March 7, 1950 H. D. DUNCAN 2,499,470

AMUSEMENT DEVICE

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Fig 1

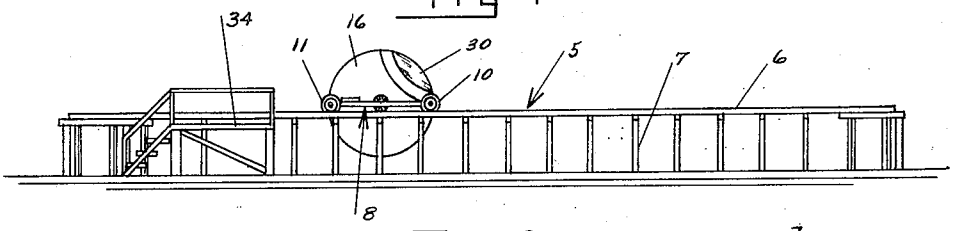


Fig 2

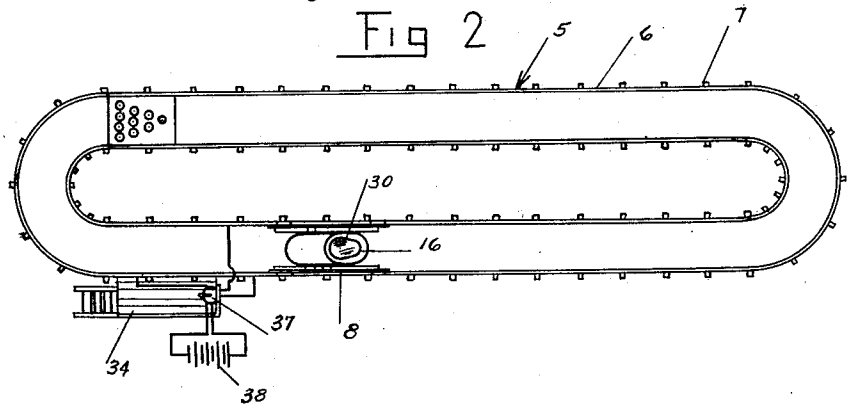


Fig 6

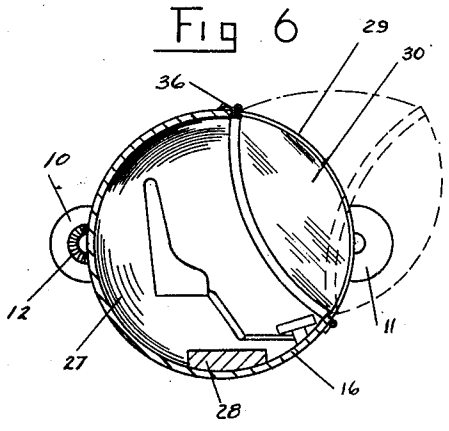


Fig 5

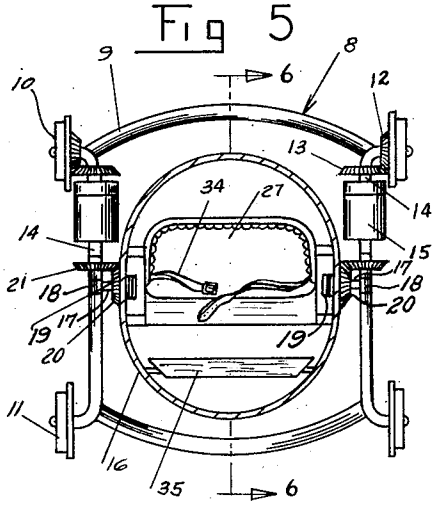
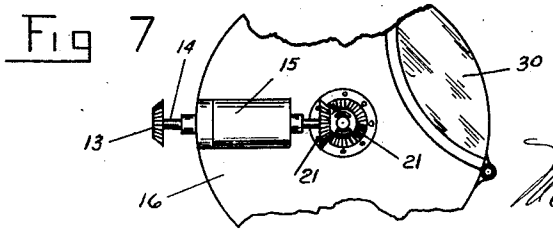


