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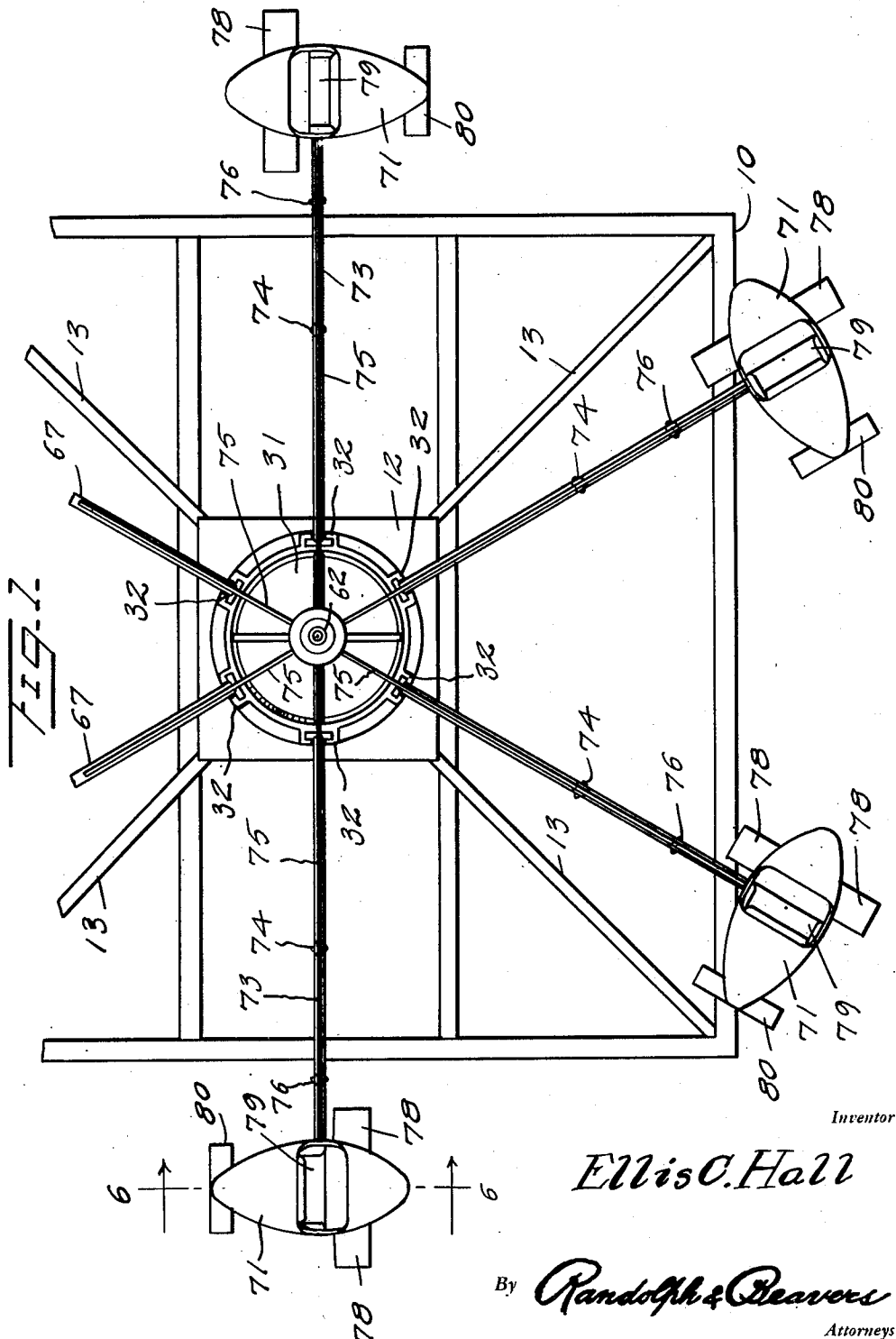
E. C. HALL

