J. A. FISHER.

AMUSEMENT DEVICE.

APPLICATION FILED APR. 19, 1917.

1,286,177.

Patented Nov. 26, 1918.

3 SHEETS—SHEET 1.

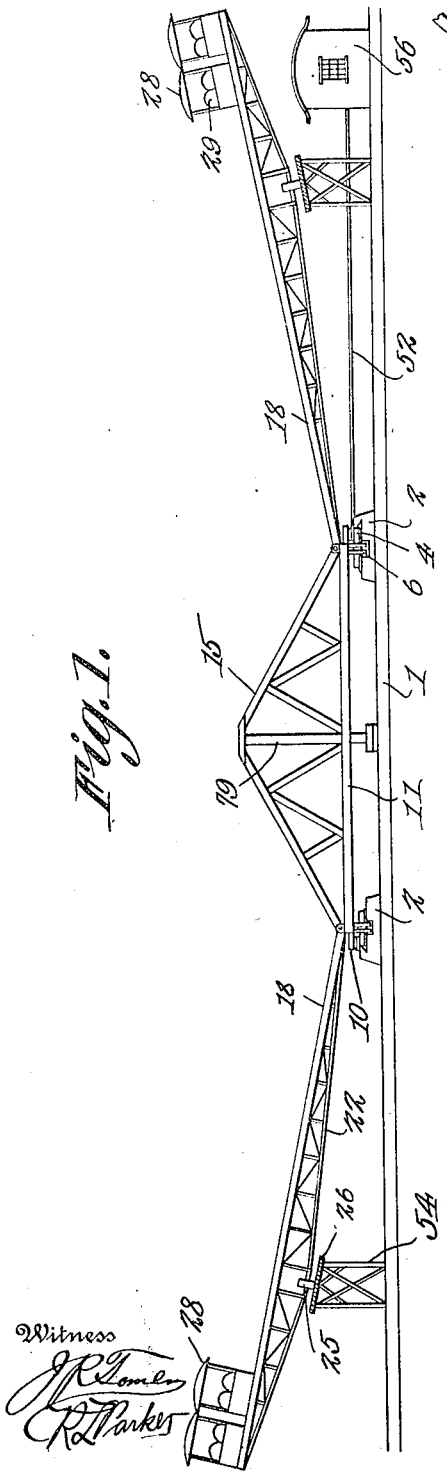

Fig. 1.

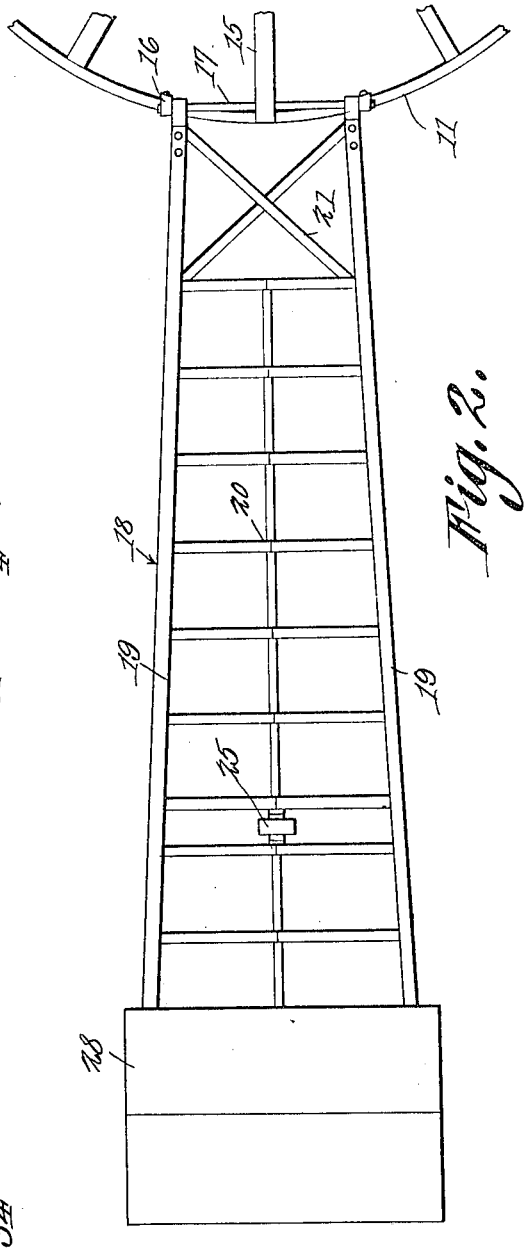

Fig. 2.

