April 5, 1938. L. U. EYERLY 2,113,131

ROTATING AMUSEMENT DEVICE

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FIG. 1.

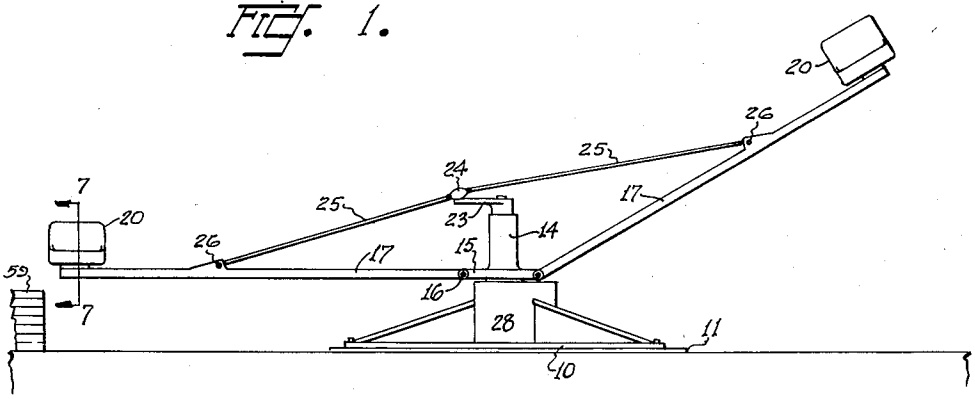

FIG. 2.

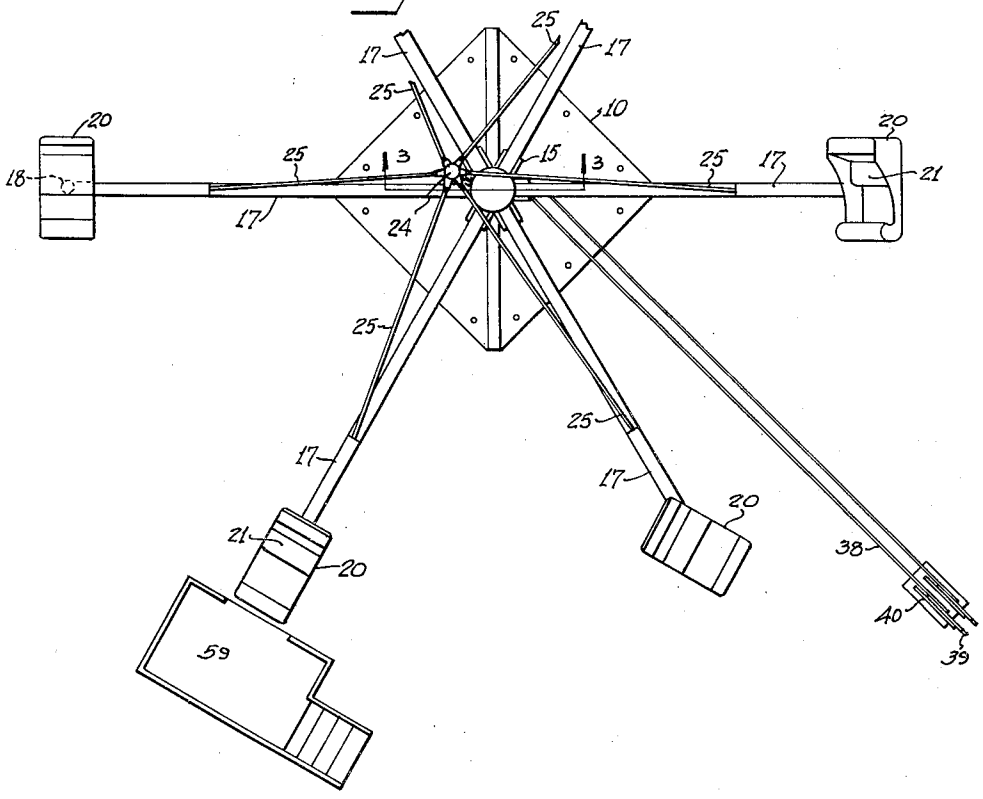

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FIG. 3.

