J. STANLEY & J. C. PORTER.

AMUSEMENT DEVICE.

APPLICATION FILED APR. 14, 1915.

1,165,552.

Patented Dec. 28, 1915.

3 SHEETS—SHEET 1.

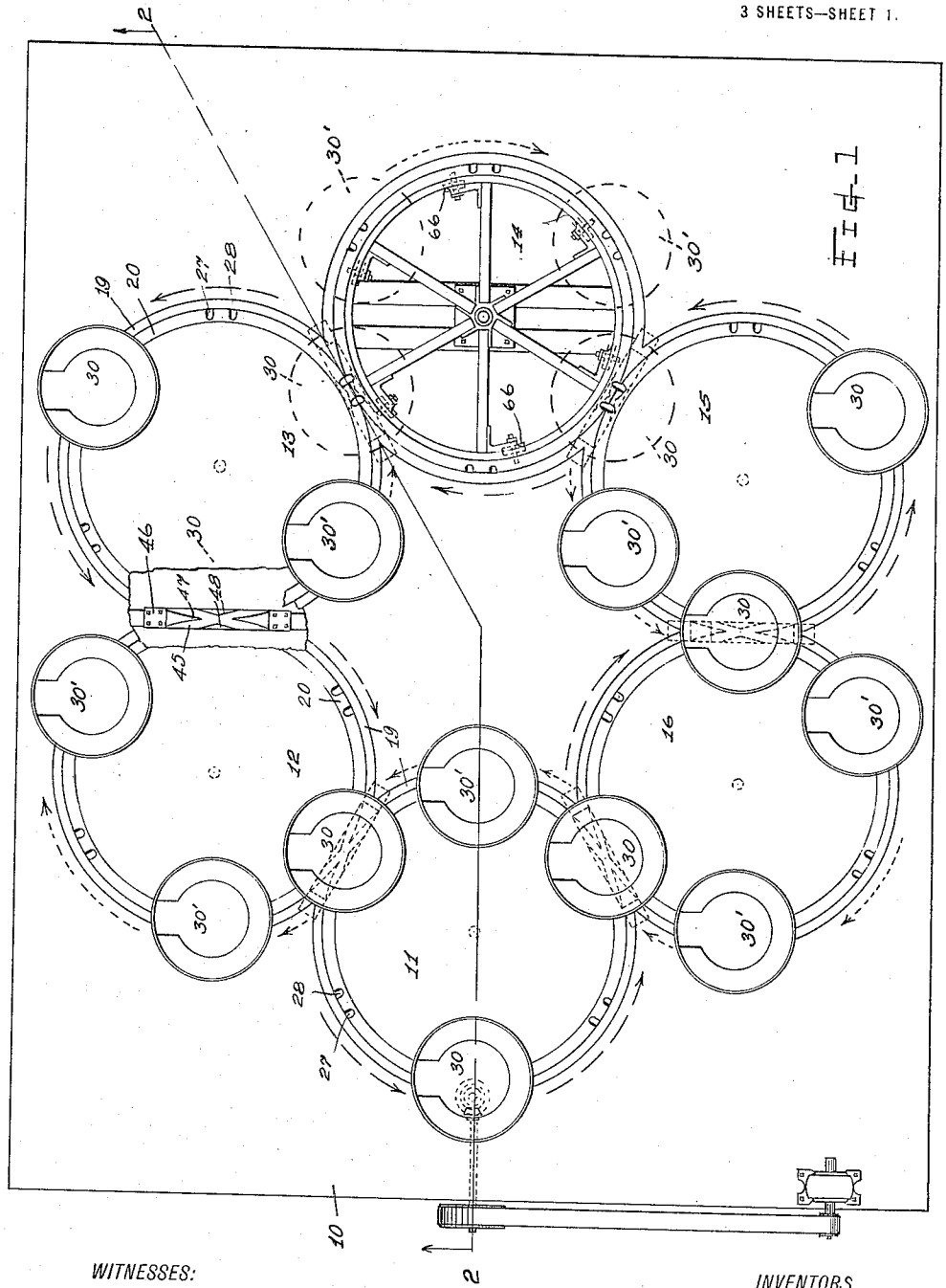

FIG. 1

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3 SHEETS—SHEET 2.

