May 12, 1925. 1,537,427

J. A. FISHER

ROUNDABOUT

Filed Feb. 21, 1922 3 Sheets-Sheet 1

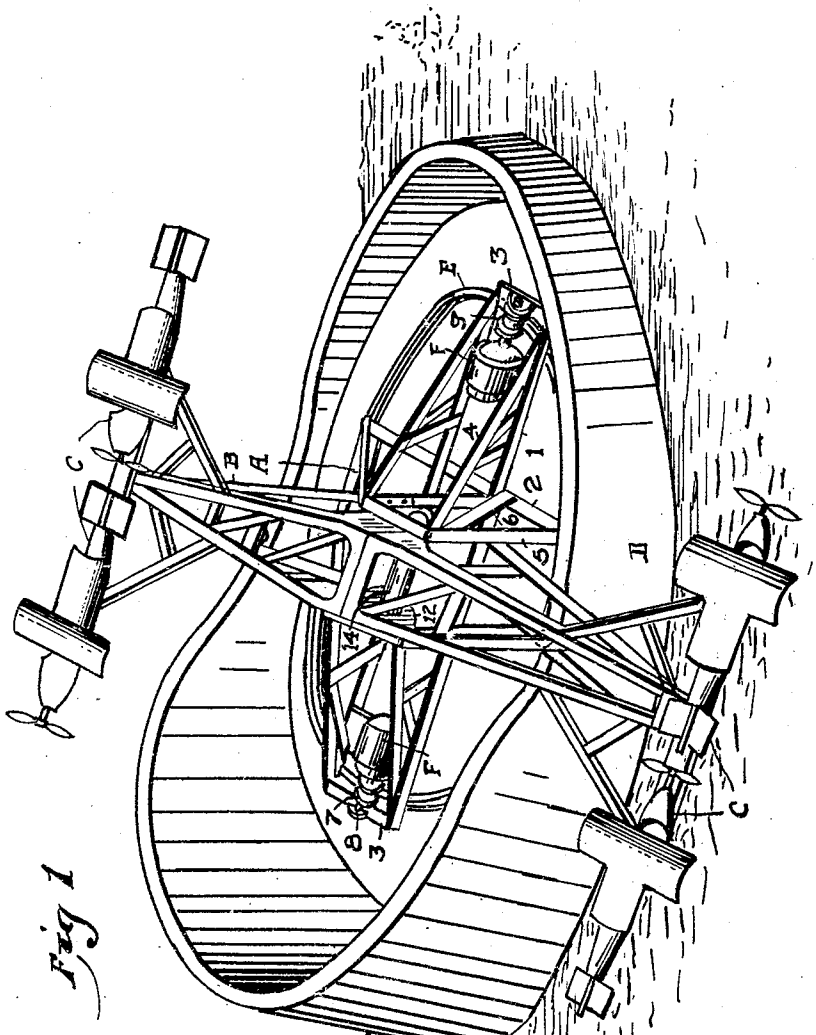

Fig 1

WITNESS

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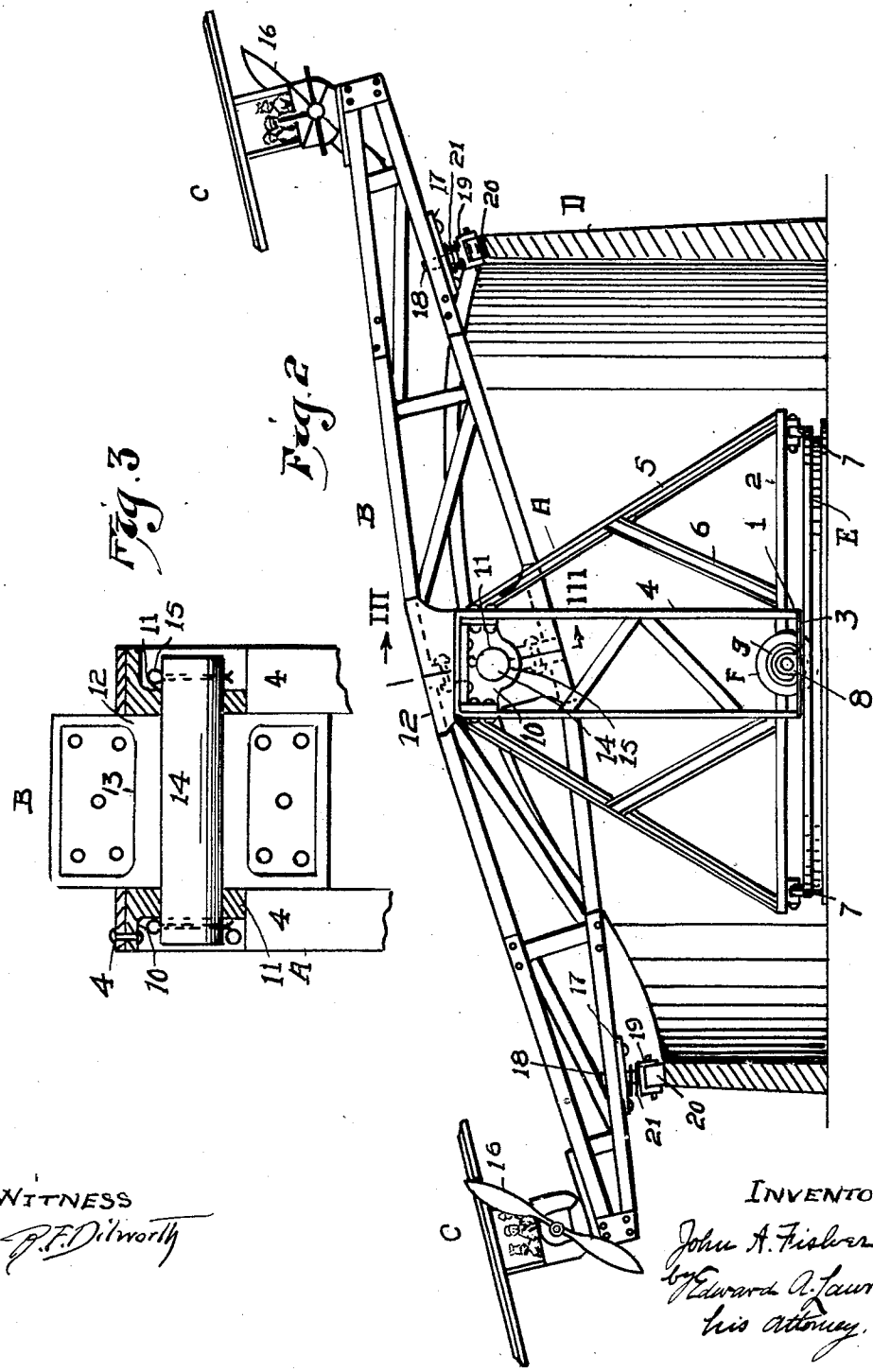

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Fig 4

