

April 21, 1925.

1,534,978

S. A. DE WALTOFF ET AL

AMUSEMENT APPARATUS

Filed Nov. 24, 1920

4 Sheets-Sheet 1

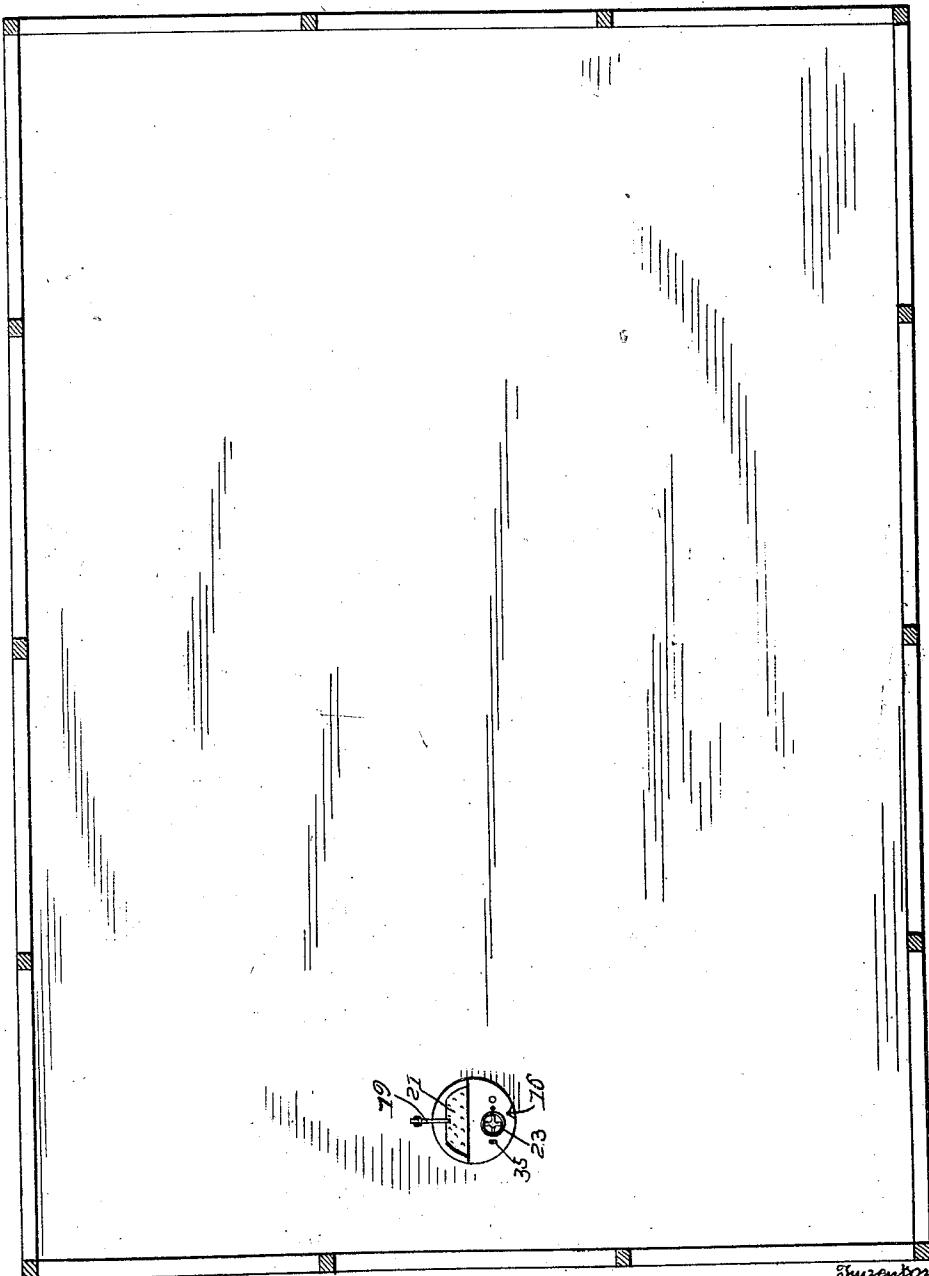


Fig. 1.

