

Dec. 17, 1957

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2,816,763

## COMBINATION MERRY-GO-ROUND AND FERRIS WHEEL

Filed Dec. 27, 1955

3 Sheets-Sheet 1

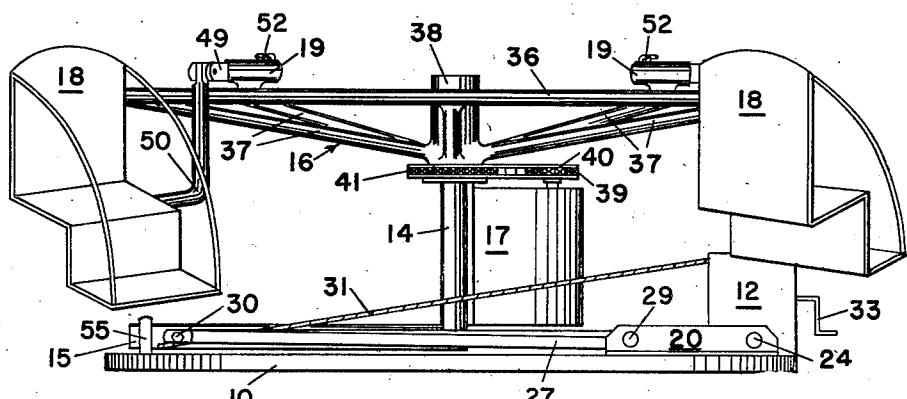


FIG-1

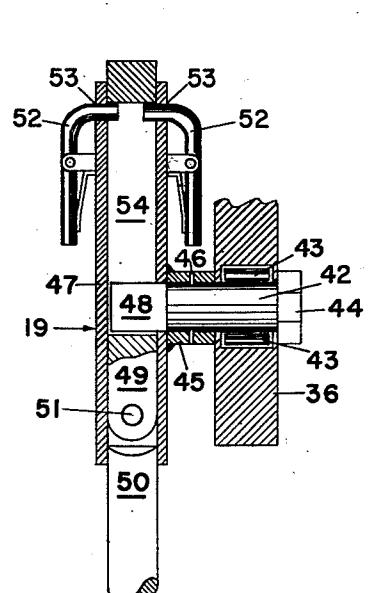


FIG-4

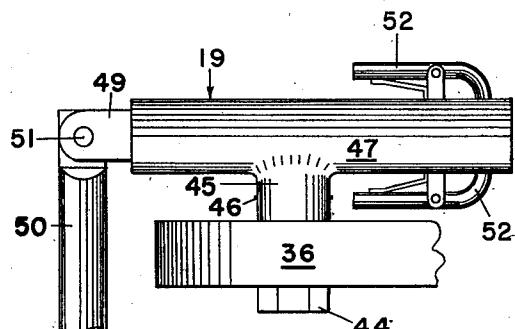


FIG-5

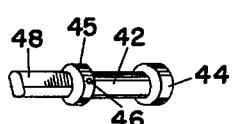


FIG- 9

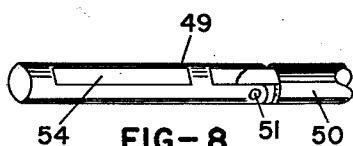


FIG-8

