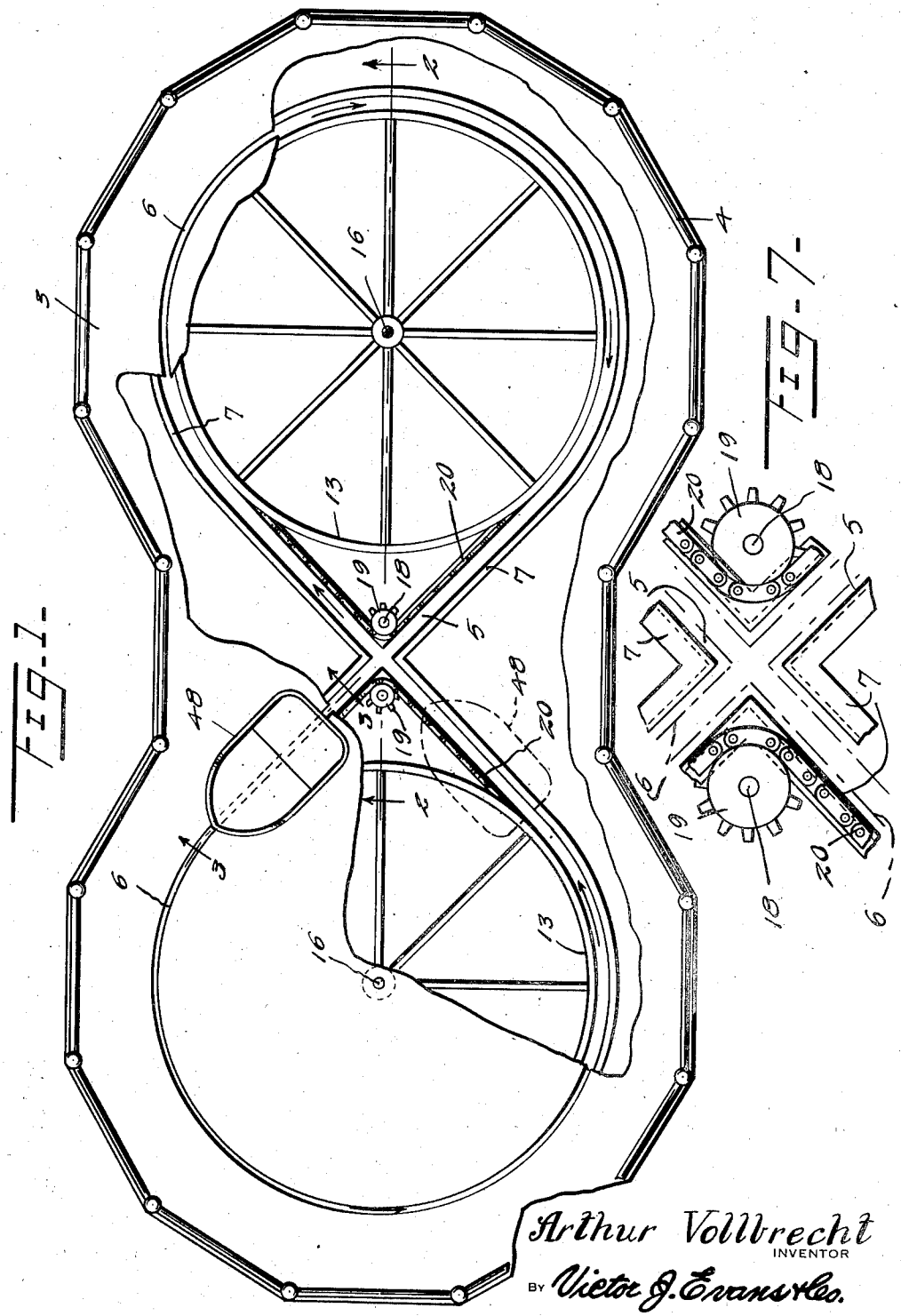

Fig. 1.

Fig. 7.