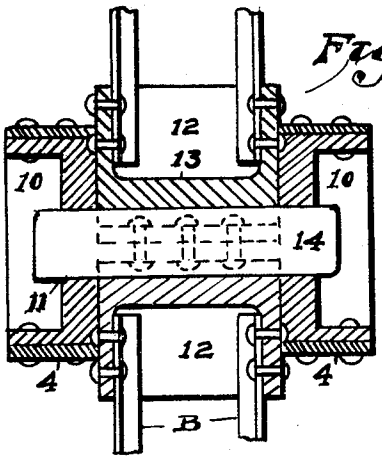


Fig. 5

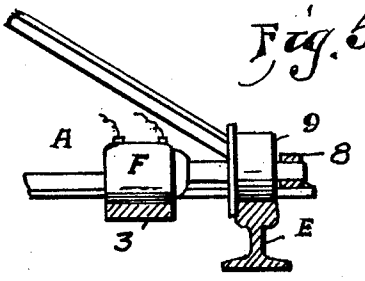


Fig. 6

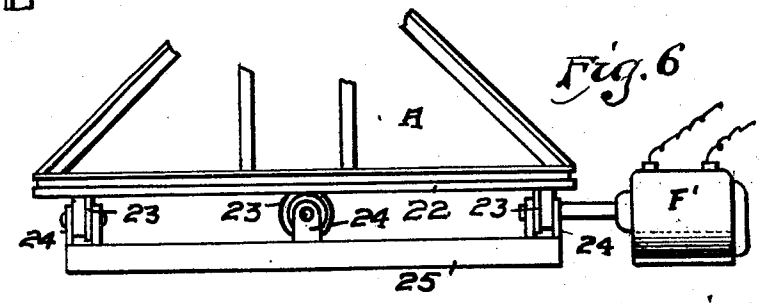
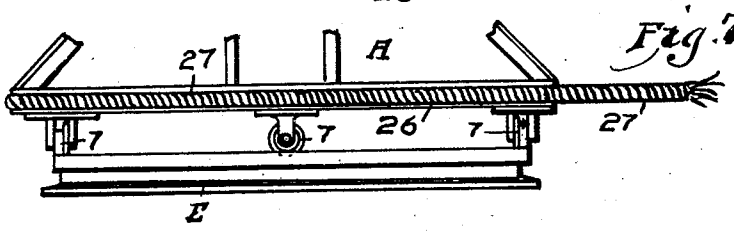


Fig. 7



WITNESS

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Patented May 12, 1925. 1,537,427

UNITED STATES PATENT OFFICE.

