Aug. 9, 1960 C. L. JOHNSON 2,948,531

OCCUPANT PROPELLED AMUSEMENT DEVICE

Filed March 19, 1958

Fig.1

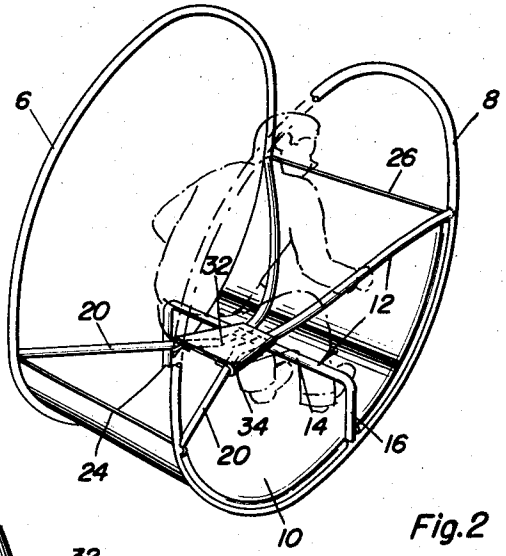


Fig.5

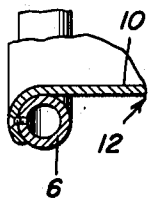


Fig.4

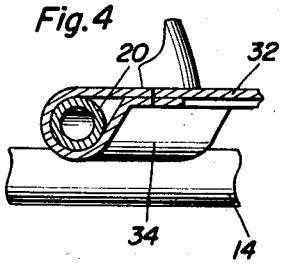


Fig.2

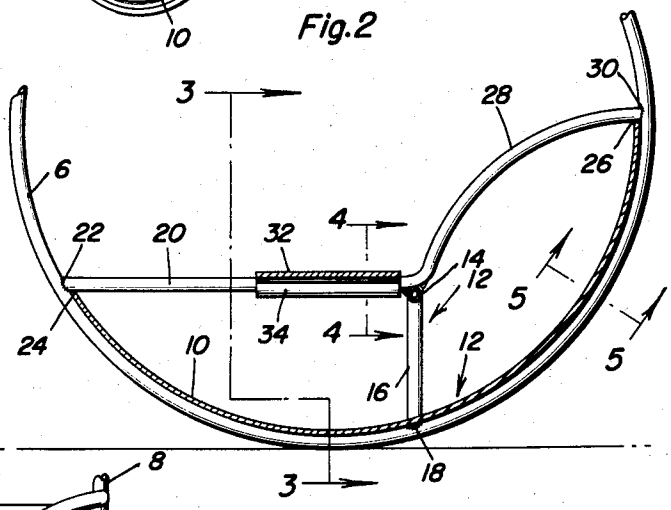
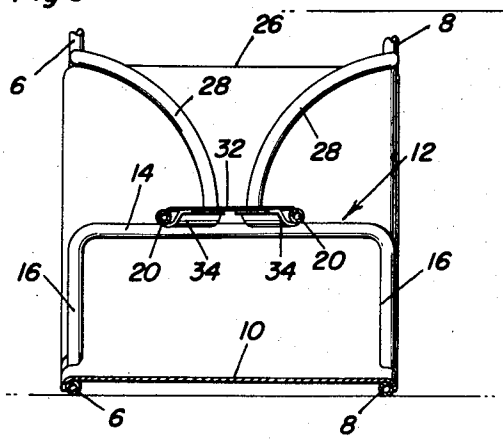


Fig.3



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OCCUPANT PROPELLED AMUSEMENT DEVICE

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The present invention relates to certain new and useful improvements in a novelly constructed and performing apparatus or device and through the medium of which the occupant is given an unusual ride, so to speak, and simultaneously exercises and amuses himself.

More specifically the concept has to do with an openwork frame characterized by a pair of coplanar axially aligned hoops or rings, means for joining the rings rigidly together and means in the space between the hoops for nicely accommodating and seating the occupant.

The idea of a rolling and rocking twin-hoop frame with occupant accommodating means between the hoops is not broadly new and as a matter of fact is disclosed in a patent issued to one Feick July 3, 1928, under 1,676,015. This patent, as suggested, is characterized by a pair of endless hoops, ties connecting and maintaining the hoops in spaced relationship, and means so arranged about the circumference of the hoops for receiving the limbs of the occupant that the latter, usually a person, may maintain an upright standing position during rolling motion of the hoops, and the means being characterized by a foot plate and holding means for the feet.