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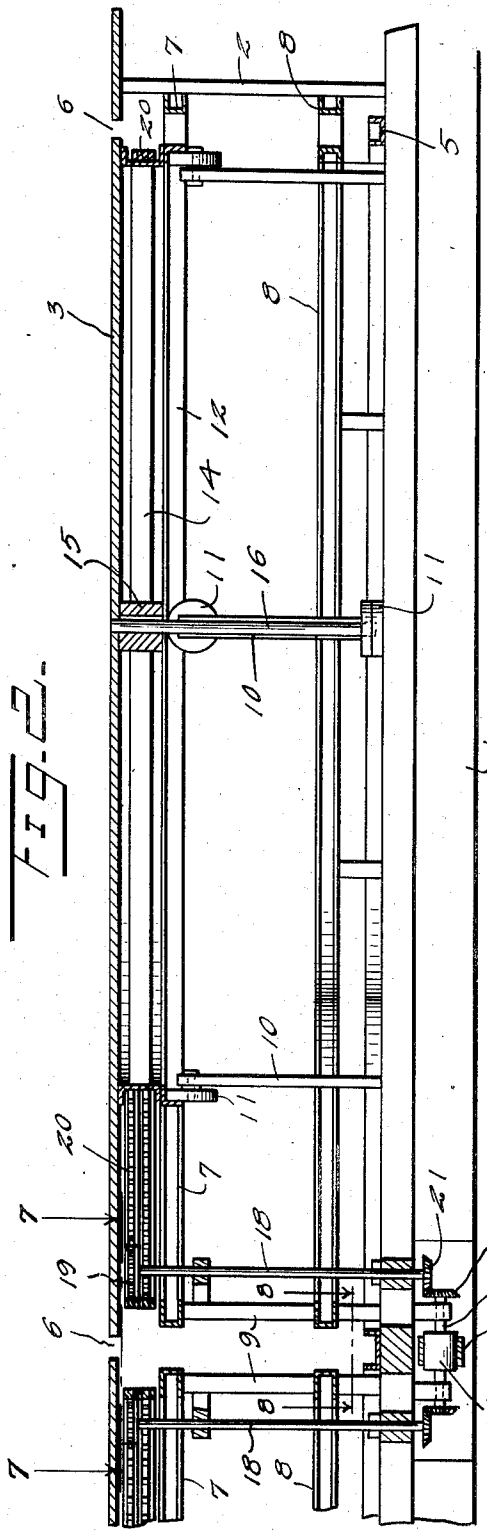

FIG. 2.

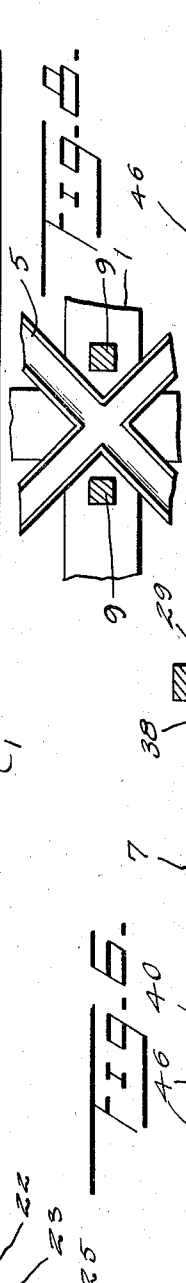

FIG. 4.

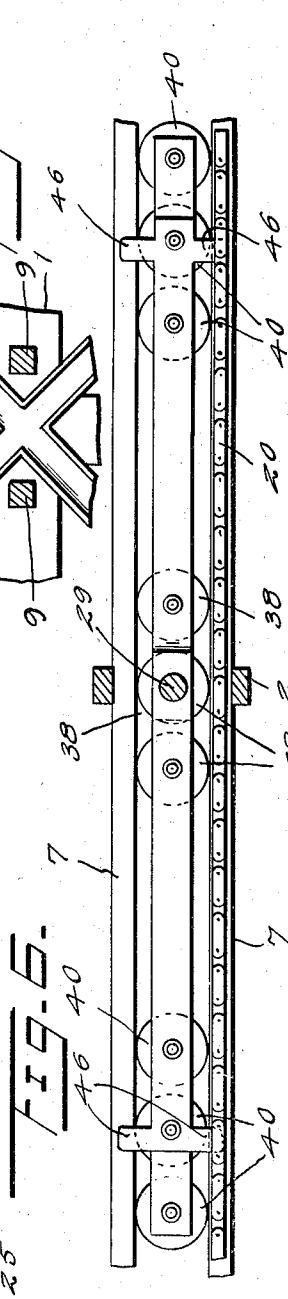

FIG. 5.