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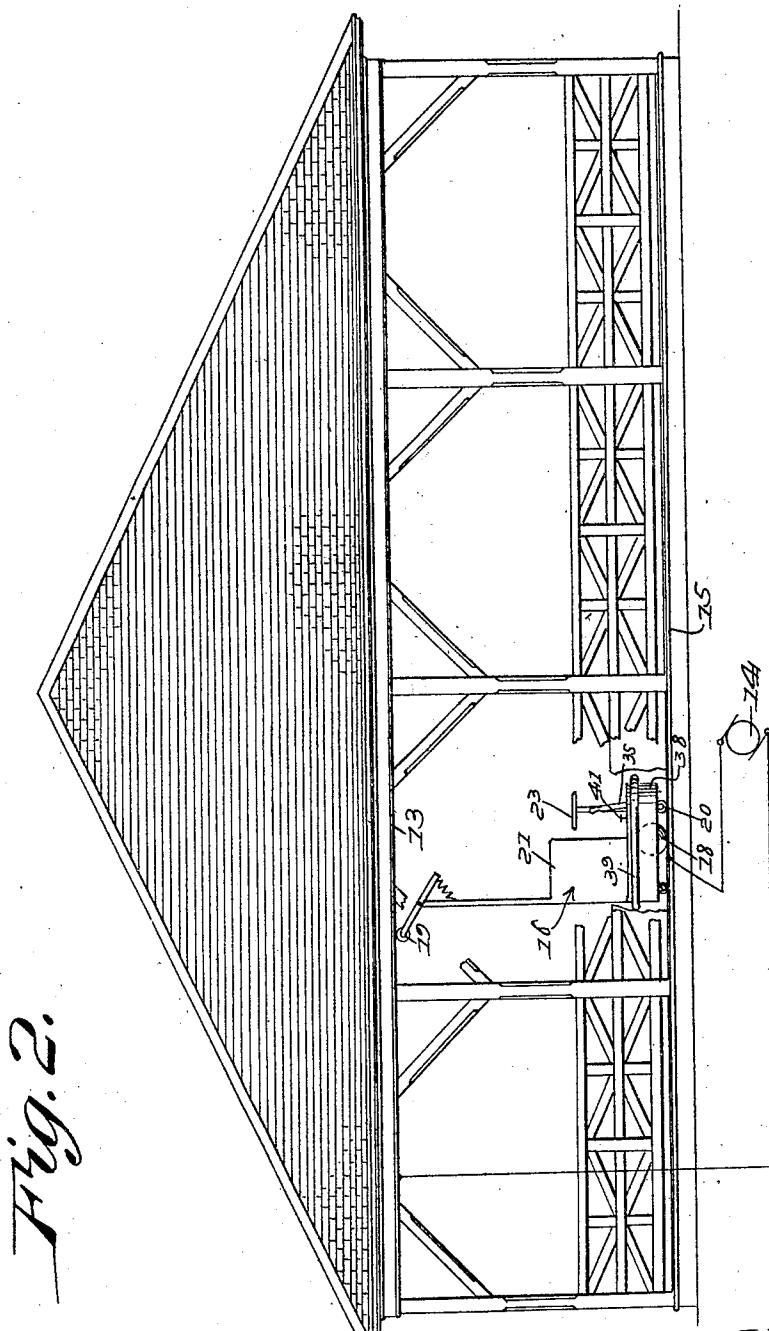


Fig. 2.