JOHN A. FISHER, OF SANDUSKY, OHIO.

ROUNDABOUT.

Application filed February 21, 1922. Serial No. 538,247.

To all whom it may concern:

Be it known that I, JOHN A. FISHER, a citizen of the United States, and residing in the city of Sandusky, in the county of Erie and State of Ohio, have invented or discovered a new, useful, and Improved Roundabout, of which the following is a specification.

My invention consists in certain new and useful improvements in rotary passenger-carrying amusement devices.

Generally speaking, my invention is characterized by a central frame rotating on a vertical axis; an arm diametrically disposed on said frame and pivoted thereto to swing on a horizontal axis, the ends of said arm being provided with passenger cars, which may be designed to represent aeroplanes; and an annular undulating track, concentric with said frame but of greater diameter, which track is engaged from above by said arm at diametrically opposed points, whereby the rotation of said frame causes said passenger cars to revolve about the axis of the machine in a vertically swooping or undulating manner, thus simulating the travel of an aeroplane through the atmosphere.

Other novel features of construction and arrangement of parts will appear from the following description.

In the accompanying drawings, which are however merely intended to illustrate the principles of my invention without limiting the scope of the same to the construction shown, Fig. 1 is a view in perspective of a rotary amusement device embodying the principles of my invention; Fig. 2 is an elevation on larger scale of said device, with the annular undulating track shown in diametric section; Fig. 3 is an enlarged section taken along the line III—III in Fig. 2 showing the pivotal mounting of the arm on the frame; Fig. 4 is a horizontal section taken at right angles to the plane of Fig. 3; Fig. 5 is a detail in section of the rotary frame showing the preferred form of drive therefor; Fig. 6 is a broken elevation of said frame showing another form of drive therefor, and Fig. 7 is also a broken elevation of the frame showing still another form of drive therefor.

The following is a detailed description of the drawings, reference being first had to Figs. 1 to 5, inclusive.

The machine is characterized by the following main elements: A is the central rotary frame, moving on a vertical axis. B is an arm disposed diametrically of frame A and pivotally supported thereon to swing on a horizontal axis. C represents passenger cars rigidly mounted on the ends of arm B and adapted to revolve around the axis of the machine when rotary movement is imparted to frame A. To increase the capacity of the machine I may mount, as shown, a plurality of cars on each end of the arm B. D represents an annular undulating track concentric with the axis of the machine, and which is engaged from above by the arm A, whereby, as the cars C revolve, they are given an up and down or undulating movement, following the contour of the track D.

The frame A may be made of wood or metal members, and I have shown the same of the following advantageous construction.

1 represents a pair of parallel and spaced apart sills and 2 represents a second pair of similar sills intersecting sills 1 at right angles. 3 represents horizontal braces which connect the ends of the sills of each pair. 4 represents an opposed pair of gallows frames mounted on the sills 1 and braced by the inclined braces 5, and struts 6.

7 represents wheels, preferably flanged, and whose axles are journaled in housings 8 upon which the braces 3 are mounted and secured. Said wheels engage an annular fixed track E, thereby supporting the rotary frame A.

F represents an electric motor mounted on the frame A and having its shaft provided with a traction wheel 9 which engages the track E. Thus the frame A is power rotated around the track E.

The upper ends of the gallows frames are provided with opposed boxes 10 provided with horizontal bearings 11.

The arm B is of skeleton construction and is provided at its axis with a bearing box 12 provided with a horizontal bearing 13 which registers with the bearings 11 when the arm is in place. 14 is a pivot pin inserted in the bearings 11 and 13, and 15 represents cotter pins or other means engaging the ends of said pin to prevent its longitudinal displacement.

On the outer ends of said arm B are mounted the passenger cars C, and the same

should be rigidly mounted on said arm to prevent any movement of said cars except in unison with the arm.