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PASSENGER CARRYING AMUSEMENT DEVICE

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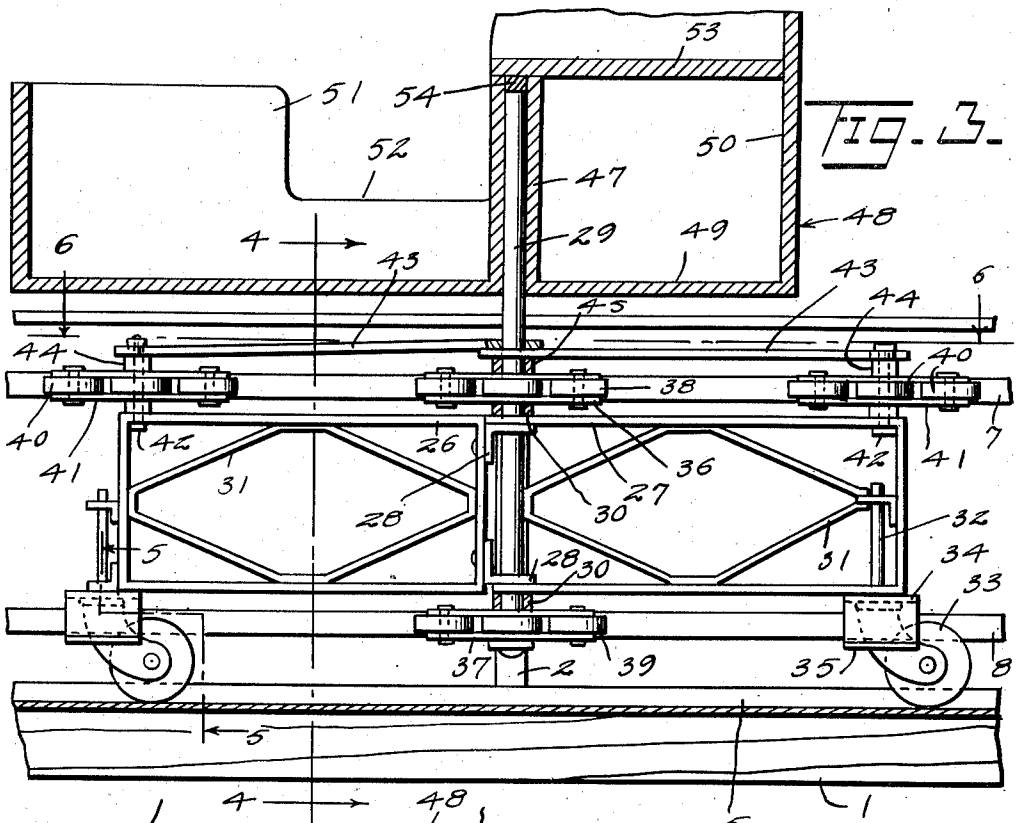

Fig. 3.

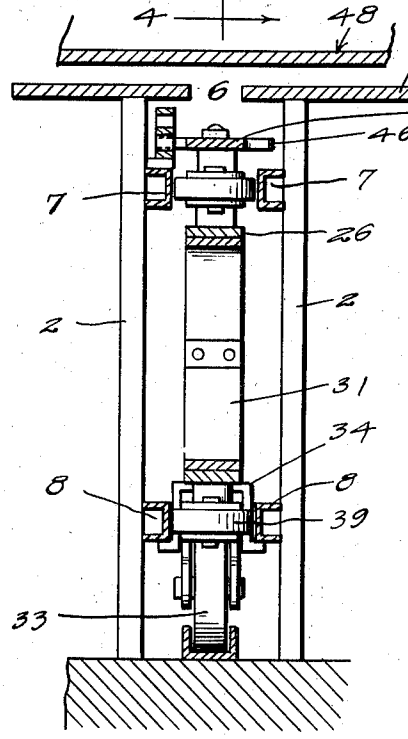

Fig. 4.

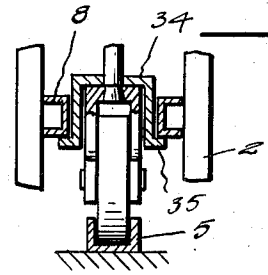

Fig. 5.

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UNITED STATES PATENT OFFICE

2,200,684

PASSENGER CARRYING AMUSEMENT DEVICE

Arthur Vollbrecht, Saginaw, Mich.