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## COMBINATION MERRY-GO-ROUND AND FERRIS WHEEL

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3 Sheets-Sheet 2

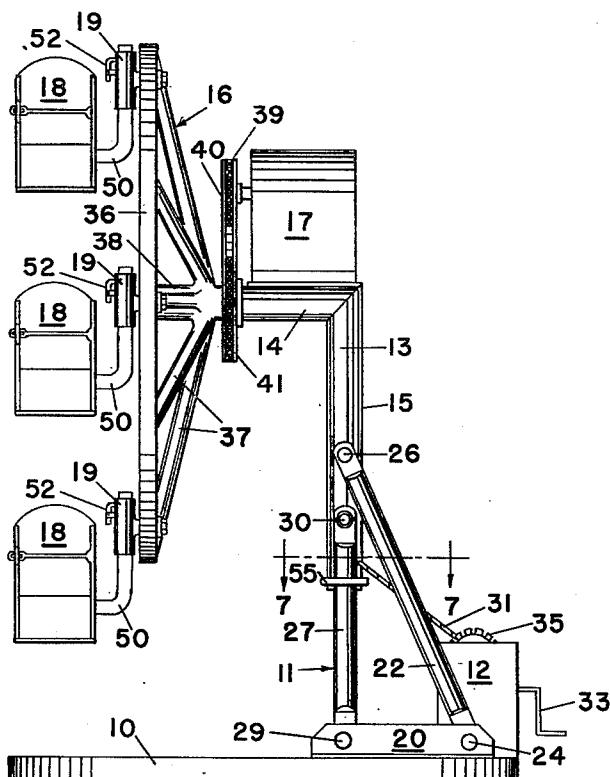


FIG-2

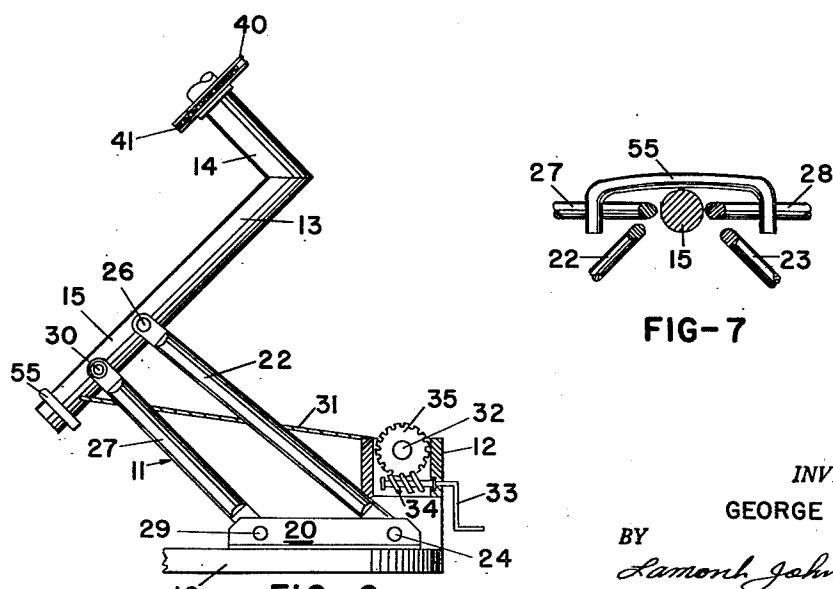


FIG-7

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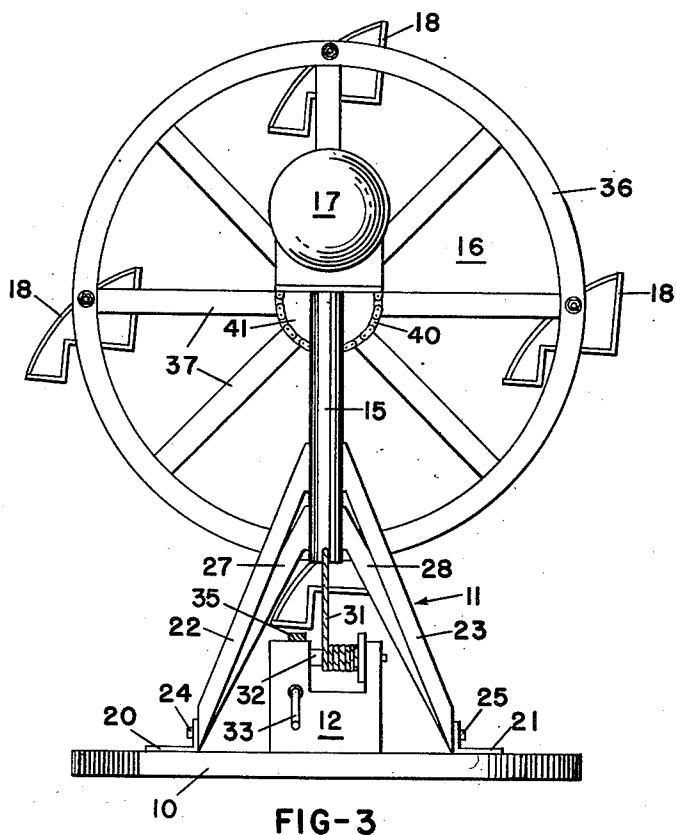
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COMBINATION MERRY-GO-ROUND AND FERRIS WHEEL