An objective in the instant approach to the problem is to more or less confine the occupant to a sitting position in the lower half portion of the structure. Novelty is therefore predicated on a seat supported on bars or equivalent structural members in the lower half portion of the frame structure.

In addition, a substantially semi-circular metal plate, which constitutes a floor, is mounted between the lower half portions of the two spaced parallel hoops. Further, the bar members not only support a convenient seat but provide suitably positioned handle bars which are straddled by the occupant, there being a substantially U-shaped member provided and which assists in supporting the knees and also aids in giving the sitting occupant highly satisfactory control and making it possible to simply rock back and forth, or under certain momentum circumstances to be able to roll over through a complete circle of approximately 360°.

Other objects, features and advantages will become more readily apparent from the following description and the accompanying drawing.

In the drawing, wherein like numerals are employed to designate like parts throughout the views:

Fig. 1 is a perspective view of the invention illustrating how it is constructed and, in phantom lines, how the occupant sits therein and uses it, loop-the-loop, or otherwise.

Fig. 2 is an enlarged view with parts in section and elevation.

Figs. 3, 4 and 5 are detail sections on the lines 3—3, 4—4 and 5—5, respectively, of Fig. 2.

With reference to the drawing two duplicate rings or hoops 6 and 8 are provided. These are disposed in side-by-side spaced parallel relationship and are fixedly connected together in this relationship to provide the aforementioned openwork frame structure. One main part

utilized in bringing about this companion cooperative relationship between the hoops is an arcuate metal plate 10. This plate, proportionally speaking, is of the extent or length discernible from Fig. 2. It may be said to be an arcuate plate having inner and outer planar surfaces and defining not only a connecting member but a floor. Supported transversely across a median portion of the floor is a U-shaped member 12 the normal horizontal or bar portion of which is denoted at 14 and the lateral end portions at 16, the latter having their lower ends suitably fastened to the hoops and passing through openings in the floor as denoted generally at 18 in Fig. 2. Cooperating with the U-shaped member are spaced and opposed tubular rails or rods. The left-hand end portions of the rods as seen in Figs. 1 and 2 are disposed in divergent relationship as at 20 and are joined by welding or otherwise at 22 just above the transverse end or edge portion 24 of the floor. This end portion 24 is the "low end" of the floor. The elevated or front end is denoted at 26 and it will be noted that the outwardly divergent longitudinally curved end portions 28 are welded or joined at 30 to the hoops just above the edge 26. Portions of the rails or rods adjacent to the U-shaped member serve to accommodate a plate 32 forming a seat. In fact, the end portions of the plate are curled and bent around the rails 34 and the seat is at right angles to the bight or bar portion 14, providing a unique assemblage of components. That is to say, the occupant is provided in this way with a satisfactory seat which is braced. The bar portion 14 of the brace permits the occupant to "cling" thereto with his knees. Then, the forwardly radiating end portions 28 provide satisfactory handle bars and can be straddled with the legs of the occupant thus bringing about a cooperation of parts which is novel in that the parts contribute each a proportionate share to the over-all combination. For the most part, the seating and occupant accommodating means is in the lower half of the over-all frame structure. Consequently it is an easy matter to rock back and forth much in the manner of a rocking chair.

By causing the portions of the handle bars 28 to converge toward and meet with the forward edge portion of the seat and properly stabilizing all of the components in the manner shown it is not necessary to employ a chest pad (not shown) as might otherwise be needed if the occupant were not in a position to satisfactorily stabilize and assure himself of his well founded poise and position.

The invention lends itself to use as a relatively small toy size device primarily for children from walking age on; or it may be made sufficiently large to accommodate adults. Experimental models have shown that the smaller size will accommodate and satisfactorily perform its intended purposes for children of 10 years of age more or less.

The performer sits in the seat facing the front, grips the control bars, places his feet on the floor and rocks with much the same motion as in a rocking chair. With a faster rocking motion and extra exertion it is possible to roll the device over 360° although it takes a considerable amount of strength for a small boy or girl to perform this feat. In fact small children are safe from a complete roll over because the factor of center of gravity is so low that only a fast rocking motion can be had.