Application November 20, 1939, Serial No. 305,337

4 Claims. (Cl. 104—75)

This invention relates to amusement devices, and its general object is to provide what is generally termed an amusement ride or passenger carrying device which includes cars that are not only propelled about a circuitous track including portions crossing each other, but each car is mounted on a carriage for free rotation, with the carriages associated with and disposed about the propelling means in a manner so that, as the cars approach the crossing, it appears that they will collide, yet will safely pass each other without contact, and that feature together with the fact that the rotation of the cars cannot be controlled, provides most unusual sensations and thrills for the passengers and therefore much amusement and fun.

A further object is to provide a passenger carrying amusement device that is capable of providing thrills, without possibility of injury to the passengers and the device is simple in construction, inexpensive to manufacture, easy to assemble, and extremely efficient in operation, use and service.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:

Figure 1 is a top plan view of my amusement device, with the platform broken away and illustrates two of the cars as well as the propelling mechanism and the tracks for the car carriages.

Figure 2 is a sectional view taken approximately on line 2—2 of Figure 1, looking in the direction of the arrows.

Figure 3 is a sectional view taken approximately on line 3—3 of Figure 1, looking in the direction of the arrows.

Figure 4 is a sectional view taken approximately on line 4—4 of Figure 3, looking in the direction of the arrows.

Figure 5 is a sectional view taken approximately on line 5—5 of Figure 3, looking in the direction of the arrows.

Figure 6 is a sectional view taken approximately on line 6—6 of Figure 3, looking in the direction of the arrows.

Figure 7 is a sectional view taken approximately on line 7—7 of Figure 2, looking in the direction of the arrows.

Figure 8 is a sectional view taken approximately on line 8—8 of Figure 2, looking in the direction of the arrows.

Referring to the drawings in detail, the reference numeral 1 indicates the base structure which may be suitably anchored to the ground and secured to the base is a body frame structure that includes uprights 2 for supporting a platform 3 elevated above the propelling mechanism, tracks and carriages for the cars, the latter being the only movable elements of the device that are exposed, in that the other elements are enclosed by the platform and a marginal wall between the base and the platform, the wall having suitable door closed openings therein whereby access may be had below the platform.

The platform is preferably of the shape shown, to include rounded end portions and a reduced intermediate portion and preferably has a fence 4 about the edge thereof, with suitable gates to allow ingress and egress to the cars. Steps, ramps or the like extending from the ground to the platform are likewise provided, in the event the device is not disposed within a building and in that case, the platform can be arranged level with the building floor.

Resting upon and fixed to the body structure is a continuous channel rail 5 shaped in the form of a figure eight and disposed directly below a slot 6 of like shape in the platform, as shown in Figures 1 and 2. Cooperating with the rails 5 to provide tracks for the car carriages to be later described, are upper and lower rails 7 and 8 respectively, arranged in pairs, and fixed to certain of the uprights 2 in a manner so that the walls of each pair are disposed in face to face relation. The rails 7 and 8 are likewise fixed to uprights 9 and other suitable supporting means disposed along the length thereof.

Arranged within each of the circular portions of the tracks are uprights 10 having rollers 11 journaled to the upper ends thereof, and upon which is mounted an annular angle rail 12 secured to the lower flange of a relatively large flanged pulley wheel 13, that includes spokes 14 in the form shown radiating from a hub 15 mounted on a vertical shaft 16 in close proximity to the underside of the platform, as shown in Figure 2, and the shaft 16 is suitably supported in a member 17 secured to the body frame structure, as clearly shown in Figure 2.

The upper and lower rails 7 and 8 are not continuous like the channel rail 5 but terminate at

the track crossing, and the inner rails of the upper pair terminate adjacent to the wheel carried rails 12 which not only hold the wheels properly centered and mounted on the roller supporting means therefor, but likewise cooperate with the outer upper rails 7 to provide the upper track about the wheels as shown in Figure 2, while the upper track inwardly of the wheels is made up of both of the upper rails 7, as clearly shown in Figure 4.

