

J. A. DE VITO.

MERRY-GO-ROUND.

APPLICATION FILED MAY 28, 1908.

915,276.

Patented Mar. 16, 1909.

4 SHEETS—SHEET 1.

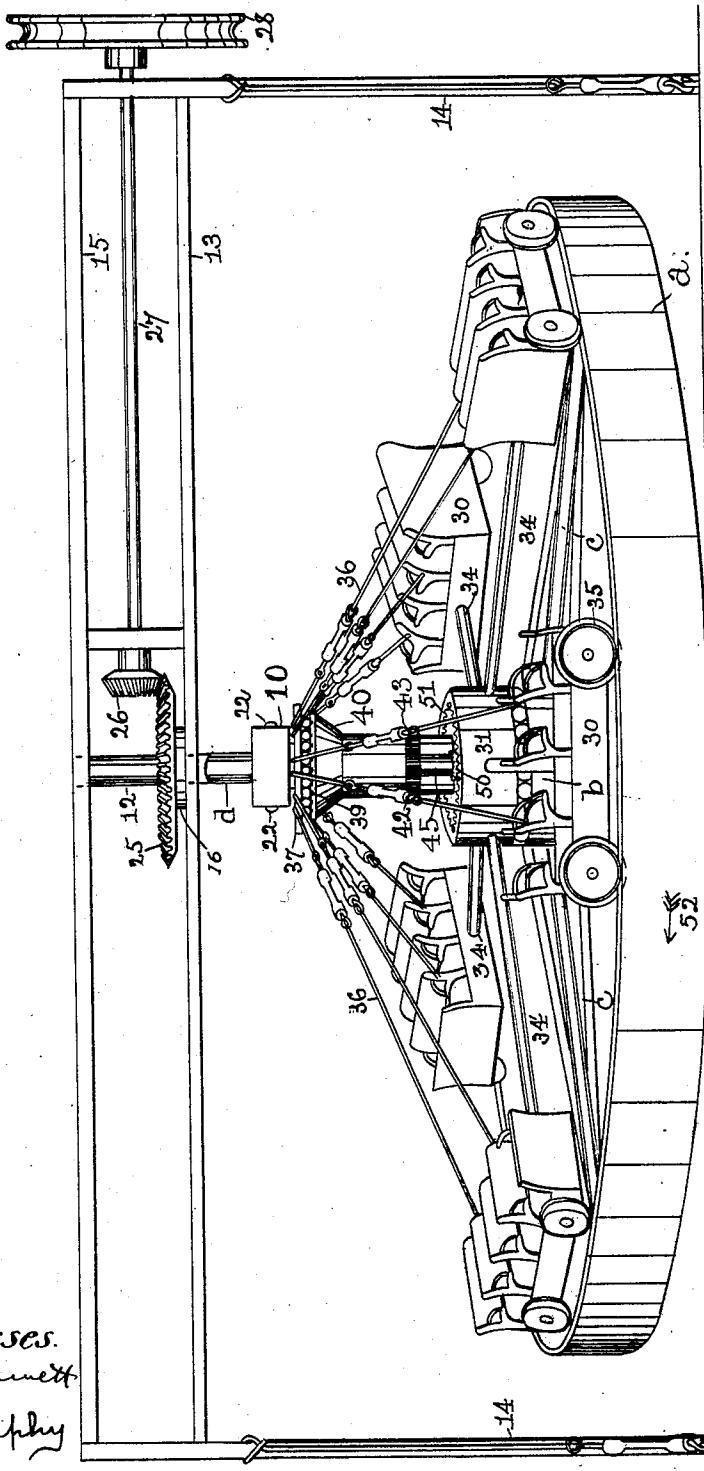


Fig. 1.

Witnesses.
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4 SHEETS—SHEET 2.