2,572,859

ELEVATING ROUNDABOUT

Filed Aug. 13, 1947

4 Sheets-Sheet 1



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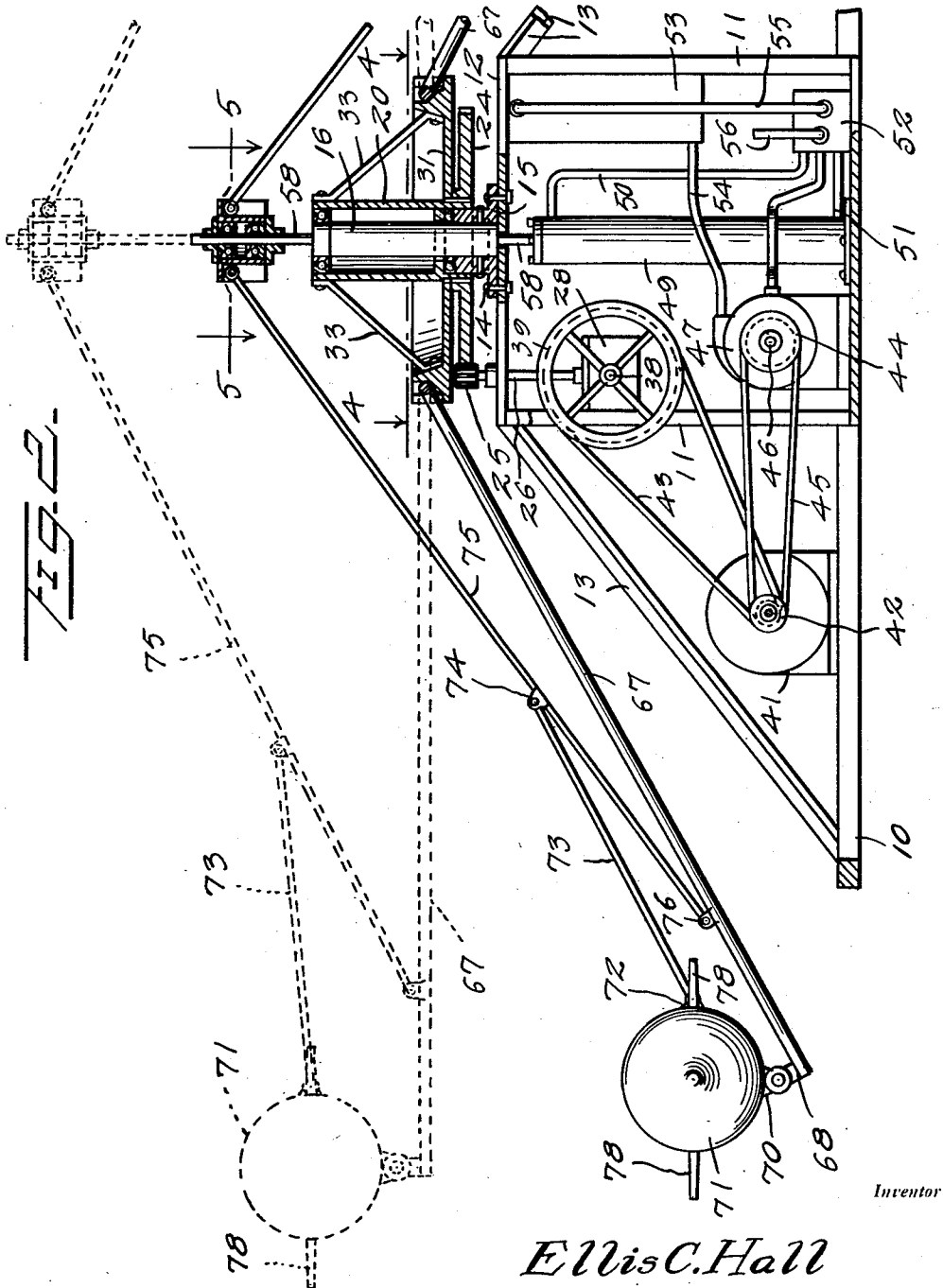
