

Jan. 15, 1963

F. E. D. JONES
PLAYGROUND RIDE

3,073,595

Filed June 30, 1960

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Fig. 1

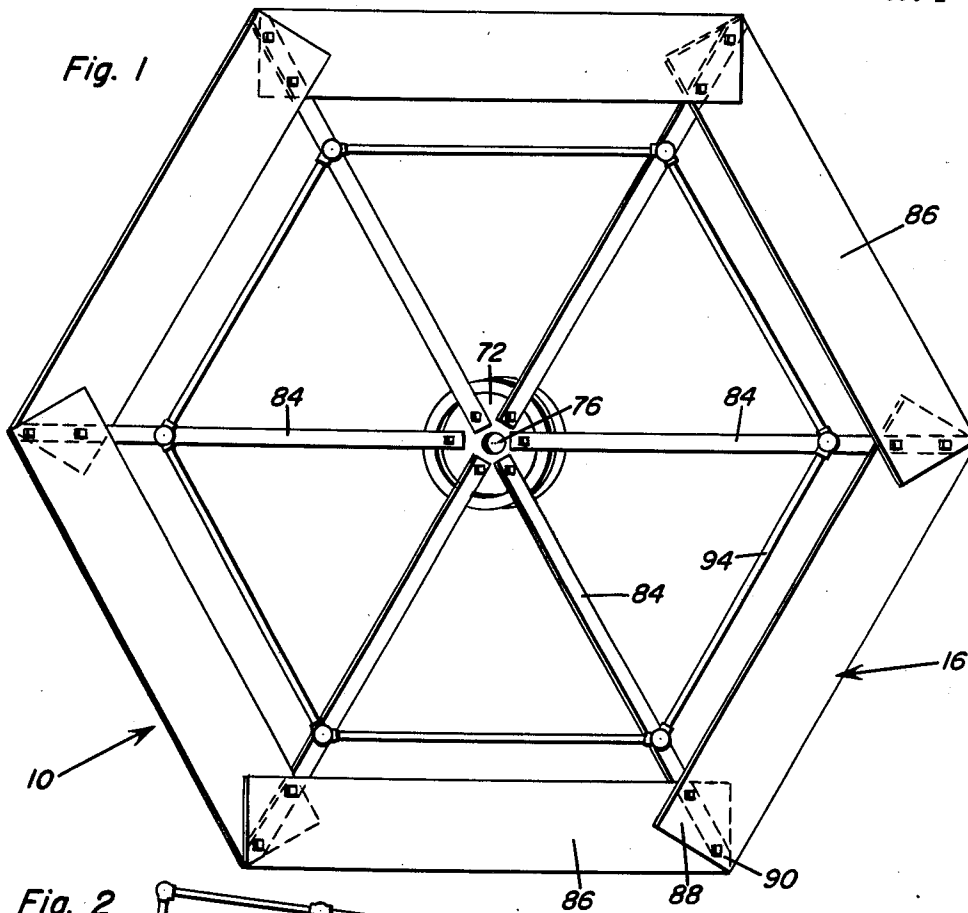
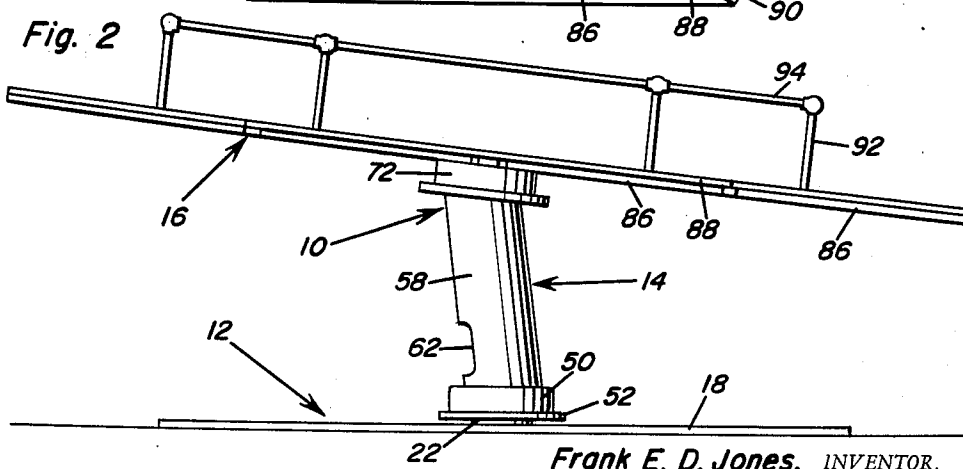