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3 Sheets-Sheet 3



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## COMBINATION MERRY-GO-ROUND AND FERRIS WHEEL

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9 Claims. (Cl. 272—38)

This invention relates to an amusement device and more particularly to a combination merry-go-round and Ferris wheel, and is a continuation-in-part of U. S. Patent No. 2,728,574, issued December 27, 1955.

It is an object of this invention to provide an improved means for rotating the wheel assembly of a combination merry-go-round and Ferris wheel selectively about a vertical axis and about a horizontal axis.

Another object of this invention is to provide a combination merry-go-round and Ferris wheel which employs a simplified means for converting the merry-go-round to a Ferris wheel, and vice-versa.

Another object of this invention is to provide a combination merry-go-round and Ferris wheel which utilizes a toggle action for converting the merry-go-round to a Ferris wheel and vice-versa.

Another object of this invention is to provide a combination merry-go-round and Ferris wheel which utilizes a pivoted A-frame assembly for converting the merry-go-round to a Ferris wheel, and vice-versa.

A further object of this invention is to provide a combination merry-go-round and Ferris wheel having an improved means for locking the seats in an upright position for either a merry-go-round or a Ferris wheel.

Further objects and advantages of the invention will be apparent from the following description taken in conjunction with the drawings, wherein:

Fig. 1 is a front elevation of the amusement device used as a merry-go-round;

Fig. 2 is a front elevation of the amusement device used as a Ferris wheel;

Fig. 3 is a side elevation of the amusement device used as a Ferris wheel;

Fig. 4 is a front elevation detail view of a seat support member, partly in section, locked in Ferris wheel position;

Fig. 5 is a front elevation detail view of the same seat support member disclosed in Fig. 4, in merry-go-round position;

Fig. 6 is a front elevation of the amusement device converting between merry-go-round and Ferris wheel positions, with the winch partly in section;

Fig. 7 is a section taken along the lines 7—7 of Fig. 2;

Fig. 8 is a perspective of the socket arm pivoted to the seat arm; and

Fig. 9 is a perspective of the spindle.

Referring now to the drawings in more detail, a base 10, of any suitable structure, but preferably an open frame member to reduce the weight of the amusement device, supports a pivoted A-frame assembly 11 and a winch 12 adapted to operate the A-frame assembly. An L-shaped support column 13, comprising an upper leg 14 and a lower leg 15, is pivoted at the lower end of leg 15 to the A-frame assembly 11. A wheel assembly 16 is journaled to rotate on the upper end of the leg 14. A motor 17 is stationarily mounted on the upper leg 14 of the column 13 and operatively connected to rotate the

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wheel assembly 16. Seats 18 are journaled in the outer periphery of the wheel assembly 16 by means of seat support members 19 and are also adapted to pivot to upright position when the wheel assembly is in either horizontal or vertical position.

The A-frame assembly 11 comprises a pair of parallel brackets 20 and 21 fixed to the base 10. A pair of braces or struts 22 and 23 are pivoted at their lower ends to brackets 20 and 21, respectively by pins 24 and 25. The upper ends of the struts 22 and 23 converge toward one another and are pivotally attached to lower leg 15 of the support column at 26. A second pair of struts 27 and 28 of shorter length than struts 22 and 23 are pivotally attached at their lower ends to brackets 20 and 21, respectively, by pins, only pin 29 appearing in the drawings. The upper ends of the struts 27 and 28 likewise converge and are pivoted at 30 to the lower leg 15 of support column 13, below the pivotal connection 26 in Ferris wheel position. A keeper 55 is provided to align leg 15 and struts 27 and 28 in the same vertical plane when the amusement device assumes a Ferris wheel position. Keeper 55 is a U-shaped bar, as best disclosed in Fig. 7, which is fixed to the lower leg 15 below pivot 30. Keeper 55 is adapted to abut against the struts 27 and 28 in vertical Ferris wheel position to restrain further pivotal movement. One end of a cable 31 is attached at the free end of the leg 15 and is wound around the shaft 32 of winch 12. The shaft 32 is rotated by means of the handle 33 through worm 34 and worm wheel 35.

