Oct. 11, 1949. L. W. RUMLER 2,484,466

AMUSEMENT DEVICE

Filed March 22, 1946 2 Sheets-Sheet 1

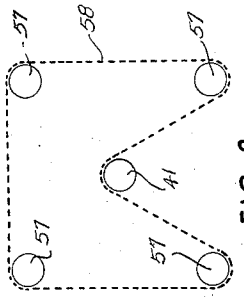

FIG. 2.

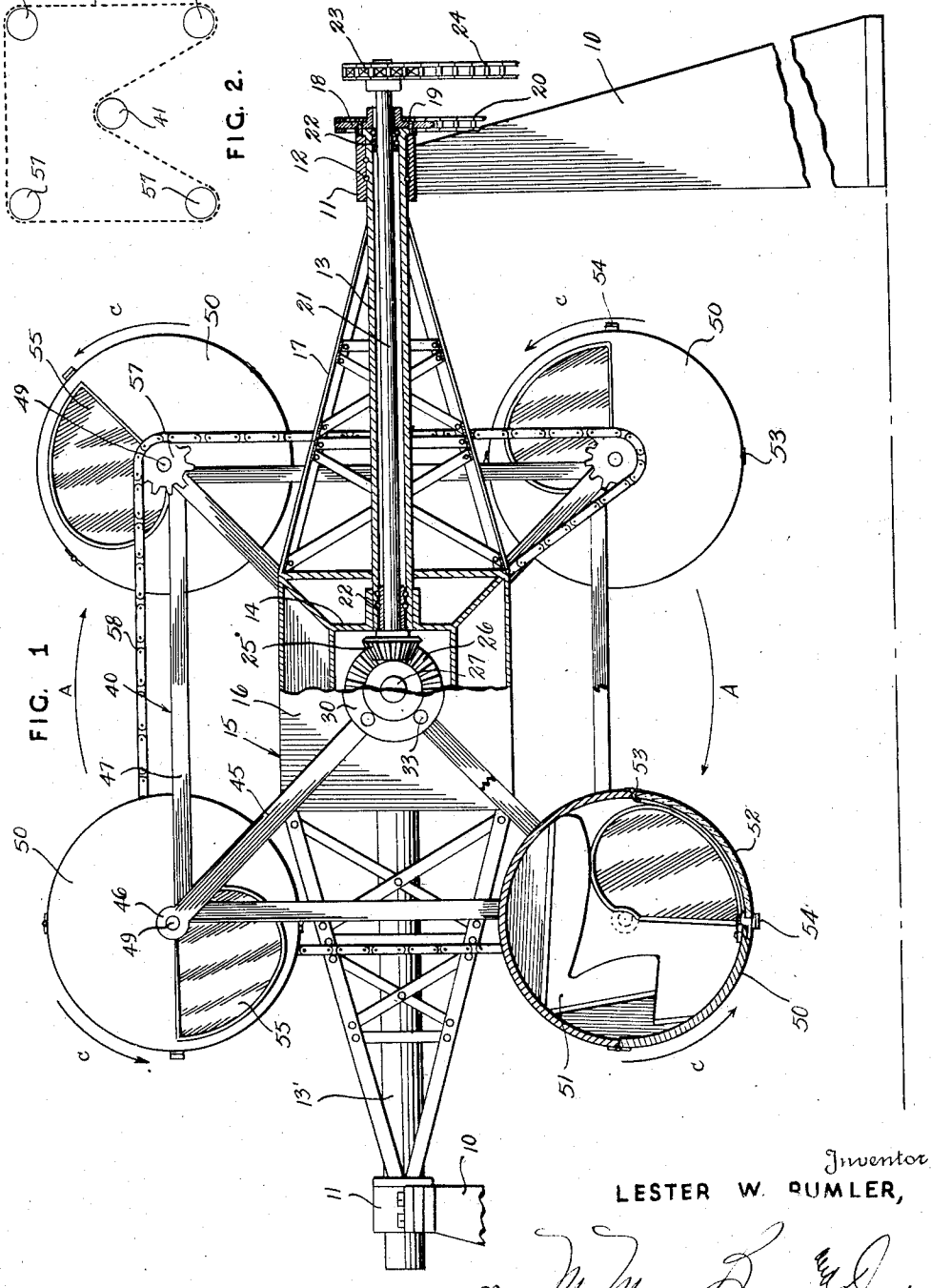

FIG. 1

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FIG. 3.