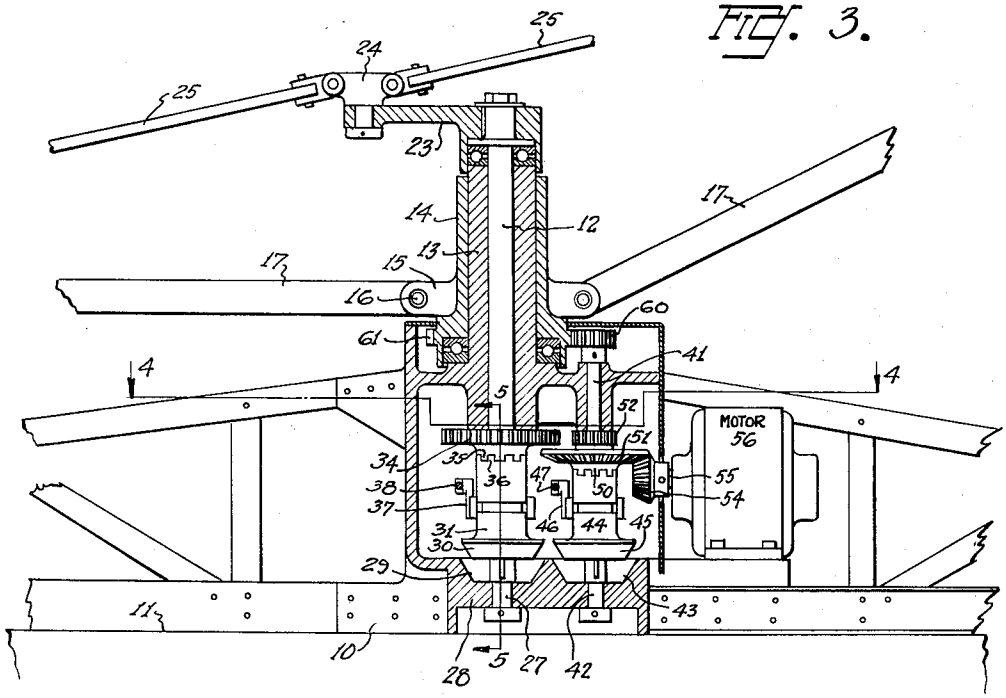

FIG. 4.

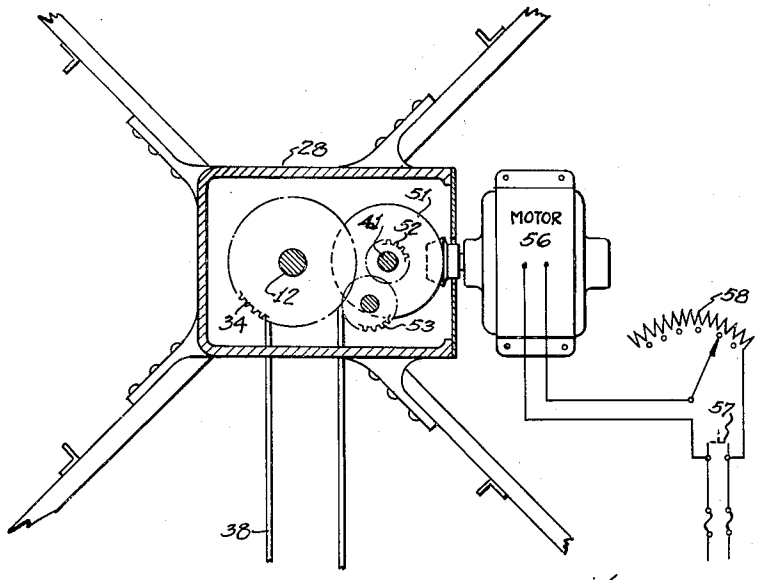

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FIG. 5.

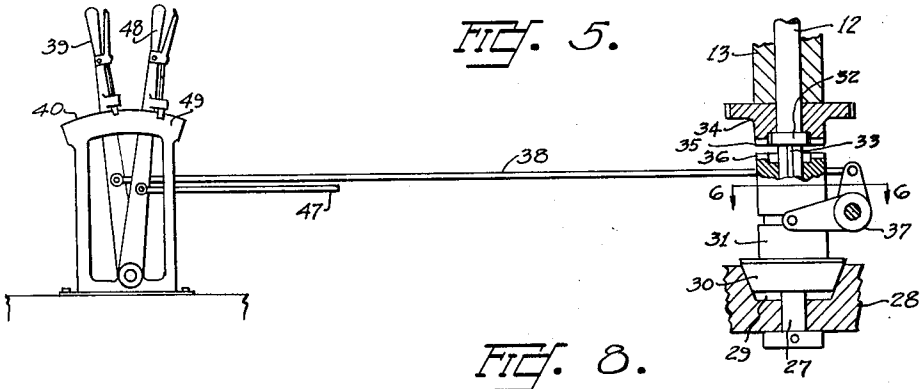


FIG. 6.

