J. STANLEY AND J. C. PORTER.

AMUSEMENT DEVICE.

APPLICATION FILED OCT. 27, 1919.

1,350,086.

Patented Aug. 17, 1920.

2 SHEETS—SHEET 1.

Fig. 1.

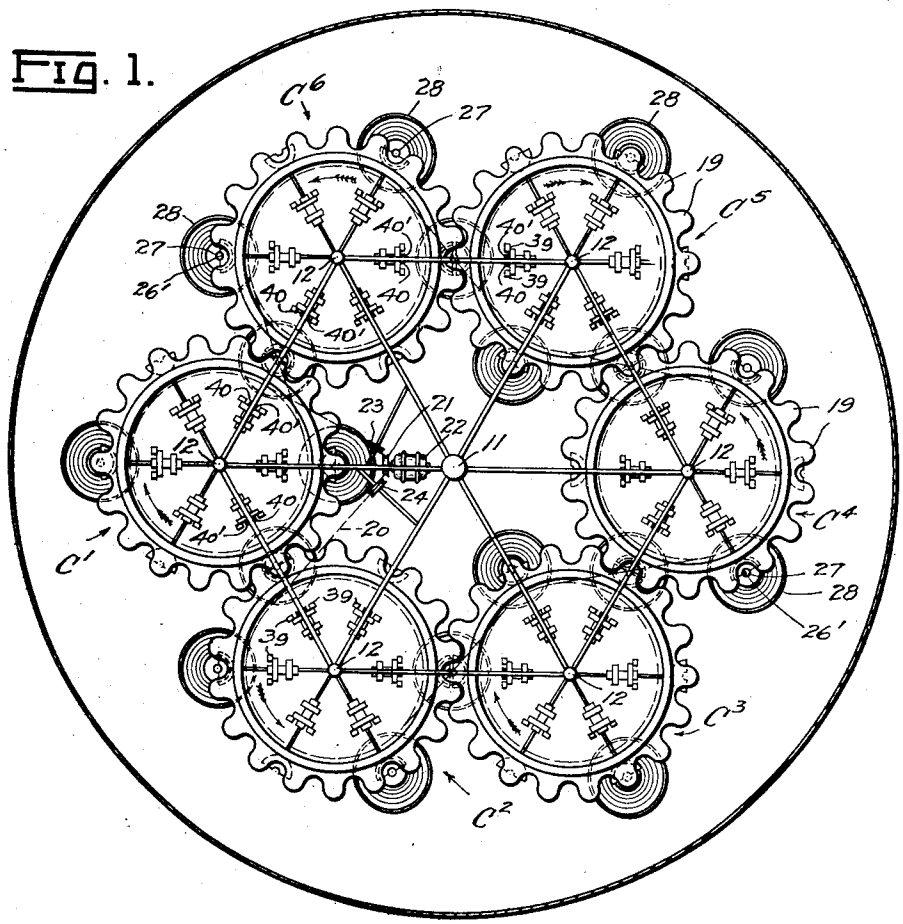
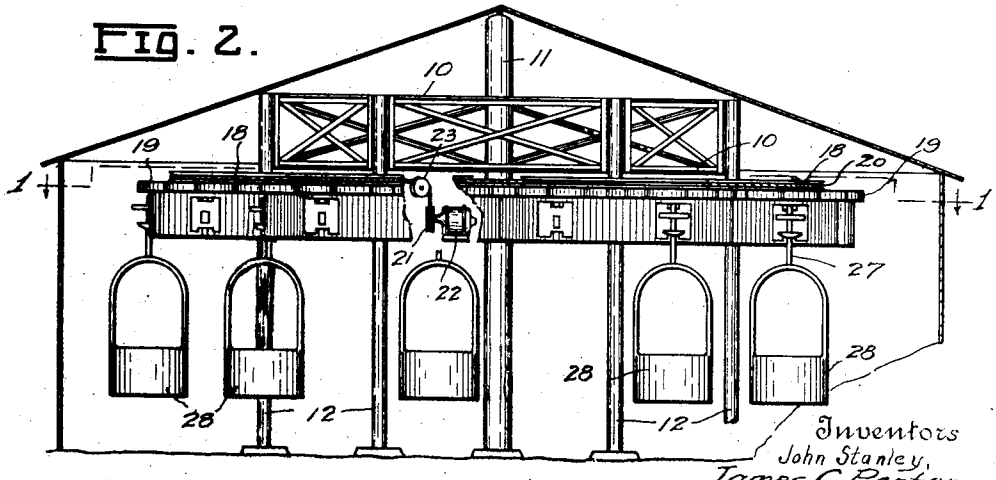


Fig. 2.