Fig. 2

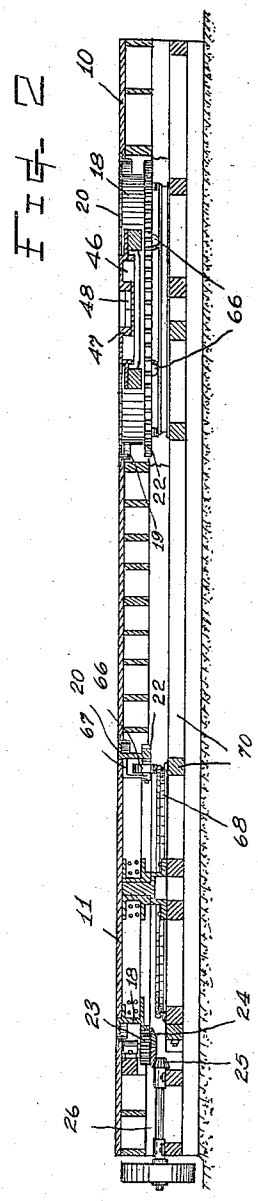


Fig. 5

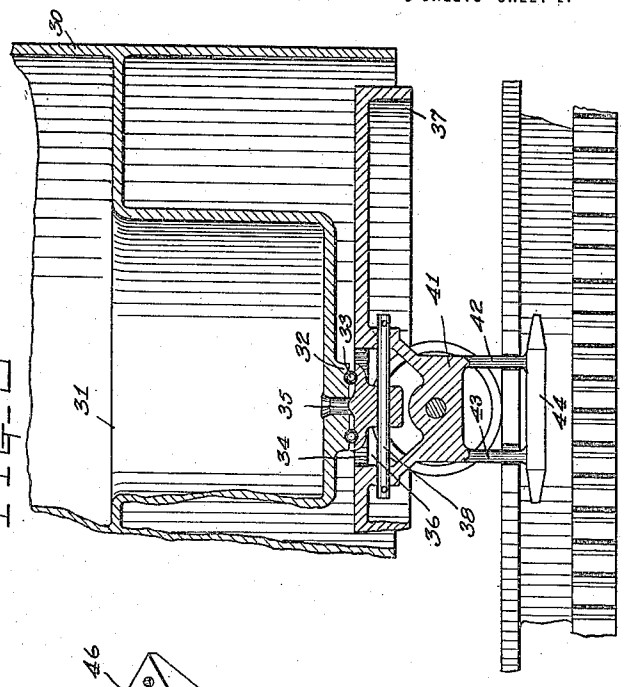
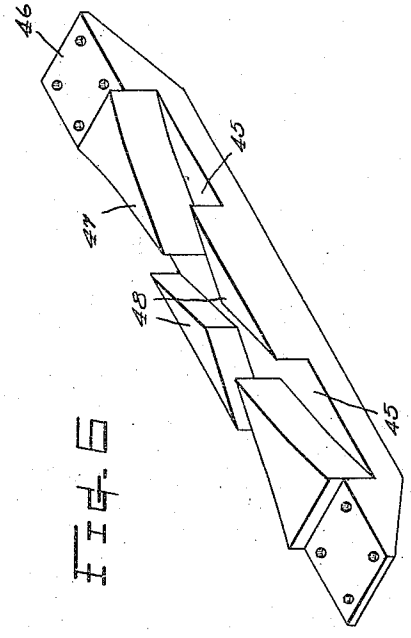


Fig. 6



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3 SHEETS—SHEET 3.