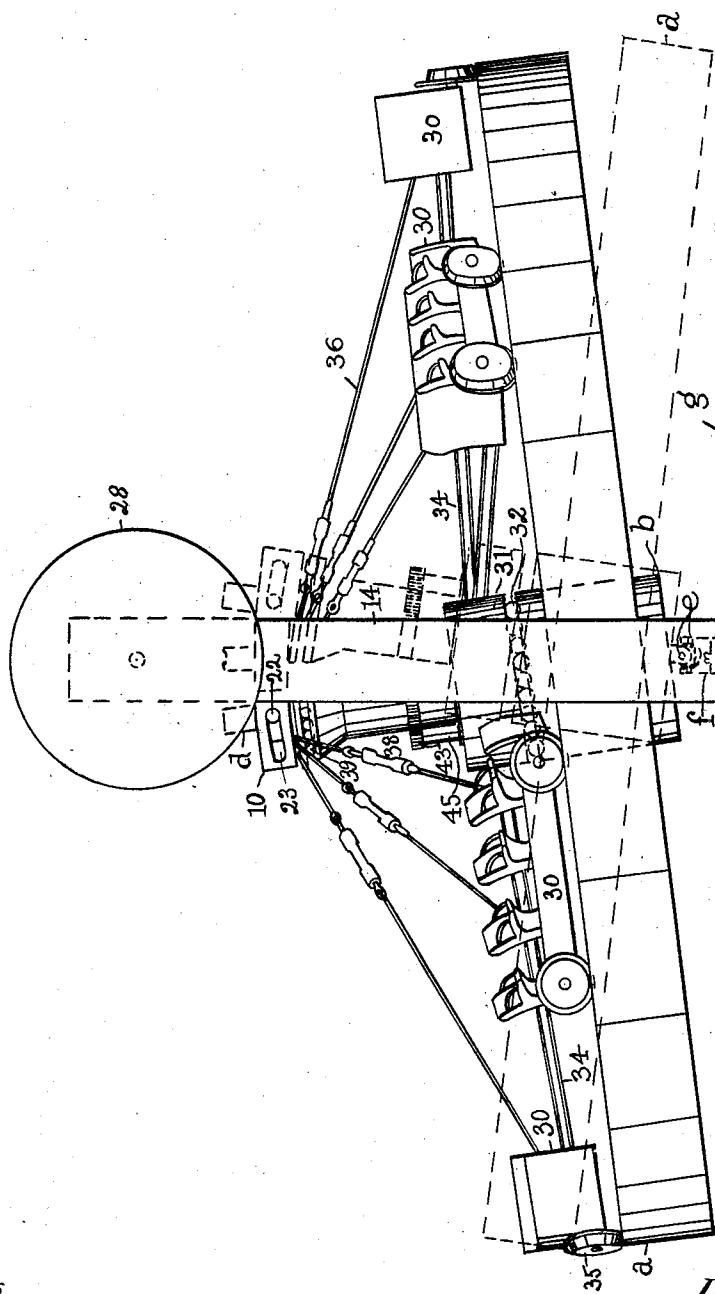


Fig. 2

Witnesses.
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4 SHEETS—SHEET 3

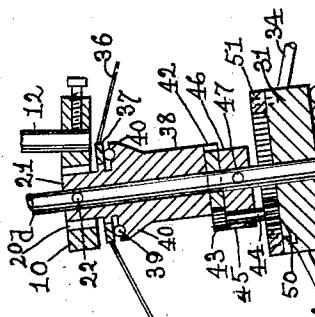


Fig. 5.