Fig. 2



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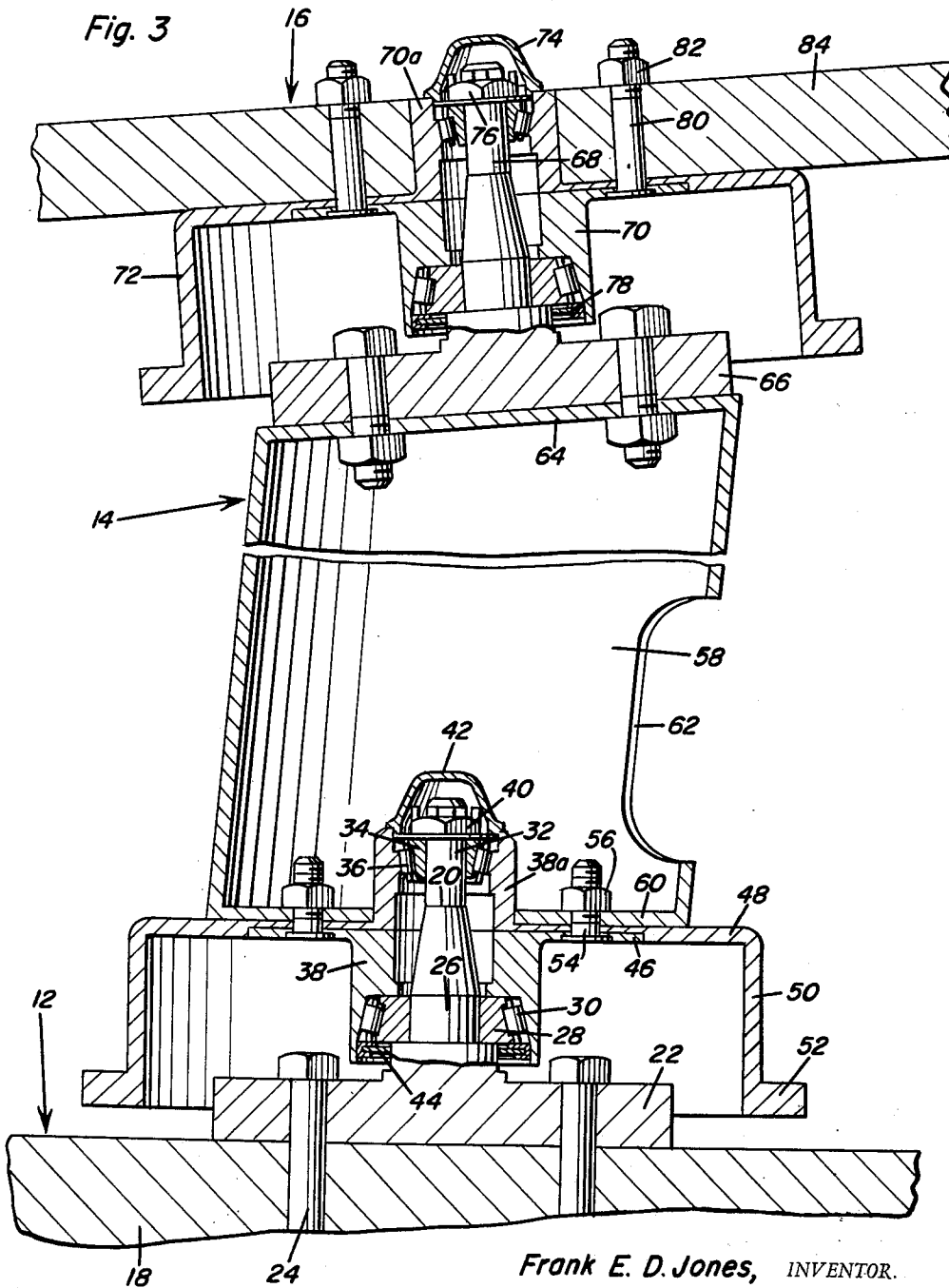
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Fig. 3



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PLAYGROUND RIDE

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6 Claims. (Cl. 272-33)

The present invention generally relates to a playground ride and basically includes two members or bodies free to rotate about their own axes but with the axes disposed in angular relation to each other wherein one body moves in a manner similar to the way the earth rotates on its own axis while it also gyrates about another axis which may be similar to the movement of the earth orbiting around the sun.

The primary object of the present invention is to provide a playground ride which is highly novel in its structure in that it employs a column disposed in an inclined vertical position which rotates about a stationary vertical axis at the lower end thereof together with a supporting platform or the like rotatably supported by the upper end of the column with the axis of rotation of the platform being angularly disposed in relation to the longitudinal axis of the column and also angularly disposed in relation to the rotational axis of the column thereby providing rotational movement of the platform about its own axis and also gyrating movement of the platform about the axis of rotation of the column thereby providing a highly interesting amusement ride and also one which will exemplify a novel relationship of bodies or mechanical components.

Another object of the present invention is to provide an amusement ride employing conventional components orientated in a novel manner for effectively producing an amusement ride which is dependable, safe in operation, easy to operate, occupant propelled and generally inexpensive to manufacture.