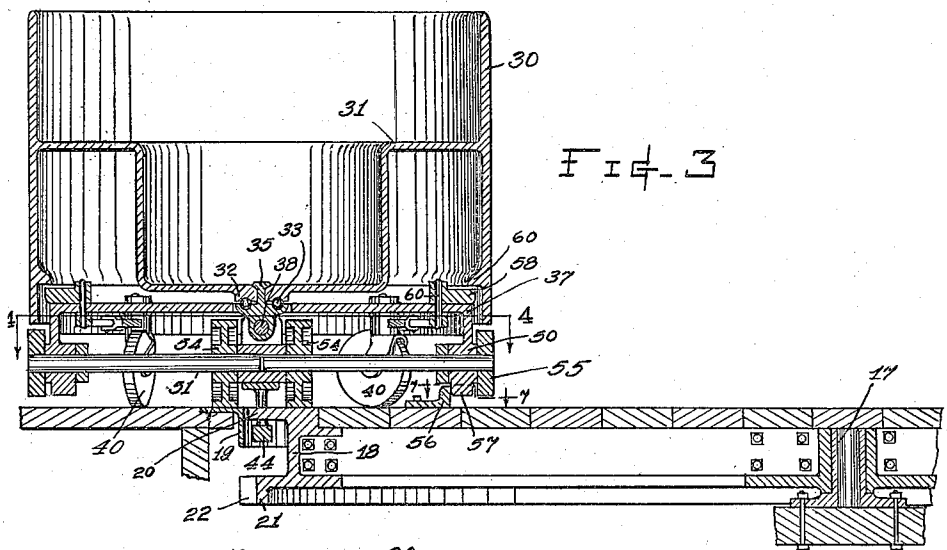

Fig. 3

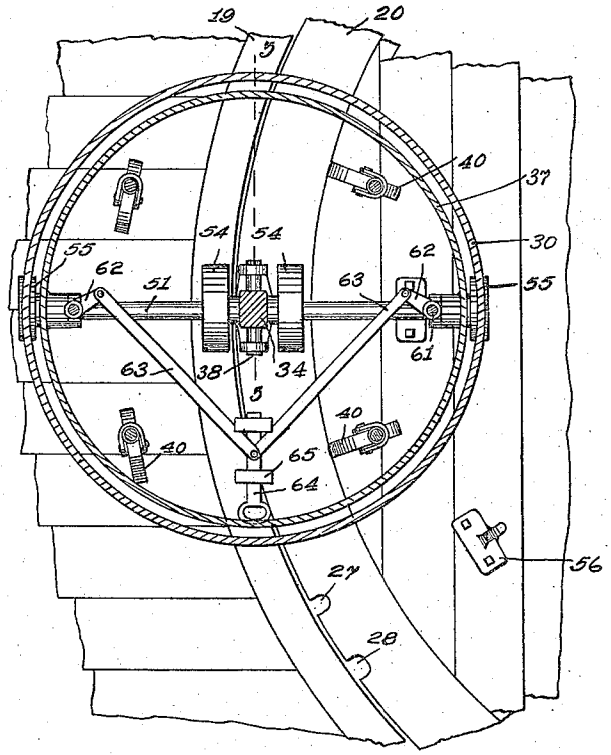

Fig. 4

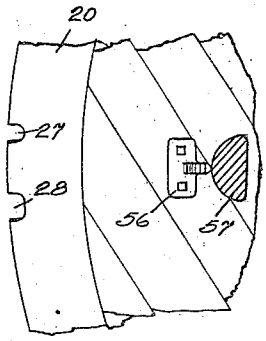

Fig. 7

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UNITED STATES PATENT OFFICE.

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AMUSEMENT DEVICE.

1,165,552. Specification of Letters Patent. Patented Dec. 28, 1915.

Application filed April 14, 1915. Serial No. 21,185.

To all whom it may concern:

Be it known that we, JOHN STANLEY and JAMES C. PORTER, citizens of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification.