Fig 7



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AMUSEMENT DEVICE

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Fig 3

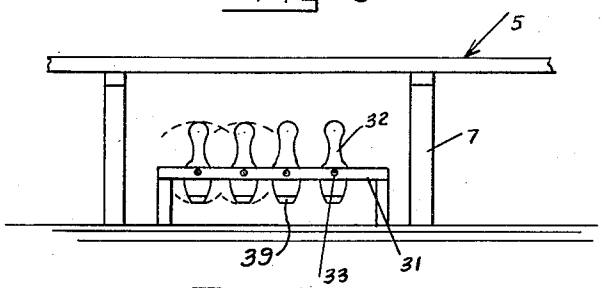


Fig 4

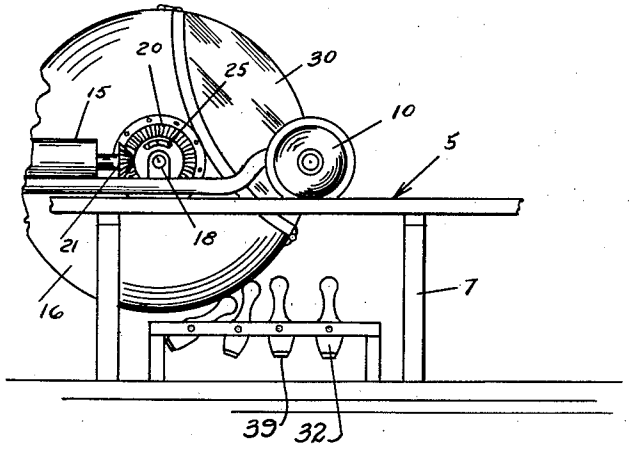


Fig 8

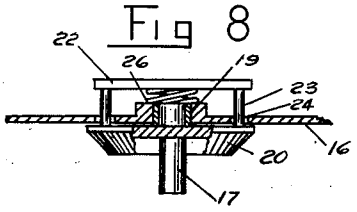
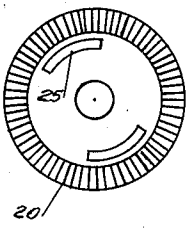


Fig 9



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UNITED STATES PATENT OFFICE

2,499,470

AMUSEMENT DEVICE

Harold D. Duncan, Danville, Ind.

Application May 24, 1946, Serial No. 671,976

2 Claims. (Cl. 104—74)

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The present invention relates to new and useful improvements in amusement devices, and more particularly to devices of this character wherein persons may travel in a carriage along a continuous track.

An important object of the present invention is to provide a spherical member supported on the carriage to simulate a bowling ball, and the track is constructed to simulate a bowling alley with tenpins positioned therein and in the path of the ball to be struck thereby as the carriage moves over the track.

A further object of the invention is to provide a power-operated carriage for moving over the track and on which a spherical passenger car is mounted for rotary movement, together with control means operated by the passengers of the car to swing or rotate the car to simulate a ball-rolling movement.

A further object of the invention is to provide a device of this character of a highly entertaining and amusing nature, and which at the same time is simple and practical in construction, relatively inexpensive to manufacture, and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a side elevational view of the track with the carriage mounted in position thereon.

Figure 2 is a top plan view.

Figure 3 is an enlarged fragmentary side elevational view, showing the counterbalanced tenpins mounted in position beneath the track in the path of the spherical car.

Figure 4 is a side elevational view showing the car in position when striking the tenpins.

Figure 5 is a horizontal sectional view of the car.

Figure 6 is a sectional view taken on a line 6—6 of Figure 5.

Figure 7 is a fragmentary side elevational view of the car showing the drive connection for rotating the same.

Figure 8 is an enlarged fragmentary sectional view of the control means for the car.

Figure 9 is an enlarged side elevational view of the gear for rotating the car.

Referring now to the drawing in detail, wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates the track generally which is composed of a pair of relatively long runs 6 arranged in spaced relation and having their adjacent ends interconnected by curved runs to form a track of oval form. The track 5 is supported in an elevated position upon posts 7 in a substantially horizontal plane.

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A car designed generally at 8 is mounted for traveling on the rails, the car including a truck 9 having front and rear pairs of wheels 10 and 11 journaled thereon for traveling on the rails. The wheels are preferably of flanged construction.

To the inside of each front wheel is secured a bevel gear 12 driven by a similar gear 13 secured to one end of the shaft 14 of an electric motor 15, one of the motors being mounted at each side of the frame 9.

A carriage 16 is provided with trunnions 17 projecting outwardly at diametrically opposite sides and are journaled in bearing brackets 18 at the sides of the truck 9. The inner ends of the trunnions 17 are journaled in bearings 19 in the sides of the car, and secured to each trunnion is a bevel gear 20 which is driven by a similar gear 21 secured to the opposite end of the motor shaft 14, the gear 20 being constantly driven during movement of the car 8 on the tracks 6.

Mounted on the inside of the carriage 16 is a control bar 22 having pins 23 projecting laterally at each end thereof for slidable movement through openings 24 in the sides of the car. The gear 20 is provided with a pair of arcuate slots 25 and into which the pins 23 are adapted to enter when pressure is applied to the bar 22 in a direction to project the pins into the slot. The pins are retracted by means of a coil spring 26 positioned between the bar and the bearing 19.