Basically, the novelty in the present invention incorporates the use of two freely rotating and separated hubs in a playground ride whose axes of rotation are angularly offset. Another factor is the separation of the hubs where one hub is free to spin while its axis is gyrating in a fixed regular path around the axis of the other hub. The construction of the invention includes a connecting frame or pipe which may be considered a column having calculated angles so that when it is bolted to the base hub and the top spindle, the pipe will facilitate gyratory movement of the top spindle in a path outside the axis of the base hub. There are included four simple components including a stringer, a seat with an alternate half-lap on each end, a hand bar, and a brace, these elements being duplicated for the number of seats to be incorporated into the seat wheel. The device may be in the form of a stationary permanent installation or may be in the form of a portable unit which may be employed in back yards and the like. The seating wheel which has the axis free to rotate and is free to gyrate in a fixed regular path about a stationary axis in a playground ride which is highly entertaining because of its unique, mobile mounting which offers a new combination of movements, that is, vertical, lateral, circular, side rocking, centrifugal and centripetal. Another feature is the arrangement in which the occupants may cause the course of the ride to be shifted by shifting their weight, the weight shifting also serving to propel the unit and also to change the pattern of movement thereof.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accom-

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panying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a plan view of the playground ride of the present invention;

FIGURE 2 is a side elevation of the construction of FIGURE 1; and

FIGURE 3 is a detailed sectional view, on an enlarged scale, taken substantially along the plane passing through the center of the amusement ride illustrating the structural details of the invention.

Referring now specifically to the drawings, the numeral 10 generally designates the playground ride of the present invention which includes a base generally designated by the numeral 12, an upstanding frame or column generally designated by the numeral 14 and a supporting platform or seating wheel generally designated by the numeral 16.

The base 12 may be of any suitable construction such as enlarged ground engaging member 18 or the like which may be in the form of a portable member or a stationary member rigidly secured to the ground by any suitable means. The base member 18 supports a vertically disposed spindle 20 having a base plate 22 on the lower end thereof secured to the base member 18 by fastening bolts 24. The spindle 20 is provided with a lower cylindrical bearing seat 26 receiving the inner race 28 of a roller bearing assembly 30. The upper end of the spindle 20 is provided with a similar seat 32 receiving the inner race 34 of roller bearings 36. The outer races of the roller bearings are integral with or received within a generally cylindrical hub 38 and a retaining nut 40 is screw threaded onto the end of the spindle 20 for retaining the hub 38 rotatably on the spindle 20. An end cap 42 is provided for covering the end of the spindle 20 and also retaining lubrication in the interior of the hub. The lower end of the hub 38 may be provided with a grease seal 44 or the like also serving to retain grease or lubricant within the hub. Extending peripherally from the hub is a flange 46 rigidly affixed to a drum member 48 having a downwardly extending flange 50 terminating in a horizontal flange 52 for forming an enclosure for the hub. The flange 46 is provided with a plurality of fastening bolts 54 which extend not only through the flange 46 but also through the portion of the drum 48 having the upper end of the hub formed therein. The upper end of the hub is designated by the numeral 38a and is integral with the drum 48. Thus, the spindle 20 and the nut 40 not only retain the hub in position but also help to maintain the hub assembled and the bolts 54 having nuts 56 thereon further serve to retain the assembly in assembled position.

Extending upwardly from the drum 48 is a cylindrical pipe or column which may be in the form of a supporting frame designated by the reference numeral 58, the lower end of the cylindrical member 58 being closed by a bottom member 60 disposed in inclined relation to the longitudinal axis of the cylindrical column 58. The bolts and nuts 54, 56 retain the bottom 60 rigid with the drum 48 for rotation about the axis of the spindle 20. Spaced upwardly only slightly from the bottom 60, the standard 58 is provided with an enlarged opening 62 which provides access to the interior of the tubular column 58 thus permitting disassembly, lubrication and repair of the spindle 20, hubs 38 and 38a and other structural features. The access opening 62 is located on the lower side of the pipe to prevent moisture from entering the mechanism. Due to the inclined nature of the longitudinal axis of the tubular column 58 in relation to the vertical axis of the spindle 20, the upper end portion of the member 58 will gyrate about the longitudinal axis of the spindle 20.

The upper end of the tubular member 53 is provided with a top 64 disposed with the longitudinal axis thereof in angular relation to the longitudinal axis of the tubular member 53 thus defining an inclined end member for the tubular member 53.