The U-shaped brace 12 has its laterally directed portions 16 radial to the hoops to which they are respectively attached. The linearly straight portions 20 are at approximate right angles to the median or bight portion 14 to provide the desired stabilized and properly balanced construction. The seat 32 is, of course, arranged to bridge the converging reaches of the portions 20 so

that the seat is properly related to the knee bar 14 and so that the bar 14 to the left and right of the forward end of the seat (Fig. 1) may be made effectually available for the user to wrap his knees therearound. The bar 14 is positioned in relation to the hoops 6 and 8 in a manner that the occupant may make a 360° turn and not have to be strapped in the seat. No net or straps will be necessary. In fact, the bar 14 is employed by the user so that he may wrap his knees around the same and too, in this manner "hang on" in a seeming acrobatic fashion, much in the manner that one hangs from the knees on a gymnasium bar or the like. It is also to be stressed that the bars 28 are used for a dual purpose; namely, as hand holds, and to provide support members for the operator to lean on and to exert a forward thrust of the body in making a forward roll. The bars 28 combine closely in their function with the utilization of the crossbar 14. This is to say that the knee bar 14 and the hand holds or rails 28 function conjointly in an obvious manner. In a complete 360° roll the portion or bar 14 is the factor that keeps the occupant from falling out and places the weight in the right spot to return the toy smoothly to an upright position thus offering a novel single-person toy.

With a view toward better comprehending the nature of the invention, it may be explained that the single occupant should never be pushed or rocked by an "outsider." It is advisable for the occupant himself to rock slowly and to in this manner progressively gain the "know-how" experience. The importance of the occupant keeping the knees gripped under the knee bar at all times is to be stressed. In fact, it cannot be overstressed. The invention, sometimes referred to as a "space trainer," cannot be properly operated until the knee gripping principle is realized and the knack therefor has been acquired. The occupant can then gain the rhythm and balance necessary to rock farther and farther. Experience shows that the occupant usually learns the complete 360-degree backward roll first. The forward roll is actually more difficult. At the same time, it is the most fun after the necessary balance and rhythm for smoothness of operation have been acquired. When the occupant is ready for the forward roll, he will learn faster by holding his chest away from the handle bars 28 with his arms, especially as he is approaching the upside-down position.

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. An amusement and exercising device comprising a pair of spaced parallel endless hoops of prescribed and identical diameter, a substantially U-shaped rigid member having a knee accommodating bar bridging the space between the respective hoops and having lateral end portions rigidly joined to and radiating from diametrically opposite portions of the respective hoops, an occupant seat lateral to and adjacent to a median portion of said knee accommodating bar, the end portions of said bar extending beyond the edge portions of the seat so that the occupant of the seat may position his feet, legs and knees in a position to grab and hang on the bar when the bar is in an up position and the occupant is hanging down much in the manner accomplished when one hangs by his knees from a gymnasium bar, and a pair of hand rails in front of the seat and bar and between the bar and a forward upper portion of the hoops, said rails being spaced apart so that the occupant in a crouched seated position may lean against said rails to yank the rails in a manner to rock the hoops and to eventually impart sufficient momentum thereto in order to roll the hoops over through a complete circle.

2. The structure defined in claim 1 and wherein said rails are also provided with substantially straight portions disposed at right angles to said bar and having outwardly disposed ends joined with the respective hoops in a plane approximately coplanar with the position of the seat but well below the attached upper end portions of the aforementioned hand rails.

3. A rocking and rolling amusement device for use by a single occupant comprising an open framework embodying a pair of opposed spaced parallel endless hoops of the same diameter, occupant seat means confined to the space existing between lower half portions of the hoops, and knee gripping, body bracing and momentum initiating and balancing means carrying the seat means and joined with said hoops, said seat means being located normally in what would be the lower half of the over-all framework when the latter is in a normal or at rest position, said seat means comprising a horizontal plate disposed at a predetermined level, said plate being of truncated triangular shape in plan and of a size appreciably less than the width of the space between the hoops measured at any selected point about the circumference of the hoops so that the occupant may straddle the seat similar to riding on the saddle-like seat of a bicycle, but with the knees, legs and feet constrained for operation in the space between the respective hoops, the second named means embodying a floor underlying the plate, said floor characterized by an arcuate plate spanning the space between the hoops and having marginal edge portions fixed to said hoops, and a pair of hand rails adapted to be gripped by the occupant, the outer ends of the hand rails being joined to inner peripheral portions of the hoops, the inner ends of the hand rails converging toward and being connected with the truncated end of said plate.

