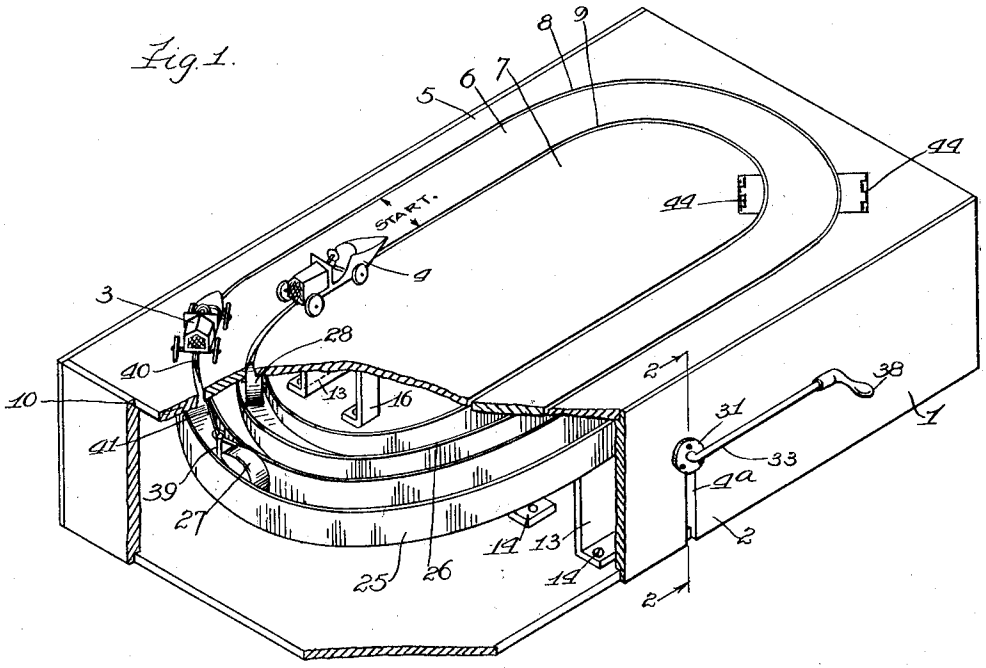
Sept. 24, 1929. C. O. OLSEN 1,729,049

AUTOMOBILE RACE GAME

Filed April 11, 1927 2 Sheets-Sheet 1

Fig. 1.



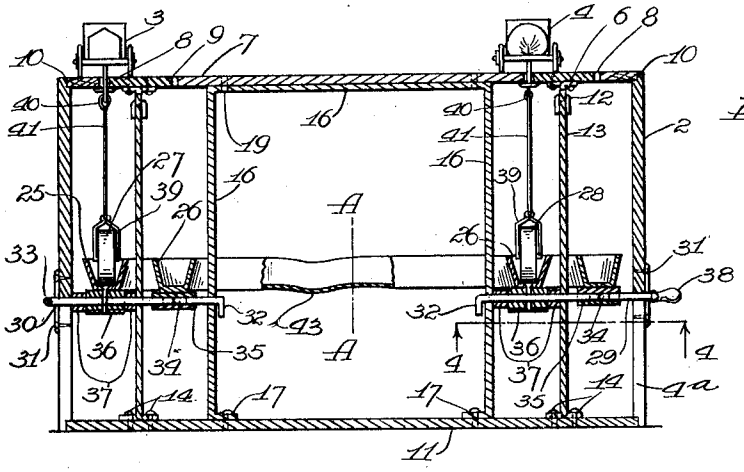


Fig. 2.

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Fig. 3.