Accordingly, by the actuation of the bar 22 by an occupant of the carriage 16 to cause the pins 23 to enter the slot 25, the carriage 16 will be rotated by the gears 20 and 21 to simulate a rolling movement of the ball or carriage 16 along the tracks.

A seat 27 is mounted in the carriage 16 for one or more occupants, and a counterbalancing weight 28 is secured in the car beneath the seat to normally maintain the seat in an upright position.

The front of the carriage is provided with a hinged door 29 conforming to the curvature of the car and including a glass window 30.

Positioned below the rails 6 at one portion thereof is an upstanding rack 31 in which a plurality of tenpins 32 is pivotally mounted, as in-

dicated at 33, for vertical swinging movement. The upper ends of the tenpins 32 are disposed in the path of the carriage 16 during its movement over the tracks 5.

At one side of the track 5 is constructed a loading platform 34 by means of which passengers may enter the carriage 16, the passengers being secured on the seat 27 by straps 34 and the passengers may brace themselves by a footrest 35 secured in the car. After the passengers have entered the car, the door 29 may be secured against accidental opening movement by a conventional form of catch 36.

A control switch 37 is mounted on a part of the loading platform 34 for control by an attendant, the switch being connected to a suitable source of current 38.

In the operation of the device, after the passengers have been secured in position in the carriage 16, the switch 37 is closed, whereby the motors 15 will be operated to drive the car 8 along the rails 6 of the track. As the carriage passes over the tenpins 32, the ball 16 will strike the tenpins in a manner simulating the knocking down of the pins by a bowling ball. The bottoms of the tenpins are counterbalanced or provided with a weight 39 to return the pins to an upright position.

If desired, the carriage 16 may be rotated on the trunnions 17 by an occupant of the car pressing the bar 22 to cause an engagement of the pins 23 in the slots 25 of the gear 20. Accordingly, by operating the control bar 22, the carriage 16 may be completely rotated or may be caused to swing backwardly and forwardly, under control of the passengers of the car.

It is believed that the details of construction, manner of use and advantages of the device will be readily understood from the foregoing without further detailed explanation.

It is to be understood, however, that even though I have herein shown and described a preferred embodiment of my invention, the same is susceptible of certain changes fully comprehended by the spirit of the invention as herein described, and the scope of the appended claims.

Having thus described my invention, what I claim is:

1. An amusement device comprising a looped track disposed in a horizontal plane, said track having a pair of relatively long runs arranged in spaced relation, curved runs interconnecting the adjacent ends of said long runs, a truck mounted for travel along said track, a spherical carriage for receiving an occupant supported on said truck and mounted for rotation about a horizontal axis extending laterally of the truck, means for propelling said truck along said track, said means comprising a pair of front wheels mounted on said truck engaging said track, a pair of rear wheels mounted on said truck engaging said track, a beveled gear secured to the inside surface of each of said front wheels, a driving gear operatively engaging each of said beveled gears, and a motor mounted on each side of said truck operatively connected to each of the driving gears to rotate the latter, and means for rotating said carriage about a horizontal axis at the will of the occupant, said last named means comprising a pair of beveled gears secured to opposite sides of said carriage, a second driving gear operatively connected to each of said motors and in meshing engagement with the adjacent one of the beveled gears on said carriage, a clutch means disposed inwardly of and spaced from each of the beveled gears on said carriage and mounted for extensile and contractile movement through the adjacent side of said carriage into and out of locking engagement with the adjacent one of said carriage beveled gears, and manually actuable means disposed within said carriage and operatively connected to each of said clutch means for effecting the extensile and contractile movement of the latter.

2. An amusement device comprising a looped track disposed in a horizontal plane, said track having a pair of relatively long runs arranged in spaced relation, curved runs interconnecting the adjacent ends of said long runs, a truck mounted for travel along said track, a spherical carriage for receiving an occupant supported on said truck and mounted for rotation about a horizontal axis extending laterally of the truck, means for propelling said truck along said track, and means for rotating said carriage about a horizontal axis at the will of the occupant, said last named means comprising a pair of bevel gears secured to opposite sides of said carriage, a driving gear operatively engaging each of said bevel gears, a motor mounted on each side of said truck and operatively connected to each of said driving gears to rotate the latter, a clutch means disposed inwardly of and spaced from each of said beveled gears and mounted for extensile and contractile movement through the adjacent side of said carriage into and out of locking engagement with the adjacent beveled gear, and manually actuable means disposed within said carriage and operatively connected to each of said clutch means for effecting the extensile and contractile movement of the latter.

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