30 The wheel assembly 16 comprises a rim 36, spokes 37 and hub 38. The hub 38 is coaxially journaled on the upper leg 14 of the support column 13. The motor 17 is preferably mounted upon leg 14, the plane of the motor base being perpendicular to lower leg 15. The wheel assembly 16 is driven by motor 17 through motor sprocket 39, chain 40 and hub sprocket 41. The spokes 37 of the wheel assembly 16 are preferably slightly inclined to the vertical in merry-go-round position to reduce the weight and strain and to better support the wheel assembly.

35 In merry-go-round position, the A-frame assembly 11 is collapsed upon the base 10 and the struts 22, 23, 27, and 28 lie in the same horizontal plane with leg 15 of support column 13, and the leg 14 provides a vertical axis about which rotates the wheel assembly 16. If the amusement device is operating as a merry-go-round, as disclosed in Fig. 1, and it is desired to convert the device to a Ferris wheel, handle 33 is turned to wind cable 31 around shaft 32 of the winch 12. As the cable 31 is wound around the shaft 32, the struts and column begin to unfold and assume the position of Fig. 6. The A-frame assembly 11 and the support column 13 are pivoted to each other at 26 and 30 to produce a complex toggle action. As the cable 31 continues to wind around the shaft 32, the amusement device will assume the position of Figs. 2 and 3, where it may be operated as a Ferris wheel. For reconversion to a merry-go-round, the cable 31 is unwound until the device assumes the position of Fig. 1 again.

40 The structure of seat support members 19 is best disclosed in Figs. 4 and 5. A spindle 42 is journaled in rim 36 by means of roller bearings 43, or any other suitable type bearings. The spindle 42 is retained in its bearings by an enlarged portion or cap 44 integral with the spindle and located on the inside of the wheel rim 36. On the outside of the rim 36, a collar 45 is secured to the spindle 42 by means of a pin 46. Welded to the collar 45 is a socket 47 having an opening in one side in alignment with the collar to receive the flattened end 48 of the spindle 42. The end 48 of the spindle is flattened for a purpose later to be described.

The socket 47 is a tubular member within which slides a socket arm 49. One end of a seat arm 50 is pivotally attached to one end of the socket arm 49 by means of pin 51. The other end of seat arm 50 supports seat 18. One or more spring latches 52, preferably two, may be mounted on the outside of socket 47 and are urged into engagement with apertures 53 in socket 47 and into slot 54 of socket arm 49, when the amusement device assumes the Ferris wheel position as disclosed in Fig. 4.

In Ferris wheel position, socket arm 49 and seat arm 50 are pivoted into coaxial alignment and raised until the spring latches 52 engage the slot 54 and the pivoted end of the seat arm 50 is within the socket 47. In this position, pivotal movement between socket arm 49 and seat arm 50 is prevented and the seat 18 is locked to the seat support member 19. The seat support member 19, however, is free to rotate in the bearings 43 in rim 36 to maintain the seats 18 in a constant upright position as the wheel assembly rotates as a Ferris wheel.

When the amusement device is converted into a merry-go-round, the spring latch 52 is released manually to disengage the slot 54. The socket arm 49 slides through the socket 47 until the end of the slot 54 at the free end of the socket arm 49 engages the flat end of the spindle 48. In this position, the seat arm 50 and the pivot pin 51 are completely outside the socket 47, and the seat arm is free to pivot until it is perpendicular to the socket arm, when the rim 36 is in a horizontal position as disclosed in Figs. 1 and 5. The seat 18 will thus assume an upright position for a merry-go-round.