This invention relates to improvements in amusement devices, and the object of this improvement is to provide an amusement device embodying a plurality of rotary tables that are arranged in tangential relation and have a plurality of passenger-carrying cars associated therewith in such manner that the cars are caused to travel in continuous curvilinear to and fro paths about the rotating tables, half of such cars traveling in one general direction about the tables and the other half of such cars traveling in an opposite direction about the circuit.

A further object is to provide means for causing the cars to be continuously passed from one table to another and to provide means for supporting the cars against centrifugal force.

A still further object is to provide means for effecting the rotation of the several cars independently of each other.

The invention consists in the novel construction, adaptation and combination of parts, as will be more fully described in the following specification, illustrated in the accompanying drawings, and finally pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a plan view of an amusement device embodying the invention; Fig. 2 is a view in vertical section on broken line 2—2 of Fig. 1; Fig. 3 is an enlarged view in vertical mid-section of a car embodied in the invention, together with a portion of the table and platform with which it is associated; Fig. 4 is a view in cross-section on broken line 4—4 of Fig. 3; Fig. 5 is an enlarged fragmentary view on broken line 5—5 of Fig. 4; Fig. 6 is an isometric view of a detail of the invention, and Fig. 7 is an enlarged detail view in cross section on broken line 7—7 of Fig. 3.

Referring to the drawings, throughout which like reference numerals indicate like parts, 10 is a platform, and 11, 12, 13, 14, 15, and 16 are a plurality of circular tables that are arranged in tangential relation in a continuous circuit in the plane of said platform, and are each mounted for rotation on a centrally disposed bearing stud 17, more clearly shown in Fig. 3. The platform 10 is cut away to conform to the peripheral configuration of the tables 11 to 16, inclusive, the edges of the platform adjacent such tables having an angle-iron 19 fixedly secured thereto.

The peripheries of the tables 11 to 16, inclusive, are each formed of annular castings 18 having an upper bearing flange 20 and a lower flange 21 upon which is formed a toothed rack 22 that is adapted to mesh with similar racks on adjacent tables whereby such tables may be rotated synchronously, the rack 22 on one of the tables 11 being in mesh with a gear-wheel 23 that is connected, through bevel-gears 24 and 25 with a power-driven schaft 26, as more clearly shown in Fig. 2.

The peripheral flanges 20 are each provided at six equidistant points with pairs of notches 27, 28, and the gear racks are so meshed that the notches in each flange 20 register with corresponding notches in adjacent flanges 20 as the tables are rotated.

The cars 30, 30^1, preferably circular in shape, are provided with integrally formed circular seats 31 and have concentrically disposed bosses 32 each provided with a suitable ball race in which are disposed balls 33 that roll in another ball race in a bearing plate 34 provided therebelow and connected with the boss 32 by an axially disposed stud-pin 35, as shown in Fig. 5. The plates 34 are disposed within circular openings 36 in base plates 37 and are secured to such base plates by pins 38 that permit the cars 30 to be slightly inclined outwardly by centrifugal force when in motion.

The base-plates 37 are each mounted on four caster wheels 40 that roll on the platform 10 or are carried on the rotating tables 11 to 16, inclusive, and are provided at a central point with a depending bracket 41 having two downwardly projecting standards 42 and 43 that are provided at their lower ends with a fixedly secured guide 44 tapered substantially to a point at both ends and adapted to engage within guideways 45 in switch blocks 46 that are secured to the frame 10 at the points of tangency of the tables 11 to 16, inclusive, to shift the cars from one table to another, as hereinafter explained.

The guide blocks 46, more clearly shown

in Fig. 6, are provided with wedge-shaped switch members 47 that are flush with the top plane of the tables and with the top plane of the platform 10 when the guide-blocks are secured in position and with other triangular shaped members 48 that lie below the flanges 20 of the tables, the triangular members 48 and switch members 47 forming the sides of the guideway 45.