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2 SHEETS—SHEET 2.

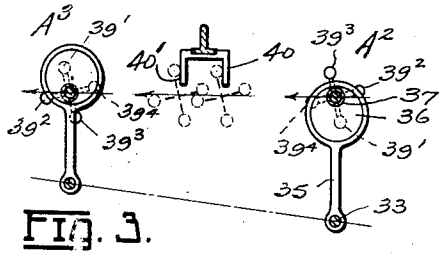


FIG. 3.

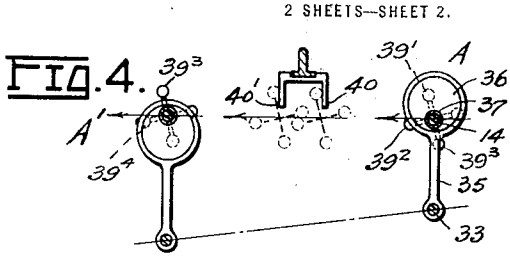


FIG. 4.

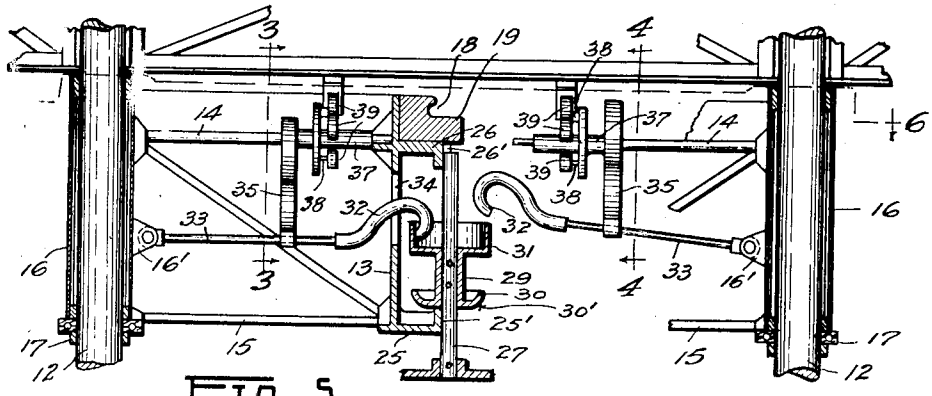
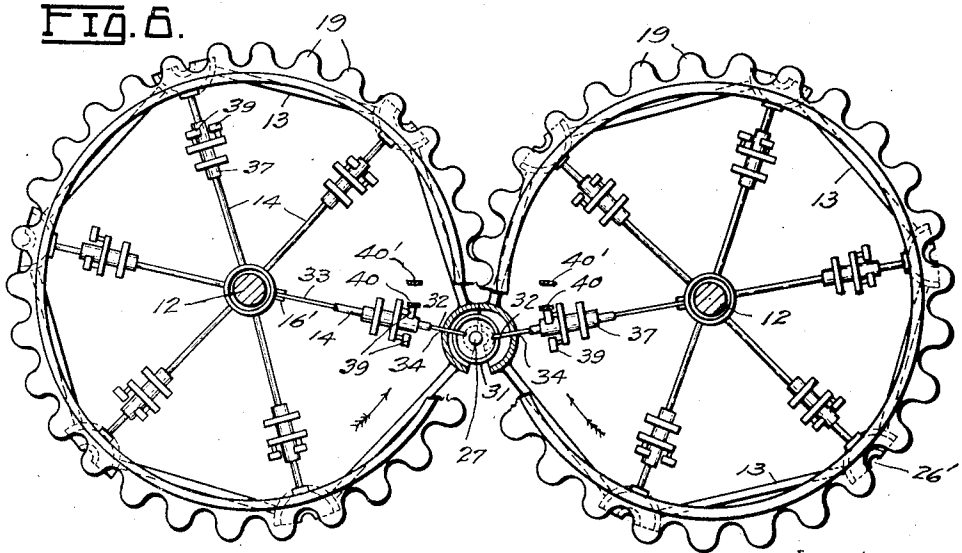


FIG. 5.

FIG. 6.



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UNITED STATES PATENT OFFICE.