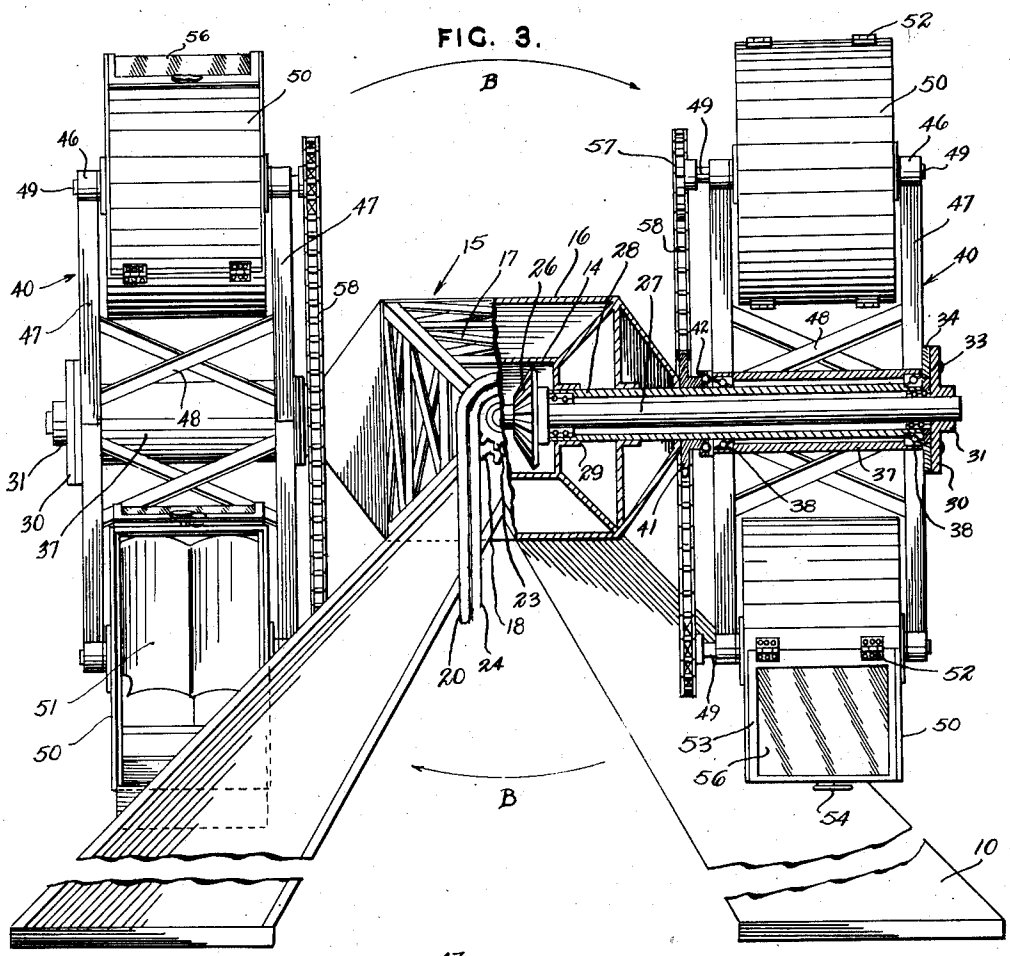
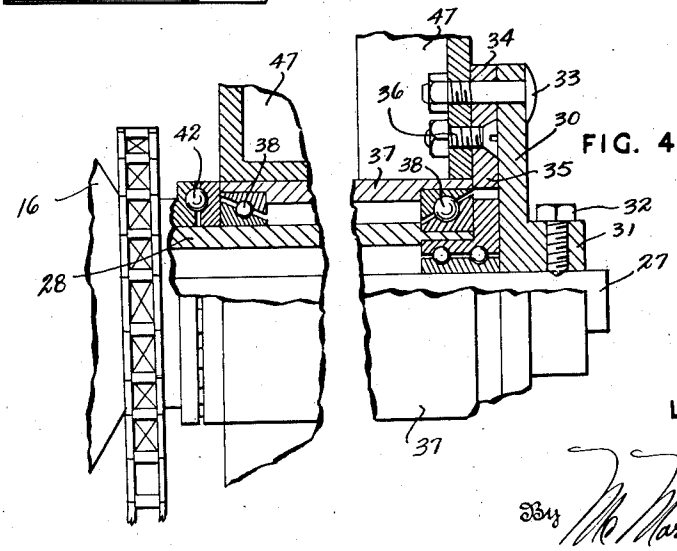


FIG. 4.



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2,484,466

AMUSEMENT DEVICE

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Application March 22, 1946, Serial No. 656,303

3 Claims. (Cl. 272—28)

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This invention relates to an amusement device, and more particularly to a passenger-carrying amusement ride.

A primary object of this invention is the provision of an amusement device including a plurality of passenger-carrying cars or units adapted to be rotated about a plurality of orbits about various axes for the amusement of the passengers.

An additional object of the invention is the provision of such a device characterized by three distinct rotary movements of the passenger-carrying units about three separate axes to provide a tortuous comprehensive path of travel for the user of the apparatus.

