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PLANETARY AMUSEMENT RIDE

Filed June 1, 1964

2 Sheets-Sheet 1

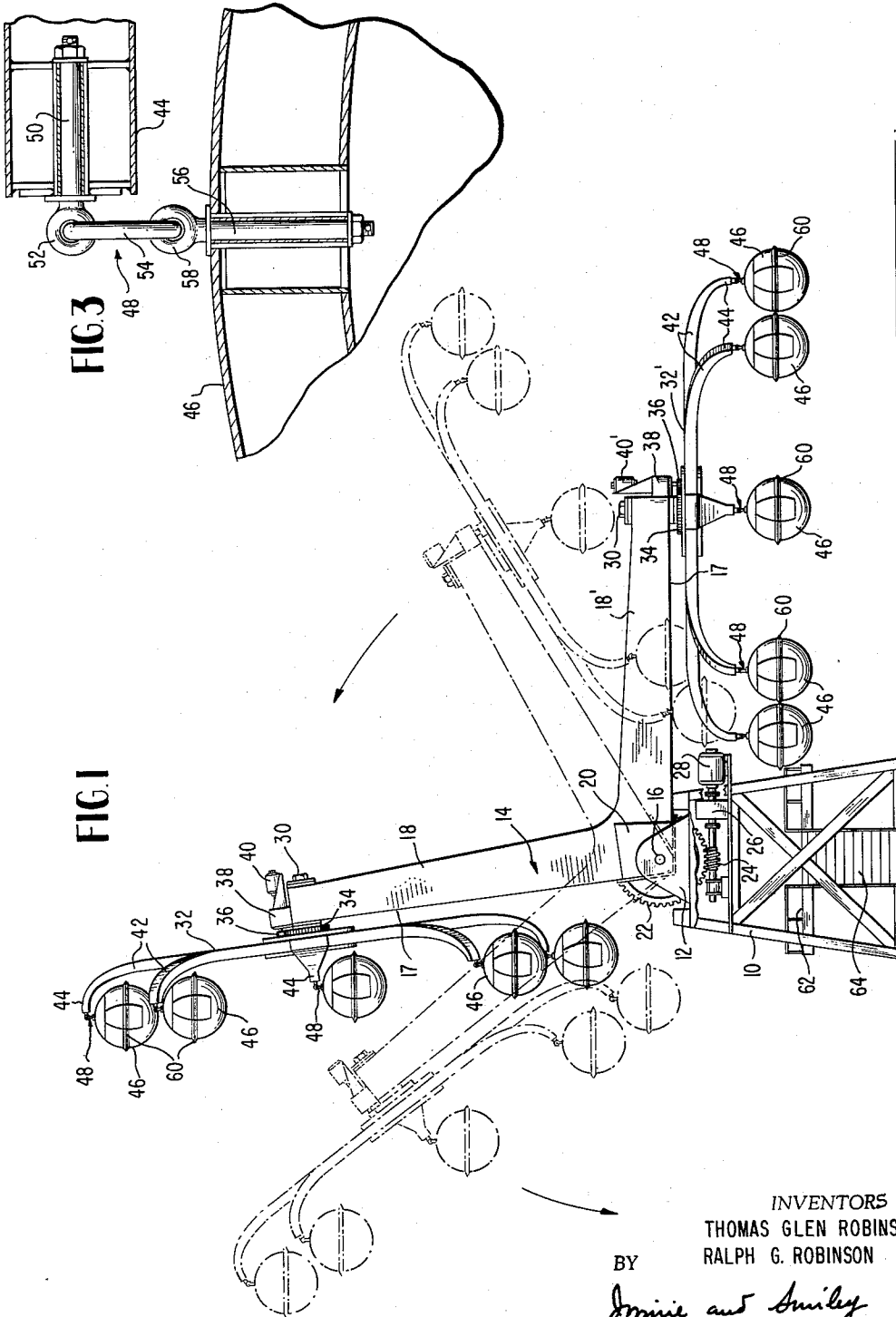


FIG. 1

FIG. 3

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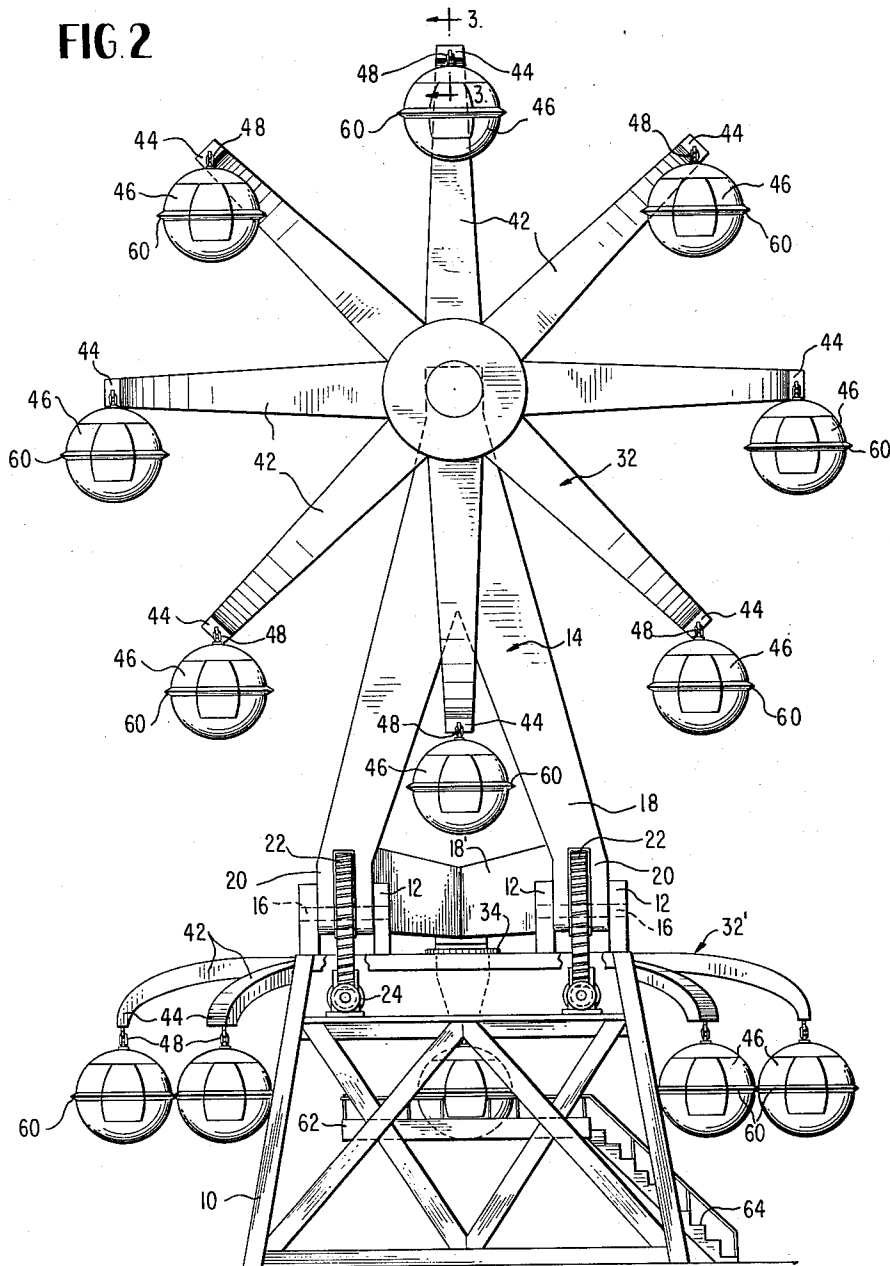
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FIG 2



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PLANETARY AMUSEMENT RIDE

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This invention relates to an amusement device, and more particularly to so-called amusement rides.

In the amusement ride devices, the appeal to the customer lies in the particular type of movement imparted to the passenger carrier, and a novel compound movement affords greater attraction.