JOHN STANLEY, OF SANTA MONICA, CALIFORNIA, AND JAMES C. PORTER, OF SEATTLE, WASHINGTON.

AMUSEMENT DEVICE.

1,350,086. Specification of Letters Patent. Patented Aug. 17, 1920.

Application filed October 27, 1919. Serial No. 333,776.

To all whom it may concern:

Be it known that we, JOHN STANLEY and JAMES C. PORTER, citizens of the United States, residing, respectively, at Santa Monica, in the county of Los Angeles, State of California, and 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 generally to amusement devices of the character set forth in United States Patents No. 1,165,552 issued to J. Stanley and J. C. Porter December 28, 1915, and No. 1,290,392 issued to J. Stanley January 7, 1919.

The principal object of the present invention is to perfect apparatus of this character by employing improved structural features involving elevated rotary carriers from which depend a plurality of vehicles arranged to revolubly travel in curvilinear directions with the various carriers.

A further object of the invention is to provide improved means for suspending the vehicles from said carriers.

A further object of the invention is to provide said vehicles with attachments adapted to act in coöperation with mechanism provided on the various carriers whereby the vehicles are transferred tangentially between adjacent carriers in a positive and safe manner.

A still further object of the invention is to provide a new and improved construction of amusement device of the class described which will be extremely interesting to the users and be efficient and inexpensive to operate.

The invention in its form now preferred by us is illustrated in the accompanying drawings, in which Figure 1 is a horizontal sectional view through 1—1 of Fig. 2. Fig. 2 is a front elevational view of the apparatus with the containing structure shown in section. Figs. 3 and 4 are detail sectional views, shown somewhat diagrammatically, taken substantially through 3—3 and 4—4 of Fig. 5, to illustrate the action of the eccentrics and coöperating devices in bringing the hooks into the positions in which they are shown in Fig. 5. Fig. 5 is a fragmentary vertical sectional view through Fig. 6. Fig. 6 is a horizontal sectional view showing two of the carriers illustrated in Fig. 1, said section being on line 6—6 of Fig. 5.

According to the present invention, we provide a structure having a horizontal frame comprising truss elements 10 which are sustained by and serve as braces for posts 11 and 12. The posts 12 are disposed concentrically about the post 11 and serve as pivotal supports for wheels or carriers arranged in tangential relations, six being shown in Fig. 1 which are indicated by C^1, C^2, C^3, C^4, C^5 and C^6. Each of these carriers, as best shown in Figs. 5 and 6, consists of a polygonal rim 13 connected by spokes 14 and 15 from the angles thereof with a central hub 16 which is rotatable upon a post 12 above a collar bearing 17.

Said carriers include annular members having peripheral grooves 18 and teeth 19 which afford gear connections between the adjacent carriers.

An endless cable or belt 20, indicated by broken lines in Fig. 1 and by full lines in Fig. 2, as shown extends from a driving pulley 21 on a motor 22 over a guide pulley 23, thence about the carrier C^1, then successively about the carriers C^6 to C^2, returning from the latter over a guide pulley 24 to the motor pulley 21 whereby the carriers are rotated in the directions denoted by arrows in Figs. 1 and 6.

At each angle of a carrier the rim member 13 is provided with a pair of bracket elements, such as 25 and 26 (Fig. 5) having at their outer ends semi-circular grooves 25^1 and 26^1, those of each pair having their axes in vertical alinement. 27 represent upright cylindrical spindles which serve as supports for vehicles, represented as cars 28 in Figs. 1 and 2, for conveying passengers about the various carriers and the group thereof. Said spindles are arranged to fit interchangeably in all of the grooves 25^1 and 26^1 and rigid thereon are collars 29 which are provided at their lower ends with peripheral flanges 30 which are curved to afford convex under surfaces, such as 30^1 in Fig. 1. The upper ends of each of the collars 29 is formed with a recessed cylindrical portion or cup 31 of an internal diameter greater than that of the respective spindle.

For the purpose of suspending the respec-

tive vehicles, the collars 29 seat upon the bracket elements 25 and the rounding of the bottoms of the collars facilitate the transferring of the car supports from a bracket element of one carrier to a bracket element of another carrier.

Acting between each pair of brackets 25—26 of a carrier is a hook as 32, Fig. 5, secured to a rod 33 which extends radially of a carrier between the adjacent spokes 14 and 15 and is hingedly connected to a lug 16^1 on the respective hub.