A further object of the invention is the provision of an amusement device which is sturdy and durable in construction, reliable and efficient in operation, and of relatively high amusement value.

Still other objects will in part be obvious and in part be pointed out as the description of the invention proceeds, and shown in the accompanying drawings, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a side view partially in section and partially in elevation of one form of device embodying features of the instant invention.

Figure 2 is a diagrammatic view showing the positioning of one of the drive elements of the device.

Figure 3 is an end view, partially in elevation and partially in section, of the device disclosed in Figure 1.

Figure 4 is an enlarged view partially in elevation and partially in section, broken away, disclosing certain constructional details.

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

Having reference now to the drawings, there are shown at 10 a pair of opposed spaced pylons or pillars provided at their upper extremities with pillow blocks or brackets 11 which rotatably support, journaled in suitable bearings 12, the extremities of a pair of aligned tubular sleeves 13 and 13'. The inner extremities of the sleeves 13 and 13' are secured in any desired manner to a main framework generally indicated at 15 and including a mid-section or gear box 14, surrounded by a rectangular outer supporting frame 16, and including at its opposite ends pyramidal reinforcing structures 17 of an angle iron or similar material, suitably secured to the sleeves 13 and 13' for rotation therewith.

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Thus, the entire assembly 15 may be rotated as a unit, upon rotation of the sleeve 13 in a manner to be more fully described hereinafter.

Rotation of the sleeve 13, and hence the main framework 15, may be effected as by means of a drive sprocket 18, connected, as by suitable bolts 19, to the extremity of the sleeve 13, and in turn driven by a chain 20 engaging the teeth of the sprocket, and driven by any suitable source of power, as for example, a gasoline engine, an electric motor, or the like (not shown).

Extending through the sleeve 13, and terminating in gear box or mid-section 14 of the frame 15 is a shaft 21 journaled for rotation adjacent its extremities, as in bearings 22, and extending outwardly beyond the drive sprocket 18. The outer end of the shaft 21 is provided with a sprocket 23, in turn driven by a chain 24 from any suitable source of power, which may be the same source of power previously referred to as driving the chain 20, or an additional source of power if desired. The inner end of the shaft 21 terminates in a bevel gear 25 centrally positioned within the gear box or central portion 14 of the framework 15. Bevel gear 25 engages a second bevel gear 26 positioned at substantially right angles thereto, and affixed to a shaft 27 which extends transversely through the frame 15 at substantially right angles to the shaft 21, and correspondingly to the sleeves 13 and 13'. The shaft 27 extends outwardly through a pair of oppositely disposed sleeves 28 which comprise substantially an integral part of the framework 15, and are rotatable therewith about the axis comprised of the sleeves 13 and 13'. Suitable bearings 29 are provided to permit free rotation of the shafts 27 within the sleeves 28.

Each of the shafts 27 has mounted on its outer end a drive flange 30 including a boss 31 provided with a set screw 32 for securing the flange 30 to the shaft 27. Each of the flanges 30 is secured, as by bolts 33, to a collar 34, a spacer ring 35 being provided and secured, as by bolts 36, to the collar 34 (see Fig. 4). The collar 34 is in turn suitably secured to a drum 37 mounted on suitable bearings 38 for rotation about the sleeve 28. Each of the collars 34 and drums 37 has mounted thereon a supplemental framework generally indicated at 40 comprised of angle iron or the like, and of rectangular configuration.

A sprocket 41 is affixed to each of the sleeves 28 between the portion 16 of the frame 15 and each of the supplemental frames 40, and a suitable thrust bearing 42 is positioned between the sprocket 41 and the drum 37.

It will now be seen that rotation of the shaft 21 by means of the chain 24 in the manner previously described in turn through rotation of the shaft 27 rotates the supplemental frame 40 in the direction indicated by the arrows A in Figure 1. The direction of rotation of the main frame assembly 15 is indicated by the arrows B in Figure 3.

Referring back to the supplemental frames 40, it will be seen, as best shown in Figure 1, that each is comprised of radially extending members 45 suitably secured to the drums 37, which terminate in journals 46. The extremities of the members 45 are connected by peripheral reinforcing members 47, the whole assuming the form of a rectangle, and transversely disposed reinforcing members 48 are provided across each of the frames 40, as best shown in Figure 3.

The journals 46 at the extremities of the radially positioned members 45 have mounted therein for rotation stub axles 49 positioned on opposite sides and centrally of circular passenger-carrying units 50.

Each of the units 50 is provided with an interiorly position seat 51, an entrance door 52 hinged, as at 53, and provided with latch means 54, and glass side portions 55 as well as peripheral glass windows 56.