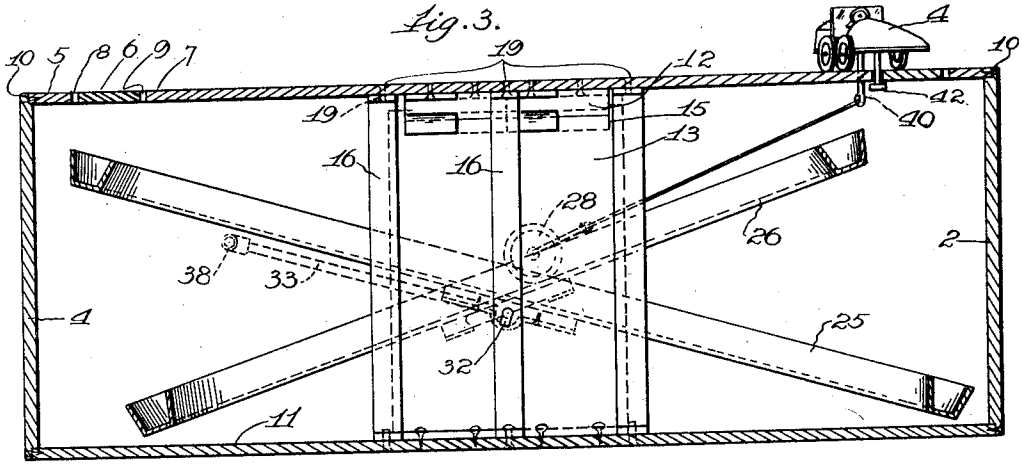


Fig. 4.

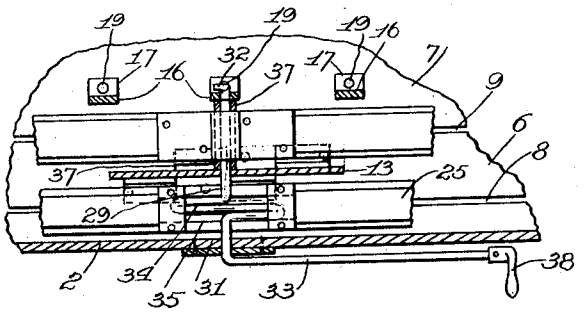
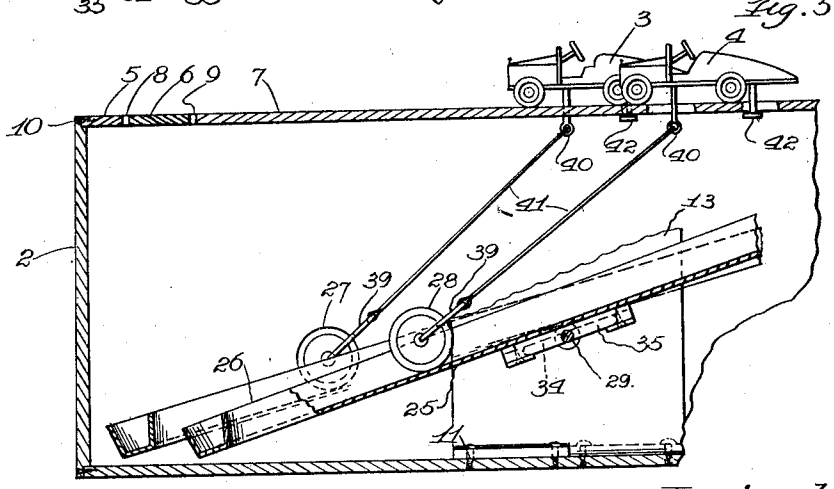


Fig. 5.



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UNITED STATES PATENT OFFICE

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AUTOMOBILE RACE GAME

Application filed April 11, 1927. Serial No. 182,647.

This invention relates to a race game in which the racing objects travel a continuous circuit and it has for its object to provide an improved game in which the movement of the racing objects depends entirely upon the skill of the operators. It consists in certain features and elements of construction in combination, as herein shown and described and as indicated by the claims.

In the drawings:

Figure 1, is a perspective view of the game embodying this invention, the front portions of the housing being broken away to show the planes in inclined position.