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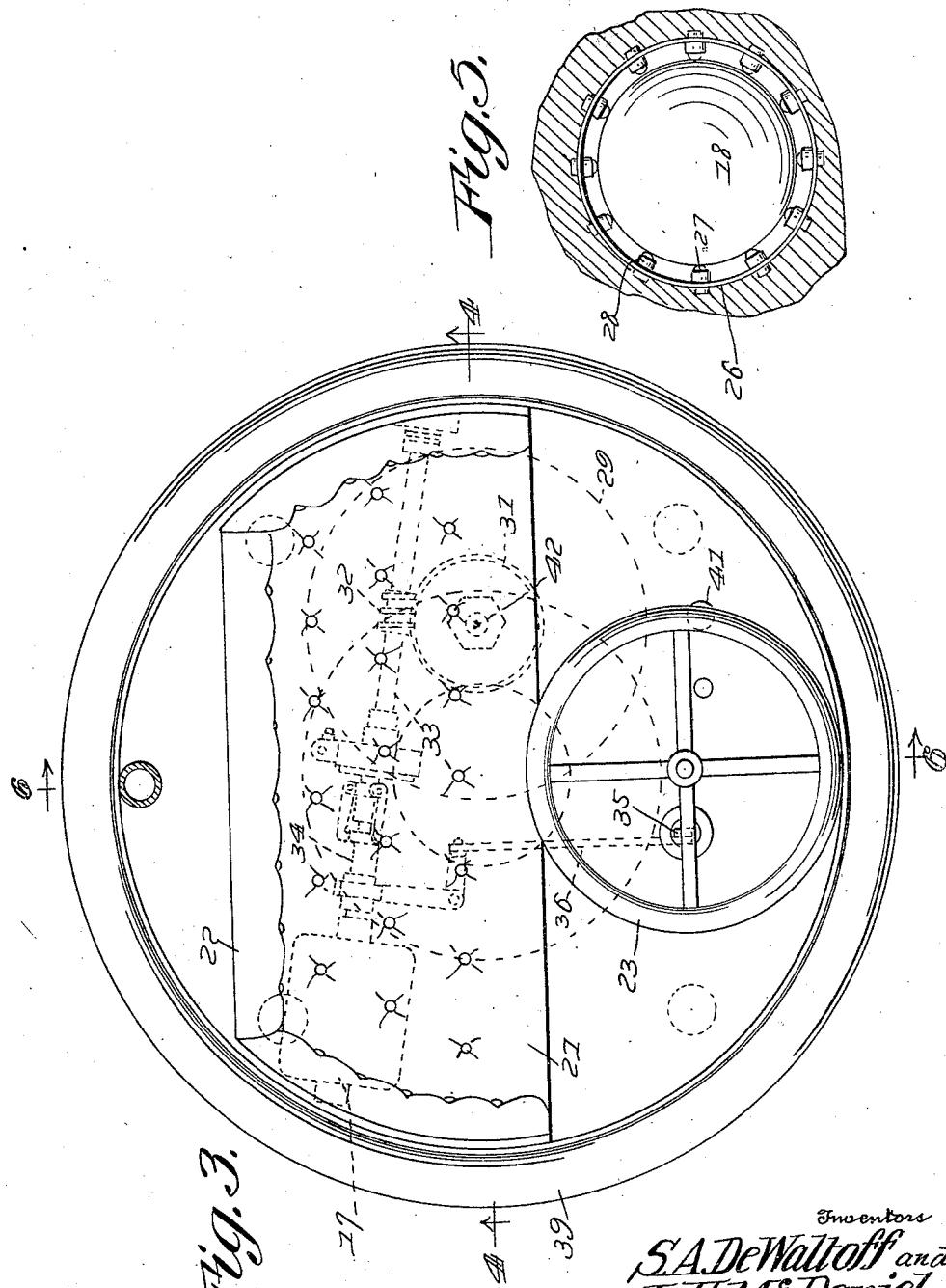
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4 Sheets-Sheet 3



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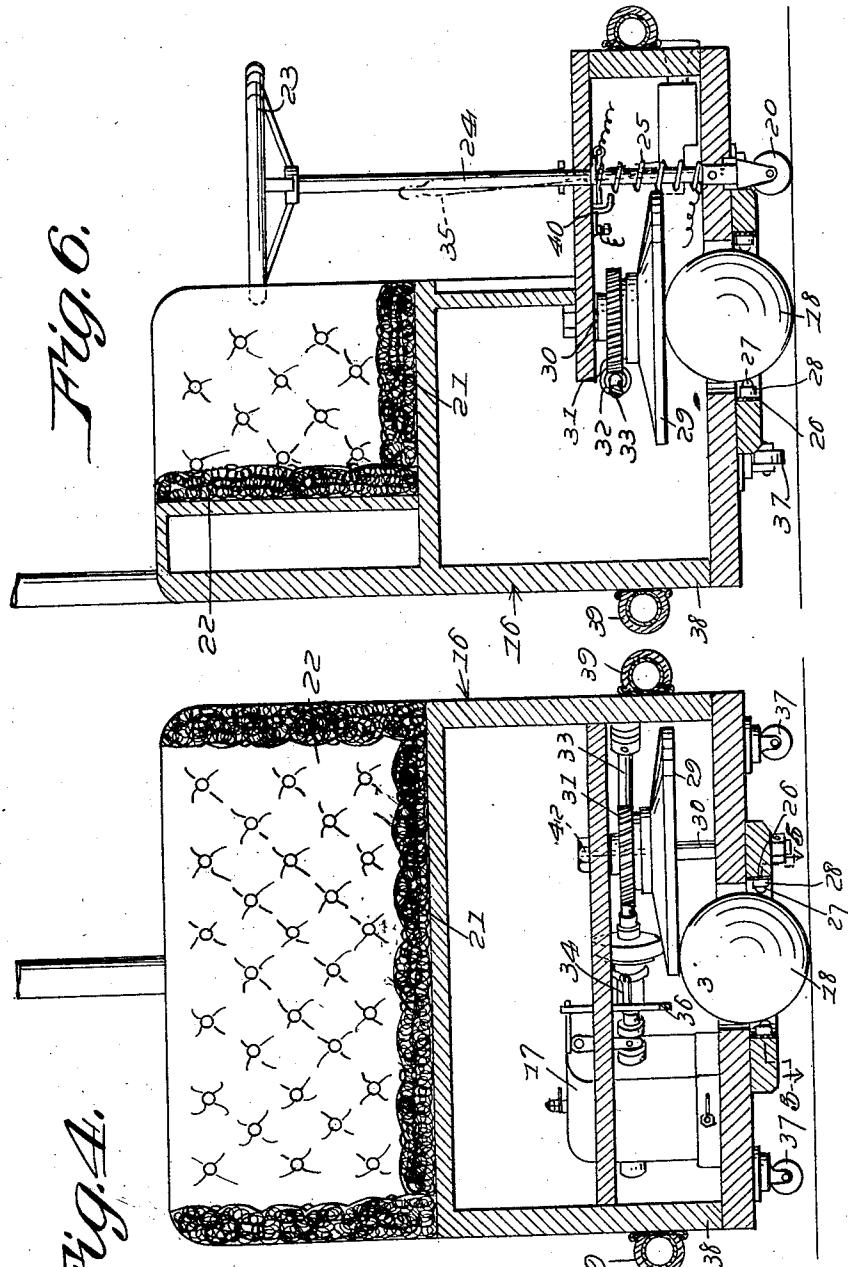
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S. A. DE WALTOFF ET AL