The propelling mechanism includes a pair of upright shafts 18 mounted in suitable bearings secured to the body frame structure and the uprights 9 for disposal upon opposite sides of the track crossing, as best shown in Figure 1, and fixed to the upper ends of each of the shafts 18 is a sprocket 19. Each of the sprockets receive the upper portions of double sprocket chains 20 that are trained thereabout and likewise about the wheels 13 and within the flanges thereof. Secured to the lower ends of the shafts 18 are beveled gears 21 meshing with beveled gears 22 secured to the ends of a horizontal shaft 23 that is mounted in bearings depending from the body frame structure, and has a pulley 24 secured thereto about which is trained a belt 25, in the form as shown, for connection with suitable power means, as will be apparent. By that construction, it will be obvious that the shafts 18 are rotated in opposite directions for moving the chains 20 accordingly, as indicated by the arrows in Figure 1.

While I have illustrated only two cars as shown in Figure 1, it will be obvious that any number of cars may be used, it depending upon the size of the device, and each car is provided with a carriage as best shown in Figure 3 which illustrates that each carriage includes a pair of rectangular frames 26 and 27, with angle brackets 28 secured to the inner end of the frame 26 and having openings therein for receiving a shaft 29 that extends through the inner ends of the frame 27 for hingedly securing the frames together to allow relative swinging movement thereof, to facilitate the travel of the carriage about the circular portions of the tracks, and the shaft 29 is secured to the frames by collars 30 pinned or otherwise detachably fixed thereto, as shown in Figure 3.

The frames 26 and 27 are provided with inner reinforcing members 31 and mounted in brackets secured to the outer ends of the frames are the stems 32 of bearing members of caster wheels 33 which are mounted for travel in the channel rails 5, as best shown in Figures 4 and 5. Mounted on each of the stems 32 are substantially U-shaped members 34 disposed for wiping engagement with the confronting faces of the lower rails 8 and have outwardly directed flanges 35 formed on the lower edges thereof for wiping engagement with the undersides of the rails 8, for holding the wheels 33 within the rail 5, as will be obvious upon inspection of Figures 4 and 5.

Mounted and suitably held on the lower end of the shaft 29, as well as intermediate its ends for disposal about and below the collars 30 respectively, are upper and lower bearing strip plates 36 and 37 arranged in companion pairs and having rollers 38 and 39 journaled between the same, there being three rollers between each of the pairs of strips and the end rollers are journaled on pins, while the center rollers are journaled on the shaft 29. The lower rollers 39 are disposed in wiping engagement with the lower rails 8 as shown in Figure 4, while the upper rollers 38 are adapted for wiping engagement with the upper rails 7 and the rails 12 of the wheels 13.

Cooperating with the upper rollers 38 for wiping engagement with the rails 7 and 12 are rollers 40, likewise arranged in groups of three and journaled between companion bearing strip plates 41 mounted on headed bolts 42 extending through and rising from the outer ends of the upper portions of the vertical frames 26 and 27. The center rollers of the groups 40 are journaled on the bolts 42, while the end rollers are journaled on pins bridging the plates 41 adjacent the ends thereof, as shown.

Pivoted and held on the upper ends of the bolts 42 by the nuts thereof, are the outer ends of flat bars 43 that are mounted upon bearing collars 44 on the bolts and the inner ends of the bars are pivotally or loosely mounted on the shaft 29, as well as spaced from the upper bearing plate 36 by a collar 45 to allow for free swinging movement of the bars with the frames, when the carriages are rounding the curved portions of the tracks, as will be apparent. Formed on and extending laterally from adjacent the outer ends of each bar and upon opposite sides thereof are lugs 46 providing teeth for disposal within the lower links of the sprocket chains 20, for propelling the carriages about the tracks, as will be apparent upon inspection of Figure 6, and it will be obvious that the carriages together with the bars are of sufficient length, so that the bars will bridge the crossing of the tracks for the disposal of a tooth or lug 46 in the links of one of the chains, while the tooth at the opposite end of the bars is disposed within a link of the other chain. By that feature, it will be obvious that the cars will be continuously propelled, in view of the fact that at least one of the lugs 46 will be engaged with a link, at all times.

The shaft 29 is of a length to extend through the slot 6 of the platform to travel therein, as well as a considerable distance above the same, as shown in Figure 3, for disposal within a sleeve 47 providing a bearing socket therefor, and the sleeve is secured within a passenger carrying body 48 which I have termed a car, as the body 48 has no axles or wheels associated therewith in the usual manner, but is rotatably mounted on the shaft 29, so that each of the bodies or cars will swing about a vertical axis in either direction, as it travels about the platform.