Figure 2, is a transverse vertical section of the game taken on line 2—2, Figure 1.

Figure 3, is a vertical section taken at the longitudinal center showing the planes inclined in opposite directions.

Figure 4 is a fragmentary section looking at the under side of the planes taken on line 4—4, Figure 2.

Figure 5, is a somewhat diagrammatic section showing the cars in racing position, the supporting members inside the housing being omitted.

Referring to the drawings, a housing 1, of box shape construction is provided with upright sides, 2, for enclosing the mechanism which imparts movement to the racing cars 3, and 4, that are disposed on the upper side of said housing. The upper side or top of the housing is composed of three separate members, namely, an outer top portion, 5, an intermediate ring, 6, and a center portion, 7. These three members are so shaped that when they are disposed in a fixed spaced relation to each other, they form a pair of continuous curved slots, 8 and 9, which serve as the guide grooves of the outside and inside race tracks respectively. The adjacent upper surfaces of these members which form the slots, also form the race tracks over which the racing cars, 3 and 4 travel. The outer top member 5, is connected to the sides, 2, of the housing, by any suitable means, herein shown as a shoulder joint, 10. The lower edges of sides 2, may also be shoulder jointed with a base member, 11, for maintaining alignment of parts and facilitating assembly thereof. The intermediate ring, 6, has secured to the under side thereof, a pair of supporting clips, 12, on opposite sides, split and bent as shown in Figures 2 and 3, to form a seat on the upper edge of a relatively wide metal supporting member, 13. The lower edges of member, 13, are bifurcated to form oppositely extending supporting feet, 14, for securement to the base member, 11. The upper edge of the supporting member, 13, is recessed to form shoulders, 15, at opposite ends for abutting against the ends of the clips, 12, to prevent any longitudinal movement of the ring, 6, which would tend to alter the width of the respective slots, 8 and 9. The seat of the clips, 12, is downwardly open to permit removal of the ring at any time, and the split formation prevents any lateral displacement. The center top portion 7, is removably supported on spaced apart metal standards, 16, the lower ends being bent to form feet, 17, for attachment to the base member 11, inside of the members, 13. These standards form a three sided rectangular outline, the upper horizontal portion being provided with apertures, 18, for registration with studs, 19, secured to the under side of said center portion, 7. This construction permits the center top portion to be rigidly supported and positively fixed in relation to the ring, 6, to maintain the slots at an even width.

A pair of concentric elliptical shaped planes 25 and 26, are disposed in the housing in approximate alignment with the slots, 8 and 9 respectively. These planes are preferably channelled to provide guidance for gravity actuated rollers, 27 and 28, which are connected to the cars, 3 and 4, for moving them about the race tracks. Said planes are mounted on a pair of transversely spaced stub shafts, 29 and 30. These shafts are concentric with each other and are adapted to swing the planes in a vertically oscillating manner, independently of each other. The shafts extend through and are carried by the supporting members 13, standards, 16 and bearing discs, 31, secured to the outside of the walls, 2, at the upper ends of the slots,

4a. The inner ends of said shafts inside the standards, 16, are bent over at 32, to anchor the shafts in place; the outer ends of said shafts extend through the slots, 4a, and bearing discs, 31, and are bent at right angles, against the sides, 2, of the housing to form operating levers, 33. These levers are in alignment with the respective planes which they are adapted to oscillate about the common axis of said shafts. The shaft, 29, is adapted to actuate the plane, 25, and shaft 30, the plane 26, each of said shafts being provided with a laterally extending crimped portion, 34, secured to a supporting block 35, attached to the under side of the plane. The crimped portion 34, as shown in Fig. 4, is long enough to provide a lever arm, to transmit the burning torque from the shaft to the plane which it actuates. The inner end of shaft, 29, intermediate supports, 13 and 16, and the outer end of the shaft, 30, intermediate support 13 and side 2, of the housing, are adapted to pivotally support blocks 36, which are secured to the inner sides of the planes at these points. Spacers 37 are mounted on said shafts, intermediate the supports therefor, adjacent the sides of blocks, 36, for maintaining the two planes, 25 and 26, in proper spaced relation to each other. It will now be clear that the operating lever 33, for the shaft, 29, will transmit the necessary movement to tilt the outer plane 25, in a vertical direction about the axis of the shaft, and also that the opposite operating lever, 33, connected to shaft 30, will impart tilting movement to the inner plane 26, in lie manner. The outer ends of the operating levers, 33, are provided with removable handles, 38, extending horizontally to permit the levers to be manipulated accurately.