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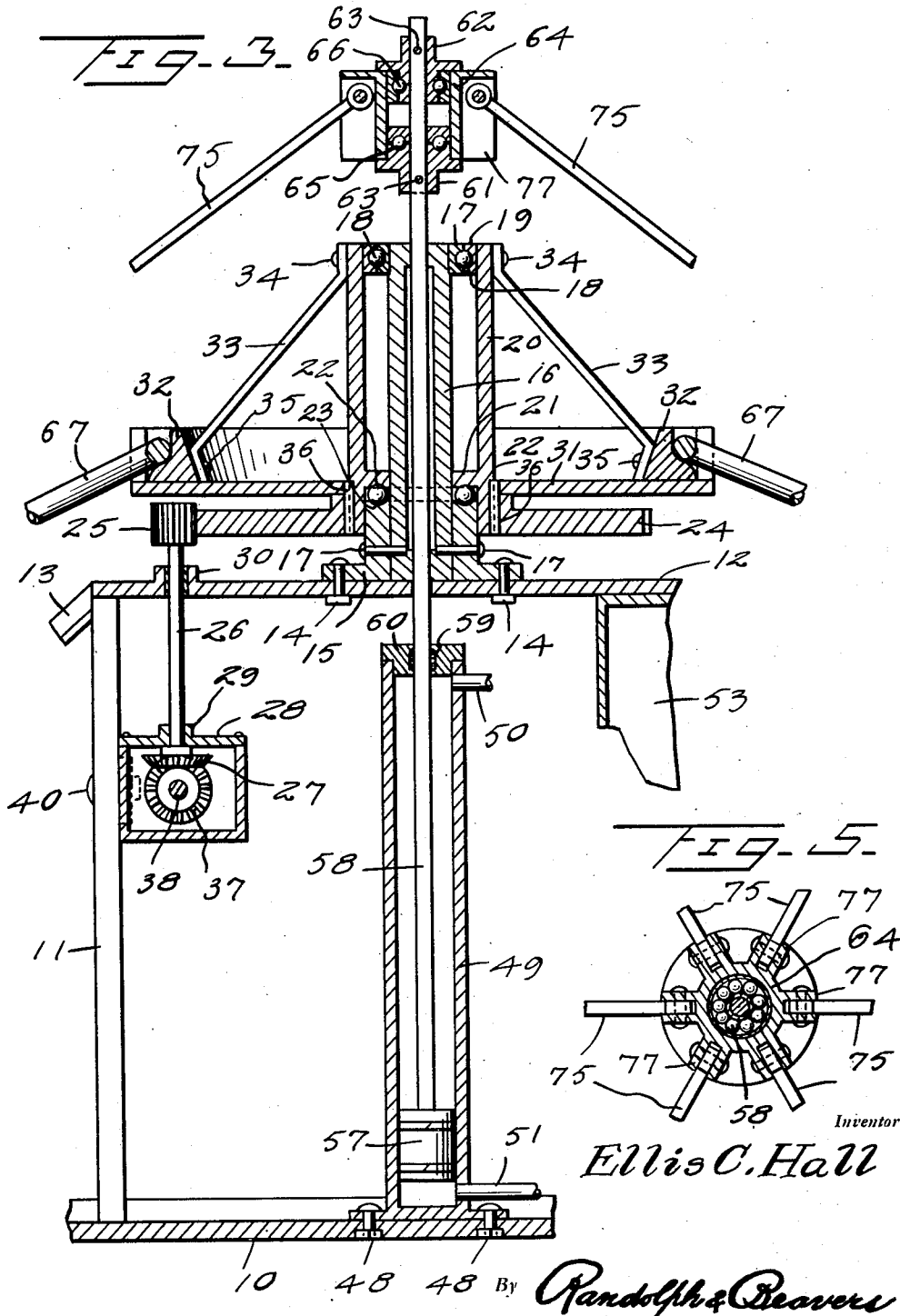
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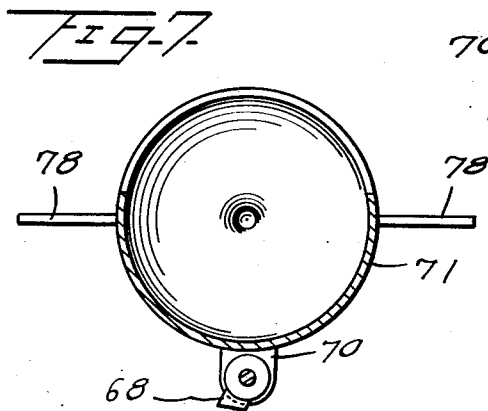