Having in mind the defects of the prior art devices, it is the primary object of the present invention to provide an amusement ride device adapted to impart to the passenger carriers a new and different type of movement.

It is another object of the invention to provide an amusement ride device wherein the passenger carriers are passed through a compound path of movement.

It is still another object of the invention to provide an amusement ride device embodying the combined characteristics of a merry-go-round and a Ferris wheel wherein the passenger carriers have revoluble and oscillatory movements in and between both horizontal and substantially vertical planes.

It is yet another object of the invention to provide an amusement device wherein the passenger carriers have the appearance of ringed astral planets and appear to move through astral orbital paths.

It is a further object of the invention to provide an amusement ride device having a relatively large passenger capacity but occupying a relatively limited ground area.

It is a still further object of the invention to provide an amusement ride device having simplicity of design, economy of construction and efficiency in operation.

Briefly, a device in accordance with the present invention comprises an angular supporting member pivotally mounted at its apex on a horizontal axis and having passenger car suspending spiders or wheels journaled adjacent each end of the angular supporting member. Means are provided for swinging the supporting member through an arc of approximately 90° so that the spider on one arm will rotate in a generally horizontal plane similar to a merry-go-round, whereas the spider on the other arm will rotate in a generally upright plane in the manner of a Ferris wheel. Means are provided for independently rotating each of the spider wheels, and means may also be provided for rotating each of the passenger carriers about its suspension axis. Preferably the passenger cars are spherical and have a circumferential ring or flange and giving the appearance of a ringed astral planet.

The novel features that are considered characteristic of the invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and its method of operation, together with additional objects and advantages thereof, will best be understood from the following description of a specific embodiment when read in connection with the accompanying drawings, wherein like reference characters indicate like parts throughout the several figures and in which:

FIG. 1 is a front view in elevation of an amusement device in accordance with the present invention;

FIG. 2 is a side view in elevation of the device shown in FIG. 1, and

FIG. 3 is an enlarged fragmentary, cross-sectional view taken on line 3-3 of FIG. 2.

Referring now with greater particularity to the drawings, specifically to FIGS. 1 and 2, an amusement device in accordance with the present invention comprises a base 10 having an elevated supporting area carrying upstanding ears or journal supports 12 on which a support member 14 is mounted by pivot means 16 for movement about a horizontal axis. The support member may be of any selected configuration as long as it has two angularly disposed support portions 17. Conveniently, these portions may be constituted by angularly disposed arms 18, 18'.

As better seen in FIG. 2, the support member 14 preferably comprises a pair of V-shaped arms 18, 18' that are spread at their juncture which constitutes the apex of the member 14, and each of the spaced apex portions 20, formed by the juncture of the respective arm portions, are mounted between a pair of the ears 12. A segmental worm gear 22 is fixed around each of the apex portions 20, and engages a worm 24 journaled on the base 10 and in driving relation, through a gear reduction unit 26, with a reversible electric motor 28.

A shaft element 30 is mounted at the outer end of each of the arms 18, 18', substantially perpendicular to the planes of the support portions 17, and a spider or similar wheel 32, 32' is journaled on each of the shaft elements 30 for rotation about an axis that is perpendicular to the axis of the pivot 16. A gear 34 is secured to each of the spiders 32, 32' concentric with the respective shaft element 30, and is drivingly engaged by a gear 36 driven through a reduction unit 38 by an electric motor 40, 40' mounted on the end of the respective arms 18, 18'. The spider wheels 32, 32' are shown as comprising a plurality of radial arms 42, the outer end portions 44 of which are curved or angularly bent, and a passenger carrier or car 46 is suspended from the end 44 of each arm 42 by a universal connection 48.