4. An occupant enclosing and propelled amusement provoking and exercising device comprising a pair of duplicated spaced parallel endless hoops of prescribed diameter, a floor plate arcuate in longitudinal edge form having its longitudinal edges adjoined and fixed to cooperating segmental portions of said hoops, said plate being of a predetermined length with a forward end portion disposed in a plane above the plane of the rearward edge portion, said plate providing a floor and normally assuming a position in a plane within the lower half portion of the over-all framework, a substantially U-shaped member having a bar portion extending across the plate in vertically spaced parallelism and having end portions at lateral angles to and joined with corresponding portions of the respective hoops, a pair of spaced bar members spanning the respective hoops and having converging median portions connected with a central part only of said bar portion, the converging portions being spaced inwardly from their respective hoops so that they may be straddled by the legs of the single occupant, and a seat-forming plate fixed to said rails, said plate being of a dimension in plan appreciably less than the space directly between the hoops at any given point and like a saddle-seat on a bicycle.

5. An occupant propelled amusement and exercising device comprising a pair of companion spaced parallel duplicate endless hoops, a substantially U-shaped member which in its normal at-rest position is inverted and embodies a transverse portion extending across the space between the hoops and having end portions at lateral angles to and fixedly joined with the respective inner peripheral portions of said hoops, a pair of spaced bar members constituting rails and spanning portions of the respective hoops and having median portions converging and connected with the bar portion of said U-shaped member, said median portions being in close proximity to each other and spaced inwardly from and providing a clearance between themselves and their respective

hoops, and a seat-forming plate fixed to divergent portions of the median portions of said rails, the portions of the rails to the rear side of the U-shaped member and which serve to support the plate being approximately coplanar and connected at their rearward ends to inner peripheral portions of the respective hoops, the portions of the rails forwardly of the seat plate being bowed longitudinally and also connected to the front portions of the hoops with the points of connection in a plane above the points of connection of the rails with the rear portions of the hoops.

6. An amusement and exercising device comprising a pair of spaced parallel endless hoops of prescribed and identical diameter, a substantially U-shaped rigid member having a knee accommodating bar bridging over the space between the respective hoops and having lateral end portions rigidly joined to and radiating from diametrically opposite portions of the respective hoops, a single occupant seat lateral to an adjacent median portion of said knee accommodating bar, the end portions of said bar extending outwardly beyond the respective edge portions of the seat so that the occupant of the seat may straddle the seat as he would do when riding upon a saddle-type bicycle seat, position his feet, legs and knees in a position to grab and hang on the bar when the bar is in an up position and the occupant is hanging down much in the manner accomplished when one hangs by his knees from a fixed gymnasium bar, and a pair of longitudinally bowed hand rails located in front of the seat and bar and between the bar and a forward upper portion of the hoops, said rails being spaced apart so that the occupant in a crouched seated position may utilize said rails in a manner to yank the rails to rock the hoops and to eventually impart sufficient momentum thereto to roll the hoops over through a complete 360° circle, said rails being also provided with substantially straight portions disposed at right angles to said bar and having outwardly diverging ends joined with the respective hoops in a plane approximately coplanar with the plane of the seat but well below the attached upper end portions of the aforementioned hand rails the portions of said rail at the front end of said seat converging toward and being connected with said seat.

7. An amusement and exercising device comprising a pair of spaced parallel endless hoops of prescribed and identical diameter, a substantially U-shaped rigid member having a knee accommodating bar bridging over the space between the respective hoops and having lateral end portions rigidly joined to and radiating from diametrically opposite portions of the respective hoops, a single occupant seat lateral to an adjacent median portion of said knee accommodating bar, the end portions of said bar extending outwardly beyond the respective edge portions of the seat so that the occupant of the seat may straddle the seat as he would do when riding upon a saddle-type bicycle seat, position his feet, legs and knees in a position to grab and hang on the bar when the bar is in an up position and the occupant is hanging down much in the manner accomplished when one hangs by his knees from a fixed gymnasium bar, and a pair of longitudinally bowed hand rails located in front of the seat and bar and between the bar and a forward upper portion of the hoops, said rails being spaced apart so that the occupant in a crouched seated position may utilize said rails in a manner to yank the rails to rock the hoops and to eventually impart sufficient momentum thereto to roll the hoops over through a complete 360° circle, the portions of said rails adjacent the forward end of said seat being disposed in converging relation and sufficiently close that the converging portions can be straddled by the legs of the user while the legs are kept within the confines of the respective hoops and said portions also being disposed upwardly in respect to the general horizontal plane of the seat so that they prevent the occupant from sliding too far forwardly on the seat and also assist in the over-all maneuver of keeping the knees gripped under the aforementioned knee bar, and the curvature of said rails being such that the occupant may learn to hold his chest away from the hand rails with his arms as he is approaching the upside-down position.

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