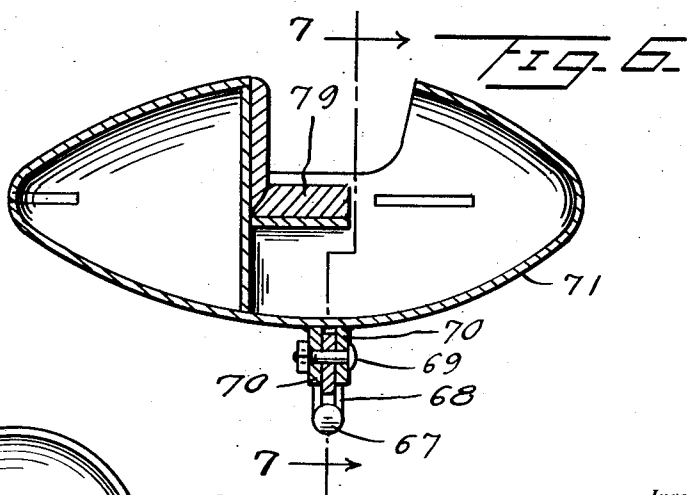
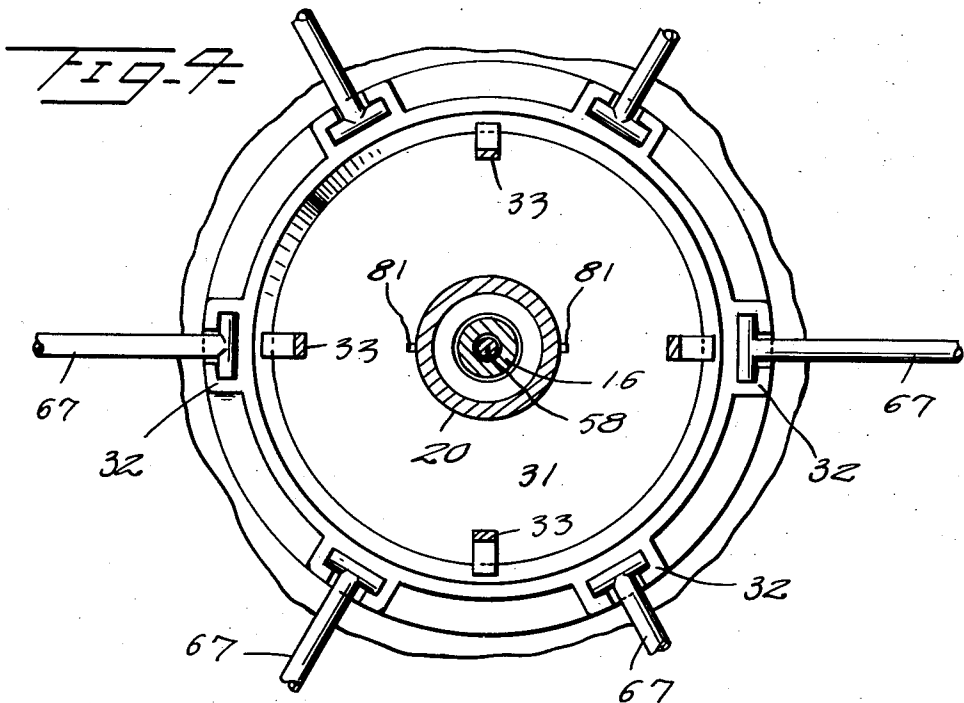
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4 Sheets-Sheet 4