Conveniently, as best shown in FIG. 3, the universal connection 48 may comprise an eye bolt or spindle 50 mounted in the arm end 44 and generally axially thereof with the eye 52 externally of the arm and having a link 54 pivotally mounted therein. A second eye bolt or spindle 56 has an eye 58 pivotally embracing the link 54 and the passenger carrier 46 is secured on the eye bolt 56. If desired, each of the passenger carriers may also be rotatively driven relative to its supporting arm, but in this event, it is preferred that such driving means be passenger controlled or operated, such as by manual crank means.

The carriers 46 preferably are in the form of spherical passenger cars, and have a circumferential flange or ring 60 to give the general appearance of a ringed astroplanet so that the cars give the general appearance of planets orbiting through space. A loading platform 62 having access steps 64 may be provided within the base 10 to enable access to the cars 46 of both spiders.

In operation, the supporting member 14 is driven by the motor 28, gear unit 26, worm 24 and worm gear 22 to swing one of the arms into a generally horizontal position, specifically the arm 18', as shown in FIG. 1. The motor 40 on the upright arm 18 may be continuously driven so that the upper spider 32 is rotated in a generally upright plane, and the passenger cars 46 are revolved in the manner of a Ferris wheel. The curved end portions 44 of the spider space the carriers 46 from the spider arms 42 when in this position. The motor 40' of the horizontal arm 18' may also be driven continuously to impart to the cars 46 of the spider 32' a revolving movement similar to that of a merry-go-round.

The support member 14 may be swung by means of the worm gear 22 and worm 24 into either of its positions to alternate the type of movement or ride imparted to the carriers 46, or it may be moved to an intermediate position, as shown in phantom lines in FIG. 1, and both

spiders driven through their respective angular planes. Alternatively, the support member 14 may be reciprocated back and forth so that the respective spiders are continuously swung between horizontal and upright positions while being continuously driven. Thus, a multiple or compound, orbital movement can be imparted to each of the passenger cars 46.

At the proper time, the support member 14 may be swung to lower the arm 18' into horizontal position, as shown in FIG. 1, and the motor 40' may be driven intermittently to drive the spider 32' so as to swing each of the passenger cars 46 successively into cooperative relation with the respective side of the loading platform 62. After all of the cars have been loaded and/or unloaded, the support member 14 may be swung to lower the other arm 18 into horizontal position so that the cars 46 of the other spider 32 may be successively brought into position with respect to the loading platform 62.

Although a certain specific embodiment of the invention has been shown and described, it is obvious that many modifications thereof are possible. The invention, therefore, is not to be restricted except insofar as is necessitated by the prior art and by the spirit of the appended claims.

What is claimed is:

1. An amusement device comprising a base, a support member including two angularly disposed support portions and pivotally mounted at the apex of said portions on said base for movement about a horizontal axis, a wheel journaled on each of said support portions for rotational movement, a plurality of passenger cars carried by each said wheel, means on said base for oscillating said support member to swing said wheels between generally horizontal and upright positions, and means on said support member for independently rotating said wheels.

2. An amusement device comprising a base, an angular support member pivotally mounted at its apex on said base for movement about a horizontal axis, said member including two angularly disposed support portions, a wheel journaled on each of said support portions for rotational movement about axes perpendicular to the respective support portions, a plurality of passenger cars carried by each said wheel, means on said base for oscillating said support member to swing said wheels between generally horizontal and upright positions, and means on said support member for independently rotating said wheels.

3. An amusement device comprising a base, an angular support member pivotally mounted at its apex on said base for movement about a horizontal axis, said member including two angularly disposed support portions, a wheel journaled on each of said support portions for rotational movement about axes perpendicular to the respective support portions, a plurality of passenger cars carried by each said wheel, means on said base for oscillating said support member to swing said wheels between generally horizontal and upright positions, and means on said support member for independently rotating said wheels, said cars being spherical and having a circumferential flange to resemble in appearance an astroplanet.