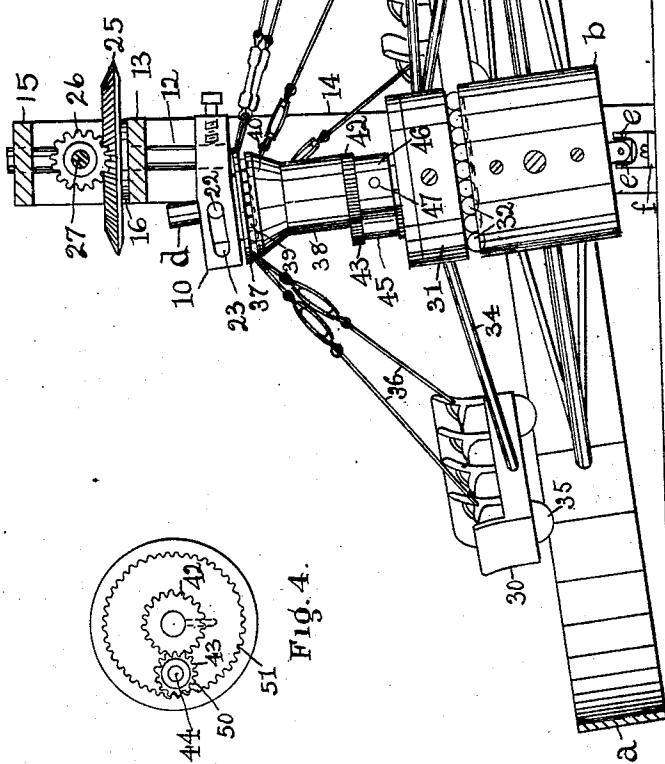


Fig. 4.

Witnesses.
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4 SHEETS—SHEET 4.