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UNITED STATES PATENT OFFICE

2,572,859

ELEVATING ROUNDABOUT

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1 Claim. (Cl. 272—7)

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The present invention relates to an amusement apparatus and it consists in the combinations, constructions and arrangements of parts herein described and claimed.

It is an object of the invention to provide an amusement apparatus of the roundabout type having novel means for raising and lowering passenger carriages forming a part of the invention.

Another object of the invention is the provision of novel means for retaining said carriages in a level position irrespective of the height thereof from the ground.

Another object of the invention is the provision of an amusement apparatus of the roundabout type wherein novel means is employed for the raising and lowering of the passenger carriage forming a part of the invention.

Another object of the invention is the provision of an amusement apparatus having novel means and mechanism for imparting unusual amusing and thrilling yet safe motions to the passenger carriages forming part of the invention.

Other and further objects of the invention will become apparent from a reading of the following specification taken in conjunction with the drawings, in which:

Figure 1 is a fragmentary plan view of an embodiment of the invention.

Figure 2 is an elevational view thereof,

Figure 3 is an enlarged fragmentary vertical sectional view of the apparatus,

Figure 4 is an enlarged sectional view taken along line 4—4 of Figure 2,

Figure 5 is an enlarged sectional view taken along line 5—5 of Figure 2,

Figure 6 is an enlarged sectional view taken along line 6—6 of Figure 1, and

Figure 7 is a sectional view taken along line 7—7 of Figure 6.

Generally, the invention provides an amusement apparatus of the roundabout type wherein a series of passenger carriages made in the simulated form of aeroplanes are suspended from booms carried by a lower hub and wherein an upper hub is carried at the upper end of a hydraulic ram which protrudes through the lower hub. Rods interconnect the upper hub and the booms adjacent the outer ends thereof and links interconnect each of the carriages with the rods whereby the same are always held in a level condition.

Referring now more particularly to the drawings, there is shown therein an amusement apparatus of the roundabout type having a base or mud sill 10 to which is affixed a plurality of

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uprights 11 surmounting which is a platform 12. A plurality of braces 13 interconnect the platform, uprights 11 and the base 10.

It will be seen that the platform 12 is centrally disposed with regard to the framework comprising the base, uprights and braces. Centrally mounted upon the platform 12 by means of bolts 14 is a lower hub 15 having an inner cylindrical member 16 fastened therein by means of pins 17 or the like. The upper end of the member 16 is provided with an annular ball race 18 for the reception of bearings 18' adapted to be likewise carried in a complementary ball race 19 inwardly extending from the upper end of the movable portion 20 of the lower hub.

The portion 20 is provided with an inwardly extending flange 21 adjacent its lower end which is adapted to rest upon a plurality of ball bearings 22 carried in a ball race 23 in the member 15. Integrally formed with the member 20 at the lower end thereof is a large gear 24 adapted to enmesh with a gear 25 carried at the upper end of a shaft 26, the lower end of which is provided with a bevel gear 27 within a gear housing 28. The shaft 26 is journaled in the gear housing, as indicated at 29 and in the platform 12, as shown at 30.

The member 20 is provided with a substantially circular integrally formed bracket 31 having a plurality of dogs 32 affixed adjacent the outer periphery thereof. Brace members 33 are adapted to interconnect the dogs 32 and the upper end of the member 20 by means of bolts 34 and 35. A pair of slots 36 extend vertically through the bracket.

The bevel gear 27 is enmeshed with a complementary bevel gear 37 carried by a shaft 38 which protrudes through the housing 28 and has mounted at its outer end a pulley 39. The housing 28 is affixed to one of the uprights 11 by means of a bolt 40. A motor 41 is mounted upon the base 10 and is provided with a pulley 42 which is interconnected with the pulley 39 by means of a belt 43 and with a pulley 44 by means of a belt 45.