The rollers, 27 and 28 are adapted to roll around in the channels of the planes, 25 and 26, respectively, by gravity, due to the tilting of said planes. Each of said rollers is provided with a bail 39; a guide 40, on the forward end of each car, extends downwardly through the guide slot, 8 or 9, and is provided with a flexible cord 41 secured to the bail 39, of the rollers. Each of the cars is provided with a second guide member 42, extending into the guide slot to align the car as it is moved around the track. Since the outer track provides a greater distance per lap than the inside track, the car, 4, on the inside track has its second guide member, 42, spaced away from the first guide, 40, a greater distance than on outer car 3, to add friction to retard the speed of the inner car, 4, which will equalize the time to complete a lap. Other means for retarding the speed of one car may be provided if preferred, as, for example, using one roller of lighter weight than the other. It will now be clear that as the respective planes 25 and 26 are oscillated vertically, the rollers 27 and 28, will be given impetus by gravity causing them to run down the inclined plane, thereby pulling the respective cars, 3 and 4, with them about the race tracks. The speed at which the cars may be moved about the track and continuity of operation depends entirely upon the skill of the operator in reversing the inclination of his track at just the right moment. The flexible cords permit the rollers to travel a considerable distance ahead of the cars and to be at various angular positions relative to their cars while still imparting movement to said cars.

It will be apparent that a roller at the curved portion of the plane might come to rest on the neutral point or "dead center" at one end of the curved channel so that when the plane is tilted upwardly it would be as apt to roll backward as forward. To avoid this possibility, the diametrically opposite ends of the planes, immediately forward of the transverse center, indicated at A—A in Figure 2, (relative to the direction of travel of the racing cars which travel in a counter clockwise direction) are depressed at 43 to insure that the rollers having stopped in these depressions instead of at the dead center points, will immediately start rolling forward when the plane is tilted upward.

From a manufacturing standpoint, it is desirable to so construct the game that it may be dismantled for compact shipment. Therefore, the racing cars, together with their rollers, are readily removable from the track, and to obviate the removal of the center portion, 7, and ring 6, for insertion or withdrawal of the rollers from the planes, 25 and 26, either for original set up or otherwise, small trap doors, 44, are provided and hinged to the outer top portion, 5 and center, 7, so as to open on the slots 8 and 9 respectively.

I claim:

1. In an amusement device including a housing having a continuous track on the upper side thereof, an object adapted to traverse said track, a plane disposed below the track oscillatable about a horizontal axis, means movable by gravity on said plane and connected to the object whereby said object may be moved along the track by oscillation of the plane, said plane being provided with diametrically opposite depressions therein immediately forward of the transverse axis of said plane relative to the direction of travel of the object.

2. In an amusement device including a housing having a continuous track on the upper side thereof, an object adapted to traverse said track, a plane disposed below the track oscillatable about a horizontal axis, means movable by gravity on said plane and connected to the object whereby said object may be moved along the track by oscillation of the plane, said plane being provided with diametrically opposite depressions

therein immediately forward of the transverse axis of said plane relative to the direction of travel of the object, and means concentric with said horizontal axis for oscillating said plane at will to move the object about the track continuously.