The hooks 32 also extend through vertical guide slots 34 provided in the carrier rims. Each of the hooks upon occasion, is raised and lowered by means of an eccentric-rod 35 extending from the associated hook rod 33 to an eccentric 36 provided on a sleeve 37 which is rotatably mounted upon the adjacent spoke 14. The eccentrics 36 are caused to rotate by the provision on each sleeve of four studs 38 carrying, desirably, rollers 39 which encounter spaced abutments or stops 40, 40^1 disposed in the path of the uppermost of said rollers and located in substantially a vertical plane extending through the axes of the adjacent carriers and whereat the transfer of a vehicle from one carrier to another is effected.

The operation of the hook devices will be understood from an inspection of Figs. 3, 4 and 5. Assuming a hook is in its raised or disengaged position with respect to a cup 31 as shown with respect to the hook at the right hand side in Fig. 5, the controlling mechanism thereof will then be as represented at A in Fig. 4 with the eccentric in its most elevated position.

In advancing, the roller indicated by 39^1 (Fig. 4) encounters the stop 40 and in the travel of the referred to mechanism such roller is arrested by this stop 40 causing a one fourth of a rotation to be imparted to the sleeve and eccentric, thereby carrying the adjacent roller 39^2 to be swung into position to engage the second stop 40^1 and cause, in the progressive travel of the mechanism referred to, the sleeve and eccentric to be turned another fourth of a rotation with the mechanism as represented by A^1 in Fig. 4. The eccentric being thus turned effects the lowering of the associated eccentric rod 35 and the associated hook 32 so as to be brought into a cup engaging position as shown at the left in Fig. 5.

To elevate a hook for disengaging the same from a cup, the rollers 39^3 and 39^4, see Fig. 3, successively engage stops 40 and 40^1 to afford a half rotation to the sleeve and eccentric to cause the hook elevating mechanism to be moved from the A^2 position into the A^3 positions as represented in Fig. 3.

The stops 40, 40^1 are furthermore arranged to regulate the hooks so that the cups of the car supporting spindles 27 will not become released from the hooks of one carrier until engaged by the hooks of another carrier, which actions will take place as the cars travel across planes extended through the axes of adjacent carriers.

What we claim is—

1. In apparatus of the class described, tangentially arranged wheels, vehicle carrying spindles, means provided on the spindles whereby the latter are suspended from the rims of said wheels, hook devices for releasably securing said spindles to the wheels, a cam provided for each of said devices and operatively connected thereto, and means rendered operative by the rotation of the wheel whereby rotary motion is imparted to said cams to successively raise and lower the said hook devices into and out of engagement with the spindles.

2. In apparatus of the class described, tangentially arranged wheels provided with peripheral brackets having grooves, vehicle carrying spindles depending from the wheel rims and engageable in said grooves, hook devices engageable with said spindles, and means for raising and lowering said devices from and into engagement with the spindles at approximately the points of tangency between the adjacent wheels.

3. In apparatus of the class described, the combination with a series of tangentially arranged wheels provided with peripheral brackets, and means to rotate said wheels, of a plurality of vehicle-suspending spindles provided with collars adapted to be supported upon said wheel brackets, devices revoluble with the respective wheels and engageable with said collars for normally coupling said collars to the respective wheels, cams operatively connected with said devices, and means rendered operative by the rotation of the wheels whereby said cams are rotated to cause said devices to effect the transfer of said spindles between the various wheels.

4. In apparatus of the class described, the combination with a series of tangentially arranged wheels provided in its periphery with brackets having grooves and means to rotate said wheels, of a plurality of vehicle suspending spindles provided with collars adapted to be supported upon said wheel brackets, devices revoluble with the respective wheels and engageable with said collars for normally retaining the spindles within said grooves, means operatively connected with said devices, and means rendered operative by the rotation of the wheels whereby the aforesaid means are rotated to cause said devices to effect the transfer of said spindles between the adjacent wheels.

5. In apparatus of the class described, the combination with a plurality of tangentially arranged wheels, means for rotating

said wheels, a plurality of vehicle suspending spindles, and collars upon said spindles adapted to be supported on the rims of said wheels, of hook devices carried by the respective wheels and engageable with said collars, a cam for each of said devices, and means adapted to actuate said cams to regulate the action of said devices for releasably securing the spindles to said wheels and effect the transfer of the spindles at the points of tangency from one wheel to another.

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Witnesses for John Stanley:
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T. L. MARTIN.

Witnesses for James C. Porter:
PIERRE BARNES,
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