The pulley 44 is carried by the shaft 46 of a hydraulic pump 47 and is adapted to operate the same. Centrally mounted upon the base 10 by means of bolts 48 is a vertically extending hydraulic cylinder 49 which is interconnected with a valve 52 by means of pipes 50 and 51. A storage chamber 53 is carried by the frame and has a pipe connection 54 at its lower end interconnecting the same with the pump 47 and a pipe 55 interconnecting its upper end with the valve 52.

An operating handle 56 is provided for the valve 52. A piston 57 is conventionally mounted in the cylinder 49 and is provided with an upwardly extending elongated rod 58 which is slidably mounted in a packing box 59 carried in the cover 60 of the cylinder 49. The rod carries an upper hub at its upper end. The upper hub comprises a pair of flanged members 61 and 62 fastened to the rod 58 by means of pins 63 or the like. Between the members 61 and 62 there is revolubly mounted the movable portion 64 of the upper hub and a series of horizontal ball bearings 65 and a series of vertical ball bearings 66 is provided between the members 64 and the members 61 and 62, respectively.

To each of the dogs there is pivotally connected the inner end of a boom 67 each of which is provided with an upwardly extending dog 68 to which is pivotally connected by means of a bolt 69 a dependent bracket 70 of a simulated aeroplane 71. The inner side of the simulated aeroplane 71 is provided with a bracket 72 to which is pivotally connected the outer end of a link 73 whose inner end is pivotally connected to a dog 74 mounted upon a rod 75, the outer end of which is, in turn, pivotally connected to a dog 76 mounted upon the boom 67 at a point adjacent its outer end. The inner end of the rod 75 is pivotally connected to a bracket 77 formed integrally with the member 64.

Each of the simulated aeroplanes 71 is provided with miniature wings 78 and a passenger seat 79. A simulated tail structure 80 is also provided.

The member 20 is provided with a pair of vertically extending integrally formed keys 81 which are adapted to engage in the slots 33.

In operation, it will be seen that after passengers have been positioned in the simulated aeroplanes 71 and the motor 41 is in operation, that the application of the power of the motor through the belt 43, pulleys 39, shaft 38, gears 37 and 27, shaft 26 and gears 25 and 24, that a whirling motion will be imparted to the aeroplane 71 through the booms 67 and their attendant parts. After the simulated planes have been placed in motion the piston 57 and consequently the rod 58 and the upper hub may be raised by proper manipulation of the valve handle 56. When this occurs, the simulated plane is maintained in a level position with respect to the ground by means of the rod 75 and the link 73 regardless of the height to which the upper hub may be moved. Thus it will be seen that the roundabout, in lowered position,

will take up a minimum of space and yet at the same time is enabled to lift passengers a sufficient distance from the ground to provide a satisfactory thrilling ride while at the same time maintaining them in a level position with respect to the ground. Again, it will be apparent that the operator of the roundabout, by his manipulation of the lever 56 may be used to raise and lower the simulated aeroplanes 71 while the ride is in progress thereby imparting additional amusement and excitation to the passengers.

While but one form of the invention has been shown and described herein, it will be readily apparent to those skilled in the art that many minor modifications may be made without departing from the spirit of the invention or the scope of the appended claim.

What is claimed is:

In combination with an amusement device including a frame, a lower hub revolubly and centrally mounted upon said frame, a shaft extending vertically and slidably through said lower hub, means for raising and lowering said shaft, a series of booms extending radially from said lower hub and pivotally connected to said lower hub for vertical swinging movement and a car extending transversely of each boom and having its bottom pivoted to the outer end of said boom for tilting movement longitudinally of said boom, the provision of an upper hub revolubly mounted upon the shaft adjacent the upper end of said shaft, outwardly extending brackets affixed to said upper hub, a rod over each of said booms each having its inner end pivoted to one of said brackets and its outer end pivoted to its associated boom inwardly of the car carried by said boom, and a link pivotally connected to each car at its inner side and pivotally connected with its associated rod at a point inwardly of the pivotal point between said rod and its associated boom.

ELLIS C. HALL.

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