The entire structure of the amusement device is designed for complete portability, strength, safety, simplicity of operation, and rapid convertibility from a merry-go-round to a Ferris wheel and vice-versa.

It will be apparent to those skilled in the art that various changes may be made in the invention, without departing from the spirit and scope thereof, and therefore the invention is not limited by that which is shown in the drawings and described in the specification, but only as indicated in the appended claims.

What is claimed is:

1. A combination merry-go-round and Ferris wheel comprising a base, a wheel support member, a wheel assembly journaled for rotation upon said wheel support member, a strut member pivoted at one end to said base and pivoted at the other end to said wheel support member, and means for producing a toggle action between the wheel support member and the strut member to selectively mount the wheel assembly about a horizontal axis and about a vertical axis.

2. The invention according to claim 1 in which the wheel support member comprises a column, one end of said column rotatably supporting said wheel assembly and the other end of said column being pivoted to said strut member.

3. The invention according to claim 1 in which the wheel support member comprises an L-shaped column, the wheel assembly being journaled to rotate coaxially about one leg of the column and one end of the strut member being pivoted to the other leg of the L-shaped column.

4. A combination merry-go-round and Ferris wheel comprising a base, a wheel support column, a wheel assembly mounted for rotation upon said column, struts, one end of each strut being pivoted to said base and the other end of each strut being pivoted to said column, and drive means for creating a toggle action be-

tween the column and the struts to selectively mount the wheel assembly about a horizontal axis and about a vertical axis.

5. A combination merry-go-round and Ferris wheel comprising a base, an L-shaped support column, a wheel assembly journaled to rotate coaxially about one of the legs of the column, struts, one end of each strut being pivoted to the base and the other end of each strut being pivoted to the other leg of the L-shaped column, 10 and drive means for creating a toggle action between the column and the struts to selectively mount the wheel assembly about a horizontal axis and about a vertical axis.

6. The invention according to claim 5 in which the 15 drive means comprises a winch and cable, one end of the cable being attached to the column proximate the pivotal connections with the struts.

7. A combination merry-go-round and Ferris wheel comprising a base, an L-shaped support column, a wheel 20 assembly journaled to rotate coaxially about one leg of the L-shaped support column, a pair of inclined struts, the lower ends of the struts being spaced from each other and coaxially pivoted to the base, the upper ends of said struts converging and being coaxially pivoted to the free leg of the support column, a second set 25 of inclined struts shorter than the first set, the lower ends of said second set being spaced from each other and coaxially pivoted to the base, the upper ends of said second set converging and being coaxially pivoted to the free leg of the support column between the pivoted upper 30 ends of the first set of struts and the free end of the support column, a winch supported on said base, and a cable attached to the free end of the support column and operatively connected to said winch.

35 8. A combination merry-go-round and Ferris wheel comprising a wheel assembly mounted for rotation selectively about a horizontal axis and about a vertical axis, a plurality of seats, seat support members comprising tubular support sockets journaled in said wheel assembly 40 to rotate in a plane parallel to the wheel in said wheel assembly, a socket arm adapted to slide within each socket, seat arms supporting said seats and pivotally attached to said socket arms, and means for locking the pivotal joint between the socket arm and seat arm 45 within each socket in Ferris wheel position.

9. A combination merry-go-round and Ferris wheel comprising a wheel assembly mounted for rotation selectively about a horizontal axis and about a vertical axis, a plurality of seats, support means mounting said seats 50 in said wheel assembly comprising tubular sockets, socket arms adapted to slide within said sockets, spindles extending radially into said sockets and through elongated slots in said socket arms, said spindles being journaled so that the sockets may rotate in a plane parallel to the wheel in said wheel assembly, seat supporting arms attached to the seats and pivotally connected to the socket arms, said pivotal connections being adapted to be withdrawn into the sockets in Ferris wheel position, and latch 55 means for engaging the slots in the socket arms in Ferris 60 wheel position.

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