4. An amusement device comprising a base, spaced journal supports on said base and having coaxial journals disposed on a horizontal axis, a support member comprising two angularly disposed arms of substantially equal length and rigidly connected to define an apex, said angular support member being positioned with its apex portion disposed between said spaced journals, shaft means mounted in said journals and pivotally supporting the apex portion to thereby mount said support member for pivotal movement about said horizontal axis, reversible power means on said base and drivingly engaged with said support member to oscillate the latter to alternately swing its arms respectively into generally horizontal positions, a wheel journaled on the free end of each said arm, a plurality of universal coupling devices supported by each wheel, a passenger car carried by each coupling

device, and power means on each arm of said support member for selectively driving the respective wheels.

5. An amusement device comprising a base having an elevated support portion, spaced journal supports on said support portion and having coaxial journals disposed on a horizontal axis, a support member comprising two angularly disposed arms of substantially equal length and rigidly connected to define an apex, said angular support member being positioned with its apex portion disposed between said spaced journals, shaft means mounted in said journals and pivotally supporting the apex portion to thereby mount said support member for pivotal movement about said horizontal axis, segmental worm gear means fixed to and extending about said apex portion in coaxial relation to the pivotal axis thereof, worm means journaled on the elevated support portion of said base and engaging said worm gear means, reversible power means on said elevated support portion and drivingly engaged with said worm means to oscillate said support to alternately swing its arms respectively into generally horizontal positions, a wheel journaled on the free end of each said arm for rotation about an axis perpendicular to said horizontal axis, a plurality of universal coupling devices carried by each said wheel, a passenger car supported by each coupling device, and power means on each support arm for selectively driving the respective wheel.

6. An amusement device comprising a base having an elevated support portion, two pairs of spaced journal supports on said support portion and having coaxial journals disposed on a horizontal axis, a support member comprising two angularly disposed arms of substantially equal length and rigidly connected to define an apex, said arms being V-shaped and tapering from their free ends and having their inner ends spaced and respectively joined at said apex to provide two axially spaced apex portions, said angular support member being positioned with its apex portions respectively disposed between said pairs of journals, shafts mounted in each pair of journals and pivotally supporting the respective apex portion to thereby mount said support member for pivotal movement about said horizontal axis, a segmental worm gear fixed to and extending about each apex portion in coaxial relation to the pivotal axis thereof, a pair of worms journaled on the elevated support portion of said base and respectively engaging said worm gears, reversible power means on said elevated support portion and drivingly engaged with said worms to oscillate said support to alternately swing its arms respectively into generally horizontal positions, a spider journaled on the free end of each said arm for rotation about an axis perpendicular to said horizontal axis, said spiders each comprising a plurality of radially disposed arms, universal coupling means mounting a passenger car on the free end of each said spider arms, and power means on each arm of said support member for selectively driving the respective spiders.

7. An amusement device comprising a base having an elevated support portion, two pairs of spaced journal supports on said support portion and having coaxial journals disposed on a horizontal axis, a support member comprising two angularly disposed arms of substantially equal length and rigidly connected to define an apex, said arms being V-shaped and tapering from their free ends and having their inner ends spaced and respectively joined at said apex to provide two axially spaced apex portions, said angular support member being positioned with its apex portions respectively disposed between said pairs of journals, shafts mounted in each pair of journals and pivotally supporting the respective apex portion to thereby mount said support member for pivotal movement about said horizontal axis, a segmental worm gear fixed to and extending about each apex portion in coaxial relation to the pivotal axis thereof, a pair of worms journaled on the elevated support portion of said base and

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respectively engaging said worm gears, reversible power means on said elevated support portion and drivingly engaged with said worms to oscillate said support to alternately swing its arms respectively into generally horizontal positions, a spider journaled on the free end of each said arm for rotation about an axis perpendicular to said horizontal axis, said spiders each comprising a plurality of radially disposed arms having their free end portions substantially uniformly turned approximately perpendicularly of the general plane of the respective spider, universal coupling means suspending a passenger car from the free ends of said spider arms and including a pair of eye bolts connected by a link with one bolt mounted on each arm and extending generally axially

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of the end thereof and the other bolt secured to a car, and power means on each arm of said support member for selectively driving the respective spiders, said cars being spherical and having a circumferential flange to resemble in appearance a planet.

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