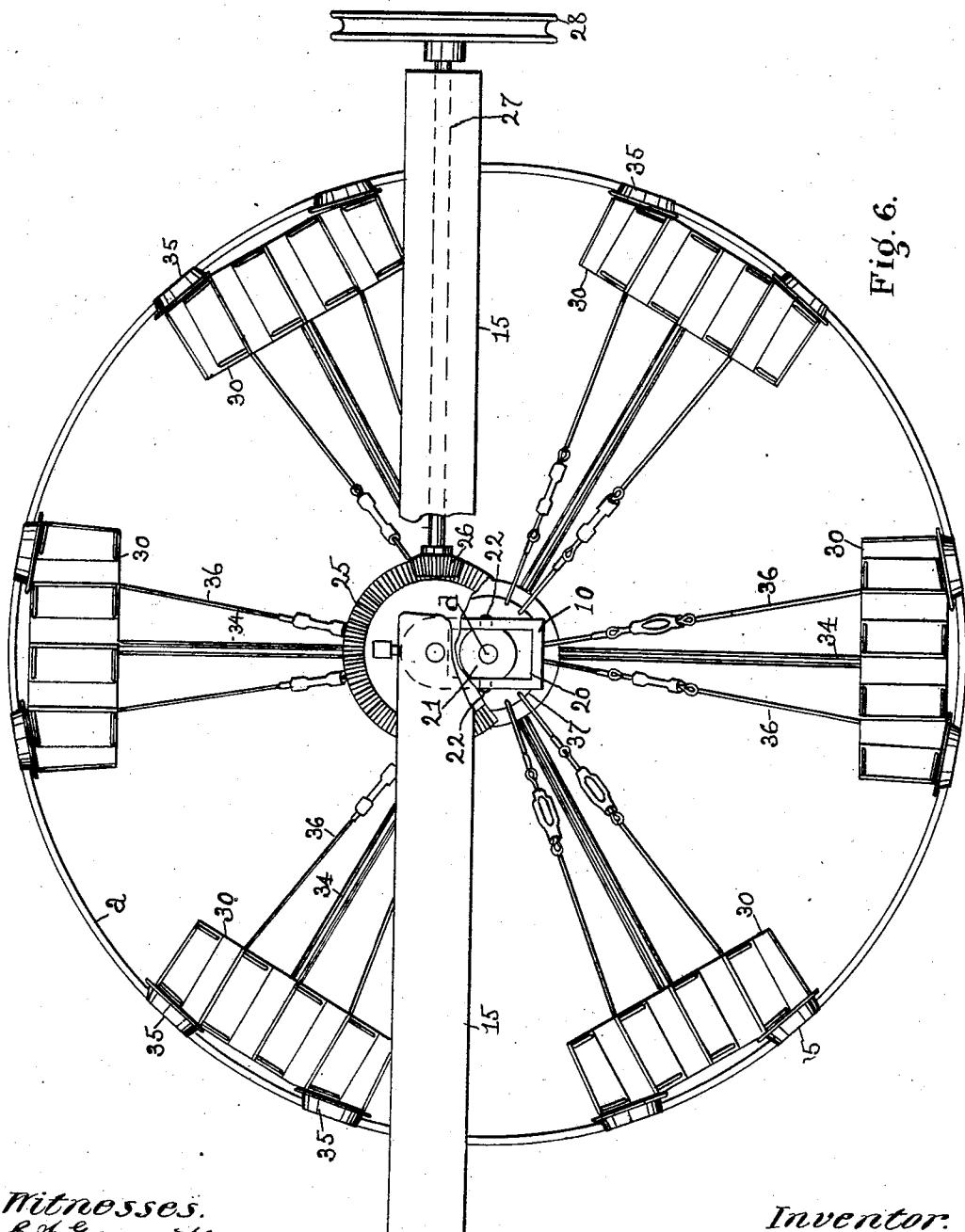


Fig. 6.

Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN A. DE VITO, OF BOSTON, MASSACHUSETTS.

MERRY-GO-ROUND.

No. 915,276.

Specification of Letters Patent. Patented March 16, 1909.

Application filed May 28, 1908. Serial No. 435,467.

To all whom it may concern:

Be it known that I, JOHN A. DE VITO, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement 5 in Merry-Go-Rounds, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

10 This invention is herein shown as embodied in an amusement apparatus of the class known as merry-go-rounds, and has for its object to provide an apparatus in which a person is moved in a circular path and simultaneously up and down. For this purpose, I employ a circular track or support, which is connected to an upright shaft pivoted at its lower end and having its upper end free to be turned in a circle, as will be 15 described, so that a continuous tilting motion is imparted to the circular track. A carrier for a person is arranged to run on the circular track and is connected with a rotatable device, which is mounted on the upright shaft 20 so as to move bodily therewith and so as to rotate thereon.

These and other features of this invention will be pointed out in the claims at the end of this specification.

30 Figure 1 is a front elevation of an apparatus embodying this invention. Fig. 2, a side elevation of the apparatus shown in Fig. 1, looking toward the left. Fig. 3, a partial section and elevation of the apparatus shown 35 in Fig. 1. Fig. 4, a detail to be referred to, Fig. 5, a detail in section to be referred to, and Fig. 6, a plan of the apparatus shown in Fig. 1.

Referring to the drawings, *a* represents the 40 rim of a large wheel provided with the hub *b* and spokes *c*, said rim constituting a circular track or support upon which is adapted to be moved one or more carriers for persons. The hub *b* of the wheel is fast on an upright 45 shaft *d*, which, in accordance with this invention, is pivoted at its lower end as at *e* by a universal joint of any suitable or usual construction, to a short upright post or stationary support *f*, which is suitably anchored or 50 secured to the ground or it may be the floor of a building, which is represented by the line *g*. The shaft *d* is free at its upper end to be turned in a circular path about the universal joint *e* as a center, which is effected as 55 herein shown by means of a crank or arm 10 fast on a vertical shaft 12 extended through

and supported by a cross bar 13 of a framework, which comprises as herein shown the vertical uprights 14 to which the cross bar 13 and another cross bar 15 are secured. In 60 the present instance, the shaft 12 is shown as provided with a collar 16, which rests upon the upper surface of the cross bar 13, and the crank or arm 10 is provided with a slot 20 (see Fig. 5) extended through it and in which 65 is fitted a substantially oblong collar 21, loose on the shaft *d* and provided with pins or lugs 22, which are extended into slots 23 in the sides of the crank or arm 10. The slots 23 are made curved with the pivot *e* for 70 the shaft *d* as a center, for a purpose as will be described.