AMUSEMENT APPARATUS

Filed Nov. 24, 1920

4 Sheets-Sheet 4



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Patented Apr. 21, 1925.

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UNITED STATES PATENT OFFICE.

SAMUEL A. DE WALTOFF AND LEROY H. McDANIEL, OF HARTFORD, CONNECTICUT,
ASSIGNORS TO SHIMMIE AUTO CO., INC., A CORPORATION OF CONNECTICUT.

AMUSEMENT APPARATUS.

Application filed November 24, 1920. Serial No. 426,231.

To all whom it may concern:

Be it known that SAMUEL A. DE WALTOFF and LEROY H. McDANIEL, citizens of the United States of America, residing at Hartford, in the county of Hartford and State of Connecticut, have invented new and useful Improvements in Amusement Apparatus, of which the following is a specification.

The object of the invention is to provide an amusement apparatus of the type of a merry-go-round wherein cars or carrying units for occupants or riders traverse an arbitrary path, and more particularly to provide a device of this type wherein the cars or carrying units instead of receiving progressive or track traversing movement under the influence of a central or unitary driving power, are independently operated and have individual means of propulsion from a central station if desired, but under individual control by the occupants of the cars or vehicles and under such conditions that an independently irregular rotary or circulatory movement may be followed by the several cars in addition to the orbital movement described by reason of traversing run-way; and with these objects in view the invention consists in a construction and combination of parts of which a preferred embodiment is shown in the accompanying drawings, wherein:

Figure 1 is a plan view of an apparatus embodying the invention.

Figure 2 is a side view of the same.

Figure 3 is a detail plan view of one of the cars or carrying units.

Figure 4 is a vertical section on the line 4-4 of Figure 3.

Figure 5 is a detail horizontal section on the plane indicated by the line 5-5 of Figure 4.

Figure 6 is a vertical section on the line 6-6 of Figure 3.

The apparatus consists essentially of a track or run-way formed by the floor of a pavilion which, as shown, is bounded, as is usual, by side guard rails, a top trolley conductor 13 consisting in the construction illustrated of a metallic plate in circuit with a suitable source of electrical energy as indicated at 14, the track or run-way having a surface element 15, also metallic and constituting a return trolley conductor, and a plurality of independent cars or carrying units indicated at 16 and provided with a

motor 17, a driving element 18, and trolley wheels 19 and 20 respectively in contact with said trolley conductors for normally closing the circuit including the motor, to the end that regardless of the position of the car an operative contact of the trolley wheels with the conductors may be maintained to insure the operation of the motor and hence the actuation of the driving element to insure progress of the car or unit.

The car while obviously subject to modification in construction to suit the preferences of the builder and the proposed capacity thereof so far as the number of proposed occupants is concerned is shown in the drawing as having a seat 21 and seat back 22 within convenient reach of which is arranged a steering wheel 23 of which the post 24 is revolute and carries the trolley wheel 20 adapted to be yieldingly held in contact with the surface of the trolley conductor 15 by means of a coiled spring 25. The turning of the steering wheel post may be utilized to deflect the trolley wheel 20 to control the direction of progress of the car.