As previously pointed out, each of the units 50 is rotatable about the stub axles 49, and the inner stub axle 49 of each unit is provided with a sprocket 57 fixedly secured thereto. A flexible chain 58 passes about each of the sprockets 57, as well as the sprocket 41 affixed to the sleeve 28. The arrangement of the chain 53 is best shown in Figure 2, from a consideration of which it will be readily apparent that as each of the frames 40 is rotated about its associated sleeve 28, the fixed sprocket 41 will, through the chain 58, impart, through the sprockets 57, rotative movement to each of the units 50, the direction of such motion being opposite to that of the supplemental frame 40, or in the direction indicated by the arrows C in Figure 1.

It will now be seen that there are three separate and distinct orbital movements of the device, all simultaneously imparted, one being about the axis of the sleeves 13 and 13', a second being about the axis of the sleeves 28, and a third being about the axis of the stub axles 49. It will further be seen that by means of the apparatus herein described and shown, a unique sensation is afforded to the passengers carried thereby, and that the path of travel of the said passengers is rendered complex and tortuous by the orbital motions above described.

It will further be seen that there is herein provided a device which accomplishes all the objects of this invention, including many advantages of great practical utility, amusement value, and commercial importance.

As various embodiments may be made of this inventive concept, and as various modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. A passenger carrying amusement device comprising a pair of aligned tubular sleeves providing a main shaft journaled for rotation at the outer ends thereof, the inner ends of said sleeves being spaced, a main frame rigidly mounted on said tubular sleeves for rotation therewith and rigidly securing said sleeves together, said frame

including a gear box between the inner ends of said sleeves, a driving shaft extending through one of said tubular sleeves and journaled for rotation therein, said driving shaft projecting outwardly from the outer end of said one of said tubular sleeves, means at said end of said driving shaft for rotating the same, a beveled gear fixed to the opposite end of said shaft and positioned within said gear box, a second pair of oppositely disposed aligned sleeves projecting from said gear box, said second pair of sleeves extending at a right angle to said sleeves providing said main shaft and rigidly fixed to and supported by said frame, each of said second pair of sleeves having the major portion of its length projecting beyond said main frame, a pair of supplemental frames each supported on the projecting portion of each of said second pair of sleeves, and mounted for rotation thereon, passenger-carrying units carried by said supplemental frames and each journaled for rotation in the plane of its supplemental frame, a chain drivingly carried by each of said second pair of sleeves and operatively connected to the passenger-carrying units of its respective supplemental frame for causing the rotation of said units, a driven shaft extending through each of said second pair of sleeves and into said gear box, and means on the portion of one of said driven shafts extending into said gear box and operatively connected to said beveled gear for rotating said supplemental frames.

2. A passenger carrying amusement device comprising a pair of aligned tubular sleeves providing a main shaft journaled for rotation at the outer ends thereof, the inner ends of said sleeves being spaced, a main frame rigidly mounted on said tubular sleeves for rotation therewith and rigidly securing said sleeeves together, said frame including a gear box between the inner ends of said sleeves, a driving shaft extending through one of said tubular sleeves and journaled for rotation therein, a second pair of oppositely disposed aligned sleeves projecting from said gear box, said second pair of sleeves extending at a right angle to said sleeves providing said main shaft and rigidly fixed to and supported by said frame, said second pair of sleeves each projecting beyond said main frame, a pair of supplemental frames each supported on the projecting portion of one of said second pair of sleeves and mounted for rotation thereon, passenger carrying units carried by said supplemental frames and each journaled for rotation in the plane of its supplemental frame, a driven shaft extending through each of said second pair of sleeves and into said gear box, gearing in said box for driving said driven shaft from said driving shaft, and means connecting each of said supplemental frames to said driven shaft for rotation therewith.

3. A passenger-carrying amusement device comprising a pair of aligned tubular sleeves providing a main shaft journaled for rotation at the outer ends thereof, the inner ends of said sleeves being spaced, a main frame rigidly mounted on said tubular sleeves for rotation therewith and rigidly securing said sleeves together, said frame including a gear box between the inner ends of said sleeves, a driving shaft extending through one of said tubular sleeves and journaled for rotation therein, said driving shaft projecting outwardly from the outer end of said one of said tubular sleeves, means at said end of said driving shaft for rotating the same, a bevel gear fixed to the opposite end of said shaft and positioned

within said gear box, a second pair of oppositely-disposed aligned sleeves projecting from said gear box, said second pair of sleeves extending at a right angle to said sleeves providing said main shaft and rigidly fixed to and supported by said frame, each of said second pair of sleeves having the major portion of its length projecting beyond said main frame, a pair of supplemental frames each supported on the projecting portion of each of said second pair of sleeves and mounted for rotation thereon, passenger-carrying units carried by said supplemental frames and each journaled for rotation in the plane of its supplemental frame, a driven shaft extending through each of said second pair of sleeves and into said gear box, and means on the portion of one of said

driven shafts extending into said gear box and operatively connected to said bevel gear for rotating said supplemental frames.

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