The shaft 12 may be rotated as herein shown, by means of a bevel gear 25 fast thereon, and with which meshes a bevel 75 pinion 26 on a shaft 27 provided with a pulley or wheel 28, which is adapted to be driven by a belt not shown. It will thus be seen that rotation of the shaft 12 causes the crank or arm 10 to carry the upper free end of the 80 shaft *d* in a circular path about the shaft 12 as a center, which latter shaft is in alignment with the pivot *e* for the lower end of the shaft *d*. During this movement of the shaft *d*, the rim *a* of the wheel follows the inclination of 85 the said shaft, with the result, that the wheel is tipped progressively, so that each point in the rim of the same is lowered into contact with the ground, is then gradually raised until it reaches its maximum height, which is 90 where the shaft *d* has been moved one-half of its circular path, and is then gradually lowered until it again touches the ground. The 95 extreme positions of two diametrically opposite points in the rim *a* of the wheel are represented by the full and dotted lines in Fig. 2.

The movement of the rim *a* may be designated a progressive tilting movement, and while this is taking place, a car or carrier 30 with one or more passengers seated thereon 100 is carried around on the progressively tilting rim, which may be effected as herein shown by means of a rotatable hub or collar 31, loose on the shaft *d* and preferably supported upon ball bearings 32, which rest upon the hub *b* of the tilting wheel. The rotatable hub 31 has extended from it a plurality of 105 spokes or arms 34, to the outer end of each of which a car or carrier 30 is fastened so as to rotate with the hub 31. The car 30 may be 110 fastened to its spoke 34 in any suitable manner, and is provided with wheels 35, which

run on the track or rim α , and said car may be braced by suitable guy wires 36 attached at their lower ends to the cars and having their upper ends attached to a ring 37, which 5 is loose on a circular portion of the collar 21, which latter is secured to or forms part of a sleeve 38 loosely mounted on the shaft d to rotate thereon. The ring 37 may and preferably will rest on ball bearings 39 supported by the flanged or enlarged portion 40 of the sleeve 38. The sleeve 38 is moved bodily in a circular path with the shaft d and is also rotated about said shaft and effects rotary movement of the hub 31 carrying the 10 cars 30, by means of gearing interposed between said sleeve 38 and said hub. In the present instance, I have shown one arrangement of gears for this purpose. To this end, the sleeve 38 has fast to its lower end a gear 20 42 which meshes with and drives a pinion 43 on a shaft 44 extended down through a hollow boss or arm 45 on a collar 46, which is secured to the shaft d by a pin 47 or otherwise, the shaft 44 having on its lower end 25 a pinion 50, which meshes with an internal toothed ring or gear 51 secured to the upper surface of the hub 31. By the arrangement of gears herein shown, the cars 30 are caused to move in an opposite direction to the progressive tilting of the circular track, that is, as the track is tilted down in the direction indicated by arrow 52, Fig. 1, the cars are moved in the opposite direction, with the result, that in each complete movement of 30 the upper end of the shaft d in a circular path, the cars are caused to ascend and descend a plurality of times while completing one circular movement, thereby imparting to the occupants of the car a peculiar and amusing 35 sensation.

The slots 23 in the crank 10 are curved as above described, so that the rim α of the

tilting track or wheel may bear upon the ground irrespective of slight irregularities in the surface thereof. 45

Claims.

1. In an apparatus of the class described, in combination, an upright shaft pivoted at its lower end to enable its upper end to be moved in a circular path, a wheel fast on said shaft and having its rim progressively tilted by the circular movement of said shaft, a hub loose on said shaft, a carrier movable on said rim and connected to said hub, a sleeve loose on said shaft, gearing connecting said sleeve with said hub to effect rotation of the latter, a crank shaft provided with a crank, and means to engage said crank with said sleeve to effect movement of the free end of the upright shaft in a circular path and rotary movement of said sleeve on said shaft, substantially as described. 50 55 60

2. In an apparatus of the class described, in combination, an upright shaft pivoted at one end to enable its free end to be moved in a circular path, a wheel fast on said shaft and having its rim progressively tilted by the circular movement of said shaft, a carrier movable on the rim of said wheel, a sleeve loose on said shaft to rotate thereon and to move therewith, mechanism operatively connecting the said carrier with said sleeve, and means to effect the movement of the free end of the said shaft in its circular path and to effect rotation of said sleeve on said shaft, 65 70 75 substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN A. DE VITO.

Witnesses:

JAS. H. CHURCHILL,
J. MURPHY.