The base plates 37 are each provided at two opposite circumferential points with depending brackets 50 that serve as bearings for the outer ends of shafts 51 and 52 that are also journaled in the bracket 41 and are provided near their inner ends with wheels 54 that engage with the platform 10 and the tables 11 to 16 and at their outer ends with wheels or rollers 55 that may be caused to engage with the bottom edge of the cars 30, 30^1 to rotate such cars.

The tables 11 to 16, inclusive, are each provided at points opposite the notches 27, 28 with brackets 56 that engage with cams 57 preferably formed integral with the brackets 50 to resist the centrifugal force imparted to the cars 30, 30^1 by the rotating tables, the cams 57 being so shaped that they clear the brackets 56 easily when the cars 30, 30^1 are shifted from one table to another.

To prevent engagement of the bottom edge of the cars 30, 31^1 with the rollers 55, we have provided dogs 58 adapted to engage beneath an annular flange 60 on the inside periphery of each car-body, such dogs being mounted on pins 61 that project downwardly through the base-plate 37 and are connected by fixedly secured crank-arms 62 with the outer ends of toggle links 63 whose inner ends are articulated with a slide bar 64 that may be moved longitudinally in brackets 65 to turn the dogs 58 under the flange 60 to prevent tilting of the cars 30, 30^1, or to turn such dogs 58 so that they will be free from the flange 60 and permit the edge of the car to be tilted downwardly onto the rollers 55.

The tables 11 to 16, inclusive, are each provided with a plurality of rollers 66 journaled in brackets 67 and adapted to roll on annular tracks 68 that are supported on any suitable framework 70 below such tables.

The operation of the device is as follows: The cars 30 and 30^1 are associated with tables 11 to 16, inclusive, in the order shown, with the caster wheels 40 resting on such tables and on the platform 10, and the standards 42 and 43 disposed in the notches 27 and 28, respectively, and power is applied to the shaft 26 to rotate the tables synchronously. As the tables rotate, the cars are carried around therewith until they reach the point of tangency of the carrying table with another table, when the guide 44 is deflected by switch point 47 and causes the standards to be shifted from the notches 27 and 28 in the carrying table into corresponding notches in the adjacent table. The guide 44 causes a slight turning of the base-plate 37 as the car is shifted from one table to another and permits the cam 57 to clear the bracket 56. The rear notch 28 is formed slightly longer than the leading notch 27 in order that the standard 43 which is the last standard to be shifted may be released easily and without binding when the shifting operation occurs.

When the dogs 58 are in engagement with the flange 60, as shown in Fig. 3, the car 30 or 30^1 will be held in an upright position but when the dogs 58 are withdrawn the car 30 or 30^1 may be tilted sidewise centrifugal force to cause the lower edge of such car to engage with the outermost one of the rollers 55 and the car to be rotated thereby. The outermost wheel 54 will roll on the platform 10 as the car moves around a table, and the innermost wheel 54^1 will be carried by the table without rotation, thus the outermost roller 55 will be rotated at all times, but when the cars are shifted from one table to another the wheel 54 that was carried on the first table will roll on the platform 10, while the other wheel 54 that rolled on the platform in the first instance, will be carried on the second table and in a like manner the relative positions of the wheels 54 will be reversed each time the car is passed from one table to another. Thus the car will be rotated in one direction while engaged by one table and in an opposite direction while engaged by the next succeeding table. In a similar manner, two of the casters 40 will be carried on a table at all times and two of such casters will roll on the platform 10.

The cars 30, 30^1 herein shown to be eighteen in number, travel in to and fro curvilinear paths in opposite directions around the circuit of tables 11 to 16, inclusive, the cars 30^1 following the path indicated by arrows A shown in broken lines and the cars 30^1 following the path indicated by arrow B shown in dotted lines.

Obviously, any number of tables more or less than six may be used in working out this invention as, for instance, two or more tables may be placed in an end to end relation instead of in circuit to have the same mode of operation.