The passenger carrying body or car includes a bottom 49, a rear wall 50 and side walls 51, the latter including converging forward portions providing the front of the body, as best shown in Figure 1. The side walls are recessed as at 52, to allow easy egress and ingress and the rear wall and the side walls at the rear of the latter are of greater height than the front portions of the side walls to provide side and back rests for a seat 53 that is secured to the rear and side walls, as well as mounted upon the upper portion of the sleeve 47 that registers with an opening in the bottom wall to allow for the passage of the shaft 29 therein. The upper end of the shaft bears against a suitable bearing 54 within the sleeve, and while the bearing is shown as having flat faces, it may be in the form of a ball, to eliminate friction to a minimum.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arangement of the several parts, provided

that such changes fall within the scope of the appended claims.

What I claim is:

1. A passenger carrying amusement device comprising a track including a base rail of figure eight formation to provide a crossing, upper and lower rails arranged for cooperation with the base rail, carriages each including a pair of companion vertically arranged frames, casters swiveled at the outer lower ends of the frames and mounted for travel in the base rail, upper and lower rollers carried by the frames and mounted for travel along the upper and lower rails respectively, a platform supported above the carriages and having a slot therein following the shape of the track, an upright shaft included in each carriage and having the inner ends of the frames pivoted thereto, said shaft extending through the slot for travel therein, passenger carrying means for each carriage and rotatably mounted on the shaft for disposal above the platform, propelling means for the carriages and including a pair of chains, one of said chains being disposed within one rounded portion of the track and the other chain within the other rounded portion, means for driving said chains in opposite directions, a flanged pulley wheel for each chain and being of a diameter to guide the same about the rounded portions of the track, toothed means included in the carriages for detachable connection with the chains and being connected to at least one chain at all times, and the carriages being associated with the chains to prevent contact of the passenger carrying means with each other but to give the appearance that they will collide when approaching the crossing.

2. A passenger carrying amusement device comprising a track including a continuous base rail shaped to provide a crossing, upper and lower rails arranged for cooperation with the base rail, carriages including caster wheels and upper and lower rollers, said caster wheels mounted for travel in the base rail and the upper and lower rollers being mounted for travel on the upper and lower rails, passenger carrying means mounted on each carriage to be carried thereby, propelling means for the carriages and including a pair of chains, one of said chains being mounted within one of the rounded portions of the track and the other being mounted within the other rounded portion, sprocket means for driving the chains in opposite directions, a pulley wheel for each chain and guiding the chains about the rounded portions of the track, roller supporting means for the pulley wheels, angle rails secured to the pulley wheels and mounted on the roller supporting means, said angle rails providing portions of the upper rails of the track, and the carriages being associated with the chains to prevent contact of the passenger carrying means with each other but to give the appearance that they will collide when approaching the crossing.

3. A passenger carrying amusement device comprising a track including a base rail of figure eight formation to provide a crossing, upper and lower rails cooperating with the base rail and being arranged in companion pairs with the rail of each pair disposed in face to face relation, carriages including caster wheels mounted for travel in the base rail and upper and lower rollers arranged in groups of threes for travel between and on the upper and lower rails, flanged means mounted on the carriages and engaged with the under faces of the lower rails to hold the carriages against vertical movement, an upright shaft included in each carriage and having portions of the carriage pivotally mounted thereon to facilitate the movement of the carriages about the rounded portions of the tracks, passenger carrying means for each carriage and rotatably mounted on the shaft, propelling means for the carriages, and the latter being associated with the propelling means to prevent contact of the passenger carrying means with each other but to give the appearance that they will collide when approaching the crossing.

4. A passenger carrying amusement device comprising a continuous track shaped to provide a crossing, carriages mounted for travel along said track, a platform supported above the carriages and having a slot therein following the shape of the track, an upright shaft included in each carriage and extending through the slot for travel therein, a passenger carrying body including a bottom, rear and side walls, the latter having converging forward portions connected together to provide the front of the body, a seat in the body, bearing socket means in the body and registering with an opening in the bottom thereof to receive the shaft within the socket for rotation of the body on the shaft, propelling means for the carriages, and the latter being associated with the propelling means to prevent contact of the passenger carrying bodies with each other but to give the appearance that they will collide when approaching the crossing.

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