Attached to the upper end of the frame 14 and specifically the top member 64, is a base plate 66 of an upper spindle 68 similar in construction to the lower spindle 20 in that it has the same type of hub 70 and 70a with the drum 72 being attached thereto. An end cap 74 is provided with a retaining nut 76 and a lubrication seal 78 all equivalent to the structure defined in connection with the lower spindle 20. The retaining bolts 80 are longer than the retaining bolts 54 and extend through the drum 72 and are provided with retaining nuts 82 on the outer ends thereof with the retaining bolts extending through the inner ends of a plurality of radial arms 84 which cooperate to form portions of the platform or seating wheel generally designated by the numeral 16. The two spindle assemblies and drum assemblies together with the hubs, bearings, lubrication retainers and the like may be constructed similarly to and in fact, identical to an automobile spindle assembly and brake drum without the brakes and related equipment being supplied and without the usual backing plate.

The seating wheel 16 includes a plurality of generally rectangular seats or boards 86 which are disposed in angular relation to each other and which have their ends half-lapped as indicated by the numeral 88, these elements being attached to the radial arms 84 by virtue of fastening bolts 90 or the like. Attached to the radial arms at points spaced inwardly from the half-lapped ends of the members 86 is a plurality of upstanding pipes 92 having their upper ends interconnected by horizontal pipe members 94 which cooperate with the seat members 86 to form hand rails whereby persons sitting on the seat members 86 may hold onto the pipe rails 94 when rotating about the axis of the spindle 68 and gyrating about the axis formed by the spindle 20.

The only part of the assembly to remain stationary during rotation is the lower spindle assembly including the base member and the vertical spindle 20. The connecting pipe or frame 58 together with its calculated angles when connected to the top and bottom spindles provides a free gyration for the top spindle in a path outside the axis of the lower spindle as the pipe 58 revolves on the base spindle. The pipe 58 connecting the base hub to the upper hub is set at an 82° angle to the base hub. The upper hub has a 3° tilt to the horizontal together with a forward tilt and the two angles in the upper hub and the angle at the base of the pipe plus the fact that both hubs are free to rotate give this device a unique ride not found in previous playground equipment. The device of the present invention may be formed in an assembly kit for home or public playground use with the basic celestial concept being employed which includes a body free to spin or rotate on its own axis which axis is in turn free to gyrate in a fixed regular path around another axis and the seating wheel employed in the present invention will follow the celestial concept of motion so that it may be either pushed or operated solely by timed body motion of the children seated thereon so that it is occupant propelled with the shifting of the weight controlling the characteristics of movement of the seating wheel.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and

equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A playground ride comprising a base with a stationary vertical spindle mounted thereon, an inclined tubular member rotatably mounted on the base spindle for rotation about the axis thereof, the longitudinal axis of the tubular member being inclined in relation to the axis of the spindle whereby the upper end of the tubular member may gyrate about the center of the spindle, a second spindle mounted on the upper end of the tubular member in inclined relation to the longitudinal axis of the tubular member and in inclined relation to the axis of the base spindle, and a seating wheel mounted on the upper spindle for rotation about the axis of the upper spindle while gyrating about the axis of the lower spindle.

2. The structure as defined in claim 1 wherein said lower spindle is provided with a rotatable hub mounted thereon, a drum secured to the hub and including a horizontal flange extending peripherally therefrom, said tubular member including an inclined bottom secured to the flange, said spindle including a retaining nut on the upper end thereof for retaining the hub in position, said tubular member having an opening immediately above the bottom thereof for providing access to the retaining nut, and means detachably securing the bottom of the tubular member to the hub, said securing means being located interiorly of the tubular member whereby said opening also may provide access to the securing means.

3. The structure as defined in claim 1 wherein said upper spindle includes a hub rotatably mounted thereon, a drum rigidly attached to the hub and extending peripherally therefrom, and a plurality of radially extending arms mounted on the hub and drum and rigidly affixed thereto.

4. The structure as defined in claim 3 wherein said seating wheel includes a plurality of board members having half-lapped ends and interconnecting the ends of the radial arms, and a plurality of rails supported by the arms inwardly of the boards and in vertically elevated relation thereto for forming hand rails for persons sitting on the boards and enabling the persons to shift their weight for rotating the seating wheel about the axis of the upper spindle while gyrating about the axis of the lower spindle.

5. A playground ride comprising a stationary spindle, a movable body rotatable about the stationary spindle and including an upper end gyrating about the stationary spindle, an upper spindle carried by the upper end of the body and disposed in inclined relation to the longitudinal axis of the body and in inclined relation to the stationary spindle, and a seating wheel rotatably mounted on the upper spindle for rotation about the axis thereof while gyrating about the axis of the stationary spindle, thereby imparting a celestial concept to the ride since the body is free to spin or rotate on its own axis with such axis gyrating freely in a fixed path.

6. The structure as defined in claim 5 wherein the angle of rotation of the body attached to the stationary spindle and the angle of rotation of the occupant seating wheel provide for propulsion of the occupant seating wheel by shifting of the weight of the occupants, such weight shifting also varying the characteristics of movement of the occupant seating wheel.

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