What we claim, is—

1. An amusement device comprising a plurality of circular tables arranged in tangential relation, means for rotating said tables synchronously, cars adapted to be carried by said tables and transferred from one to another of said tables at the points of tangency of said tables, and means for rotating said cars.

2. An amusement device of the class described, comprising a plurality of circular tables mounted in tangential relation, means

for rotating said tables synchronously, cars adapted to be moved in a continuous to and fro path by said tables, means for effecting the transfer of said cars from one to another of said tables, means for rotating said cars, and means for preventing the rotation of said cars.

3. An amusement device of the class described, comprising a platform, a plurality of circular tables arranged in tangential relation in said platform, means for rotating said tables synchronously, a plurality of cars associated with said tables and adapted to be moved in curvilinear paths thereby, said cars being provided with downwardly projecting lugs and means associated with said tables for sustaining said cars against centrifugal force.

4. An amusement device of the class described, comprising a frame provided with a horizontal platform, circular tables mounted for rotation in the plane of said platform, cars associated with said tables and adapted to be carried in curvilinear paths thereby, said cars being pivotally mounted and adapted to be inclined outwardly by centrifugal force, means for rotating said tables when said tables are in an inclined position, and means for securing said tables in an upright position to prevent rotation thereof.

5. An amusement device of the class described, comprising a platform, a plurality of circular tables, means for rotating said tables synchronously, cars associated for movement with said tables, said cars being adapted to be inclined sidewise by centrifugal force, wheels journaled in said cars and adapted to roll on said platform, and rollers rotatably connected with said wheels and adapted to be engaged by said cars when said cars are in an inclined position to rotate said cars.

6. An amusement device of the class described, comprising a frame provided with a horizontal platform, circular tables mounted for rotation in the plane of said platform, the peripheries of such tables being tangent and disposed in close proximity to said platform and having peripheral notches, arranged in correspondingly spaced relation, cars each having a body portion that is pivotally connected at a concentric point with a base plate to adapt said cars to be inclined from the vertical, standards secured to said base plate and adapted to be disposed in said peripheral notches, wheels rotatably mounted on said base plate to roll on said platform, rollers rotatably connected with said wheels and adapted to be engaged by said cars when said cars are inclined whereby said cars may be rotated, and means for preventing the inclination of said cars.

7. An amusement device of the class described, comprising a platform, a plurality of circular tables mounted in tangential relation, means for rotating said tables synchronously, cars associated with said tables and adapted to be moved thereby, each of said cars consisting in a body portion that is concentrically articulated with a base-plate, caster wheels to support said base-plate above said platform and said tables, wheels mounted for rotation on said base plate and adapted to travel on said platform, rollers associated with said wheels and adapted to be engaged by the lower edge of said cars whereby said cars may be rotated, and means for preventing the engagement of the lower edge of said cars with said rollers.

8. An amusement device of the class described, comprising a platform, a plurality of circular tables arranged in said platform, cars each comprising a car body that is concentrically pivoted on a base plate whereby said car body may be inclined sidewise by centrifugal force when it is moved in a curvilinear path, caster wheels supporting said base plate, means connecting said base plate with said tables, means for transferring said cars from one to another of said tables, wheels associated with said base plate and adapted to roll on said platform when said cars are moved, and rollers connected for rotation with said wheels and adapted to be engaged by said cars when said cars are in an inclined position to rotate said cars.

9. An amusement device of the class described, comprising a platform, a plurality of circular tables arranged in tangential relation in said platform, said tables having peripheral notches, a plurality of cars consisting in car bodies rotatably mounted on base plates, depending standards secured to said base plates and adapted to be disposed within the peripheral notches, a guide member secured to the lower ends of said standards, switch blocks provided at the points of tangency of said tables and adapted to engage with said guides to shift said cars from one to another of said tables, and means for rotating said tables synchronously.

Signed at Seattle, Wash., this 7th day of April, 1915.

JOHN STANLEY.
JAMES C. PORTER.

Witness:
E. PETERSON.