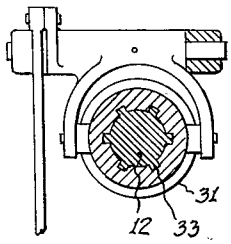


FIG. 8.

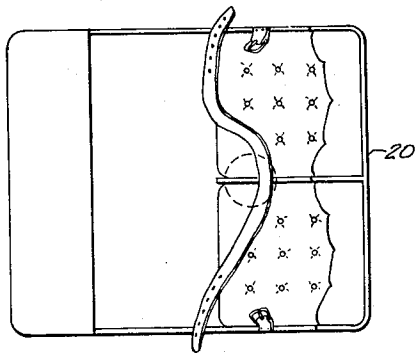
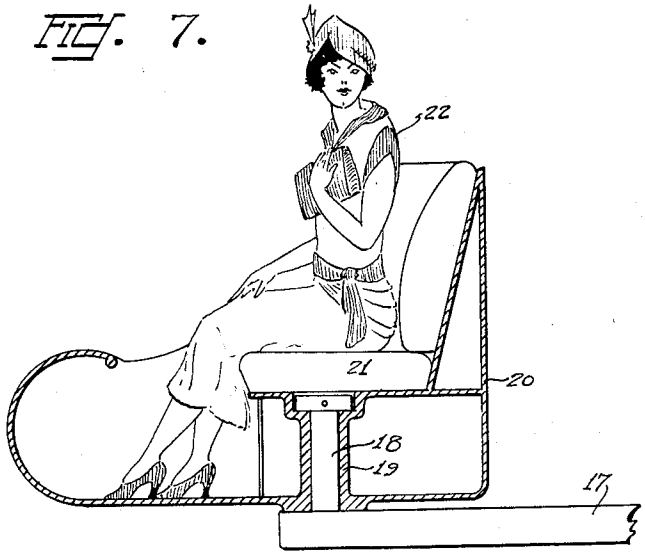


FIG. 7.



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Patented Apr. 5, 1938 2,113,131

UNITED STATES PATENT OFFICE

2,113,131

ROTATING AMUSEMENT DEVICE

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Application February 24, 1936, Serial No. 65,262

4 Claims. (Cl. 272—36)

This invention relates generally to amusement devices, and particularly to the type commonly referred to as "merry-go-round", in which the cars are rotatable about a vertical axis.

The main object of this invention is the provision of an improved form of rotating amusement device in which the individual cars are mounted on rocker arms by means of which the cars can be tilted as they revolve about in their orbits and at the same time each car is revolvable on an axis which is normal to its supporting arm which is radial from the center of rotation.

The second object of this device is to make it possible to hold the arms in a given vertical position while the cars are being revolved about their vertical axis for the purpose of facilitating the loading and unloading thereof.

These, and other objects, will become more apparent from the specification following as illustrated in the accompanying drawings, in which:

Fig. 1 is a side elevation of the device.

Fig. 2 is a fragmentary plan of the device.

Fig. 3 is a section taken along the line 3—3 in Fig. 2.

Fig. 4 is a section taken along the line 4—4 in Fig. 3.

Fig. 5 is a section taken along the line 5—5 in Fig. 3.

Fig. 6 is a section taken along the line 6—6 in Fig. 5.

Fig. 7 is a vertical section through a car showing the position of the occupant.

Fig. 8 is a plan of the car.

Similar numbers of reference refer to similar parts throughout the several views.

Referring in detail to the drawings, there is shown a base 10 which is secured to a suitable foundation 11, preferably of concrete. From the base 10 extends upwardly the vertical shaft 12 which is revolvable in the upright bearing 13, whose upper end is cylindrical and forms a shaft for the sleeve 14 from which radiate the lugs 15 which carry the transverse pin 16.

To each pin 16 is hingedly attached a radial car arm 17. Each car arm 17 is provided with a pivot pin 18 which is normal to the arm 17 and has mounted thereon the sleeve 19 of the car 20 which contains a seat 21 and an occupant 22. The car 20 is free to rotate about the axis of the pivot pin 18.

To the uper end of the shaft 12 is secured a crank arm 23 to whose outer end is attached a wrist plate 24 from which radiate the connecting arms 25 whose outer ends are connected to the arms 17 by means of the pins 26. The purpose of this construction is to cause the cars 20 to rock in vertical arcs when the shaft 12 is held stationary and the sleeve 14 is rotated, or when the sleeve 14 is held stationary and the shaft 12 is rotated.