Said cars may be designed to represent aeroplanes disposed tangentially of the track D, and 16 represents the propeller blades of said aeroplanes which are preferably idle on their shafts and pitched so as to whirl when the cars revolve about the axis of the machine.

The track D is supported from the ground and is concentric with the machine. Said track is characterized by alternate rises and dips, so that it presents an undulating surface, a rise or elevation being opposed diametrically by a dip or depression of corresponding value relative to the plane of the horizontal axis of the arm B.

The arm B is provided on its under side with anti-friction members adapted to engage the track D as the frame A is rotated.

Thus I have shown said arm provided with socket plates 17 having sleeves which extend upwardly to receive the stems 18 of yoke members 19 in which are journaled the axles of the rollers 20.

Said rollers run along the track D and to insure contact between the rollers and the track, I prefer to coil helical springs 21 about the stem 18 between the yokes 19 and the faces of plates 17. Thus should the track, owing to faulty construction or subsequent sinking, lose its correct balanced contour, the springs 21 will compensate therefor, and maintain contact between the arm and the track. The top surface of the track is inclined or pitched radially of the machine so that the rollers will always maintain full contact therewith. I prefer to make the stems 18 and the sleeves receiving said stems of oval cross section to prevent the stems turning in the sleeves.

I have described the preferred form for imparting rotary movement to the central frame, but if desired the base of the frame may, as in Fig. 6, be provided with a flat annular surface 22 which may rest on an annular series of wheels 23, journaled in housings 24 carried by a fixed base 25, one or more of said wheels being power-driven as by a motor F'. In Fig. 7 I show the frame provided with wheels which run on the fixed annular track, as in the preferred form, but the frame A in Fig. 7 is shown provided with a horizontally disposed cable sheave 26 which is engaged by the cable 27 which runs to the side where it may be wound around a power-driven drum or other driving device, not shown.

It is evident from the foregoing that as the central frame is rotated, the arm B and the passenger cars will revolve about the axis of the machine. said arm at the same time oscillating vertically on its horizontal axis, owing to its engagement with the undulating track D, thus imparting to the cars a swooping or undulating movement which is considered highly entertaining in the art, the propellers of the aeroplane cars revolving at great speed.

The undulations of the track may be made relatively very abrupt, owing to the fact that the cars will not tip in a plane tangential to their path of revolution. thus avoiding the danger of throwing out the passengers which would result if tipping were possible.

The machine is compact and thus readily made portable to be carried from place to place, lending itself readily to a "knock-down" construction, and it is also both inexpensive to manufacture, and thoroughly durable.

What I desire to claim is:—

1. In an amusement device of the character described, the combination with two concentric annular tracks, the inner track maintaining a constant elevation while the outer track has an undulating top surface, of a central support provided with wheels whereby it is rotatably mounted on the inner track, an arm diametrically disposed relative to said central support and pivotally mounted thereon intermediate of the ends of said arm so as to swing on a horizontal axis, said arm engaging said outer track at two diametrically opposite points, and passenger cars mounted on the opposite ends of said arm, whereby when said support is rotated said cars travel around the axis of the amusement device in a swooping or undulating manner.

2. In an amusement device of the character described, the combination with two concentric annular tracks, the inner track maintaining a constant elevation while the outer track has an undulating top surface, of a central support provided with wheels whereby it is rotatably mounted on the inner track, an arm diametrically disposed relative to said central support and pivotally mounted thereon intermediate of the ends of said arm so as to swing on a horizontal axis, rollers on the opposite sides of the axis of said arm which engage the outer track at diametrically opposite points, and passenger cars mounted on the opposite ends of said arms, whereby when said support is rotated said cars travel around the axis of the amusemnt device in a swooping or undulatıng manner.

3. In an amusement device of the character described, the combination with two concentric annular tracks. the inner track maintaining a constant elevation while the outer track has an undulating top surface, of a central support provided with wheels whereby it is rotatably mounted on the inner track, an arm diametrically disposed relative to said central support and piv-

otally mounted thereon intermediate of the ends of said arm so as to swing on a horizontal axis, resiliently mounted rollers in the underside of the arm and engaging the outer track at diametrically opposite points, and passenger cars mounted on the opposite ends of said arms, whereby when said support is rotated said cars travel around the axis of the amusement device in a swooping or undulating manner.

Signed at Sandusky, Ohio, this 14th day of February, 1922.

JOHN A. FISHER.