3. In a race game comprising a housing, a top therefor having parallel orbital race tracks, corresponding orbital planes disposed below said tracks in approximate alignment therewith verticaly and mounted on a common horizontal axis, means for tilting each of said planes independently of the other about said axis whereby an inside plane may be swung within an outside plane, racing objects for traversing each of said tracks, together with gravity operated means connected to each of said objects and movable over the respective planes whereby said objects may be drawn around their tracks by the tilting of their respective planes.

4. In a race game including a housing, the upper side thereof provided with parallel oval race tracks comprising parallel slots planes corresponding to and in approximate vertical alignment with the respective slots and mounted on a common horizontal axis, means extending to opposite sides of the housing for tilting said planes about said axis independently of each other, miniature racing cars on each of said tracks having guide members depending into said corresponding slots, and rollers disposed on each of the respective planes, each roller having connection to a car on the corresponding track, whereby each car may be controlled on its track by the tilting of its corresponding plane.

5. In a race game including a housing, the upper side thereof provided with parallel orbital race tracks comprising slots extending through said upper side of the housing, planes disposed below and in alignment with each of said tracks, said planes being mounted on coaxial horizontal pivots, means for actuating either of said planes in tilting positions independent of the other, a racing car on each track provided with guides engaging said slots, a roller engageable with each of the planes, having a bail therefor provided with a flexible member connected to a car on the corresponding track for pulling said cars about its track by tilting of the plane carrying the respective roller, said flexible member being adapted to pull the car in trailing position when its roller is in various angular positions relative to said car.

6. In a race game comprising a housing, a top therefor, a pair of parallel non-circular slots provided in said top forming guides for an inside and outside race track, planes disposed below in corresponding alignment with said slots, being mounted on coaxial horizontal pivots, means for tilting either of said planes about said pivots independently of the other, racing cars for each track each being provided with a pair of guide members engaging said slots, and a roller for each plane having a flexible member connecting to the car disposed on the correspondingly aligned track whereby said car may be pulled around the track by the tilting of the corresponding plane for actuating said roller by gravity.

7. In a race game comprising a housing, a top therefor, a pair of parallel orbital slots provided in said top forming guides for an inside and outside race track, planes disposed below and in corresponding alignment with said slots, said planes being mounted on a common axis, means for oscillating either of said planes independently of the other, miniature racing cars for said tracks each provided with a pair of guides engaging in said slots, rollers engageable with each plane and connected to said cars adapted to pull the same about the track when said plane is oscillated, the guides on the car for the inside track being spaced farther apart than the guides on the car on the outside track whereby the inner car is frictionally retarded to compensate for the extra distance the outer car travels on the outside track.

8. In a race game comprising a housing, the upper side thereof having a pair of parallel orbital race tracks, planes disposed below and in alignment with each of said tracks and carried on a common horizontal axis for oscillation thereabout, means for oscillating one of the planes independently of the other, miniature racing cars for said tracks, gravity actuated means cooperating with each of said planes and connected with cars on the corresponding tracks for pulling the same thereabout when said planes are oscillated, said planes each being provided with diametrically opposite depressions therein immediately forward of the transverse axis of said planes relative to the direction of travel of the cars, whereby said gravity actuated means may always overcome dead center of the plane so as to start in forward motion by the oscillation of said planes.

9. In a race game including a housing, a top therefor provided with a pair of parallel orbital race tracks, planes disposed below and in corresponding alignment with said tracks and mounted on horizontal axes, concentric with each other, means extending to opposite sides of the housing for tiltably moving the planes about said axes, racing objects on said tracks, adapted to traverse the same by gravity actuated means cooperating with said planes, said tilting means comprising a pair of stub shafts spaced in axial alignment engaging in opposite sides of the housing, one of said shafts being

fixedly connected to one side of the outer plane and pivotally supporting the adjacent side of the inner plane, the other of said shafts pivotally supporting the other side of said outer plane and fixedly connected to the adjacent side of the inner plane whereby to tiltably move either plane independently of the other.

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