The lower end 27 of the shaft 12 journals in the frame casting 28 which is provided with a conical recess 29 to receive the cone 30 of the slidable clutch element 31 which is splined on the shaft 12. The shaft 12 is provided with a collar 32 above the spline 33. About the collar 32 and free to rotate on the shaft 12 is a clutch gear 34 whose teeth 35 can be brought into mesh with the teeth 36 of the element 31 by means of the forked bell crank lever 37. The forked bell crank lever 37 is actuated by a connecting rod 38 from the hand lever 39 whose position may be selectively fixed by means of the quadrants 40.

Mounted in parallelism with the shaft 12 is an intermediate shaft 41 whose lower end 42 journals in the frame casting 28 in which is formed a conical recess 43 which is coaxial with the shaft 41. Splined on the shaft 41 is a slidable clutch jaw 44 on whose lower end is formed a cone 45 which is adapted to engage the recess 43 when the jaw 44 is moved downwardly by means of the forked bell crank lever 46 which is operated by the connecting rod 47 through the hand lever 48. This can be held in a desired position by means of a quadrant 49.

Rotatably mounted on the shaft 41 above the clutch jaw 44 is a clutch part 50 which is part of the bevel gear 51 which is integral with the pinion 52 which meshes with the idler pinion 53 which in turn meshes with the clutch gear 34. Meshing with the gear 51 is a bevel pinion 54 on the shaft 55 of the motor 56 whose operation is controlled by means of a switch 57 and rheostat 58.

There is also shown a loading platform 59 by means of which the occupant can enter or leave the car 20 when it is in substantially its lowermost position shown in Figs. 1 and 2. On the upper end of the shaft 41 is secured a pinion 60 which meshes with the gear 61 which is secured to or integral with the sleeve 14.

The operation of the device is as follows:

Assuming that the device is stopped and it is desired to load a passenger, the operator by manipulating the levers 39 and 48 causes the entire device to rotate about the vertical shaft 12 until the lowermost car 20 is brought around to the loading platform 59. The shaft 12 is then held in a fixed position by manipulating the hand lever 39 causing the cone 30 to engage the recess 29. Any further operation of the motor 56 will

cause the arms 17 to rotate about the vertical shaft 12 and due to the fact that the crank arm 23 is now motionless each car 20 will descend to the loading platform 59 as it approaches same. Obviously, it will be desirable to stop the motor 56 during the operation of loading or unloading each car 20.

After the cars are loaded, the shaft 12 may be rotated or held stationary or the cars 20 may be made to revolve about in their orbits by permitting the pinion 60 to drive the gear 61 which is attached to the sleeve 14.

It will be noted that due to the difference in the size of the pinion 52 and the gear 34, the shafts 12 and 41 rotate at different speeds.

It can be seen from the foregoing that a wide range of movements is obtainable for the cars 20 since they may either rock vertically or rotate in a circular orbit or do both of these acts at the same time, and in addition thereto may rotate upon their vertical axes.

I claim:

1. A rotating amusement device of the class described, having a plurality of radial arms revolvable on a vertical axis, each of said arms having a passenger car mounted on the outer end thereof, each of said arms being hingedly mounted, a crank arm associated with said revolvable arms near their axis of rotation, connecting rods from said crank arm to the respective arms whereby said arms may be rocked and means for revolving said arms on a vertical axis while said cars are caused to rotate on axes which are normal to their respective arms in vertical planes.

2. In a device of the class described, the combination of a base having an upright shaft thereon, a plurality of radial arms revolvably mounted on said shaft, each of said arms being hinged at its inner end to permit same to rock vertically, a crank at the upper end of said shaft, connecting rods extending from said crank to each of said arms, means for rotating said arms on their vertical axis and means for rocking said arms vertically in conjunction with or independently of the rotating movements thereof.

3. In a device of the class described, the combination of a base, an upright shaft mounted on said base, a plurality of radial arms revolvably mounted about said shaft and hinged on their inner ends thereof to permit a vertical rocking movement by each of said arms, means for rocking said arms and rotating same about their vertical axis, a passenger car mounted on each of said arms having means for permitting same to rotate freely on an axis which is normal to its respective arm in a vertical plane.

4. In a device of the class described, the combination of a base, an upright shaft supported by said base having means for holding same against rotation and having means for causing same to rotate, said shaft having a crank arm at the upper end thereof, a plurality of radial arms having their inner ends hingedly mounted around said shaft, each of said arms having a passenger car on the outer end thereof and each of said arms having a connecting rod joining its intermediate portion to said crank arm and means for operating said arms in a manner that they will merely rotate on their vertical axis or rock on their hinged ends or simultaneously rock and rotate.

LEE U. EYERLY.