The car is supported tiltably at a central point, preferably arranged as nearly as possible under the center of gravity and its load by means of a ball of relatively large diameter and for example of lignum vitae constituting the driving element 18 and held in place in a race 26 consisting of a plurality of anti-friction balls 27 mounted in suitable sockets 28 and obviously adapted to rotate in any direction. For the purpose of imparting a substantially regular rotary movement to the bearing ball for inducing progress of the car there is arranged in contact with the peripheral surface of said ball a friction disk 29 disposed with its surface in a substantially horizontal plane and with its spindle 30 mounted in suitable bearings in the frame of the car and carrying a worm gear 31 with which engages a driving worm 32 actuated by the motor and shown in the drawing as constituting a prolongation of the motor shaft 33. The worm or drive shaft is preferably capable of movement independently of the motor shaft to permit of reversing the same, for which purpose a clutch 34 is provided for actuation by a hand lever 35 to which it is connected by a link 36.

In order to maintain the frame of the

car in a substantially horizontal position while permitting the universal rocking or tilting thereof within prescribed limits, it is preferable to provide safety or bearing 5 casters 37 which are arranged above the plane of the bearing point of the ball forming the driving element, so that said safety rollers come in contact with the supporting surface only when the car is in a tilted position.

Around the platform 38 forming the base of the car frame which is preferably rounded or circular in plan is arranged a cushion 39 consisting for example of a pneumatic 15 tire designed to act as a fender for contact with the guards at the sides of the run-way or track and with the other cars or carrying units occupying the track or run-way. As a means for supporting the tire, the usual 20 clincher rim is employed and secured to the base of the car in surrounding relation to the same. By the employment of a pneumatic fender, and particularly a tire, the air pressure in the same may be varied and 25 thus provide for variations in the resilience of the fender, thus making for changes in the activity of the same as a bumping medium.

In operation the car unless very skillfully 30 handled describes an irregular course due to the freedom of the spherical driving element to turn in any direction and constitutes the sole support when the car is in its normal or horizontal position, but obviously 35 the steering means may be employed to control the direction of progress to a certain extent and to this end must be kept in contact with the supporting surface. There is 40 preferably arranged a switch 40 included in the motor circuit in position for actuation by a foot pedal 41 within reach of the occupant of the seat, so that the motor may be connected or disconnected from time to time 45 at the will of the operator in an effort to control the progress and direction of movement of the car. Also the spindle 30 of the friction disk is preferably provided with an axial duct 42 to serve as an oil feed.

Having described the invention, what is 50 claimed as new and useful is:—

1. A vehicle provided with a single globular traction element disposed at a point to support the bulk of the weight of the vehicle, said element being power driven and having an uncontrolled axis of rotation.

2. A vehicle provided with a single globular traction element disposed at a point to support the bulk of the weight of the vehicle, said element being power driven and having its axis of rotation shiftable to obtain in any plane from the horizontal to the vertical.

3. A vehicle provided with a single globular traction element disposed at a point to support the bulk of the weight of the vehicle, said element being power driven and having an uncontrolled shifting axis of rotation which may shift with respect to the vehicle to obtain in any plane from the horizontal to the vertical.

4. A vehicle provided with a single globular traction element disposed at a point to support the bulk of the weight of the vehicle, and a motor propelled friction member in superficial contact with said element.

5. A vehicle provided with a single globular traction element disposed at a point to support the bulk of the weight of the vehicle, and a motor propelled friction member in superficial contact with said element at a point diametrically opposite the point of contact of said element with the surface traversed by it.

6. A vehicle provided with a single globular traction element disposed at a point to support the bulk of the weight of the vehicle, said element being power driven and turning on a universal moving axis.

7. A vehicle having a globular supporting element turning on a universally movable axis and disposed below the center of gravity of the vehicle, means for driving said element, and safety bearing members carried by the vehicle outside of the center of gravity and arranged in a plane above the plane of the bearing point of the supporting element.

8. An amusement apparatus having an endless run-way laterally bounded by guards, and a motor propelled car traversing the run-way and having a spherical universally movable supporting and driving element actuatable by a contacting motor driven friction disk and said car also being provided in eccentric relation with the driving element with a dirigible manually controllable steering roller.

9. An amusement apparatus having an endless run-way laterally bounded by guards, and a motor propelled car traversing the run-way and having a spherical universally movable supporting and driving element actuatable by a contacting motor driven friction disk and said car also being provided in eccentric relation with the driving element with a dirigible manually controllable steering roller yieldingly impelled for continuous contact with the surface of the run-way.

In testimony whereof they affix their signatures.

LEROY H. McDANIEL.
SAMUEL A. DE WALTOFF.