Witness

J. R. Tomlin

R. L. Parker

Inventor

J. A. Fisher

By C. A. Snow & Co.

Attorneys.

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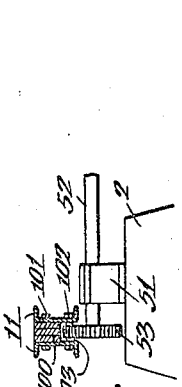

Fig. 5.

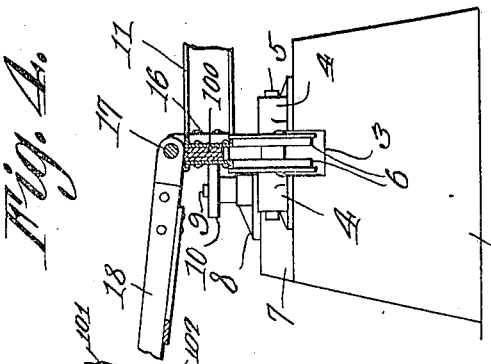

Fig. 4.

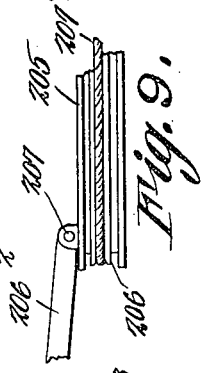

Fig. 9.

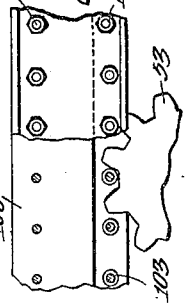

Fig. 6.

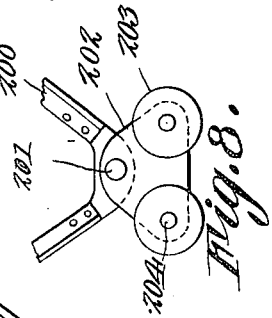

Fig. 8.

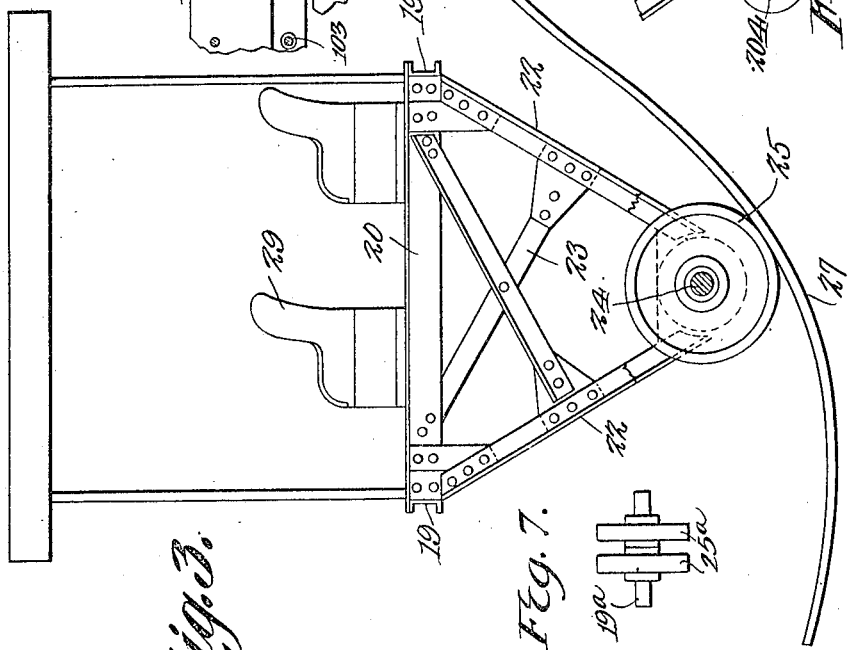

Fig. 3.

Fig. 7.

Witness

J. P. Lomen

R. L. Parker

Inventor

J. A. Fisher

By C. A. Snow & Co.

Attorneys.

J. A. FISHER.

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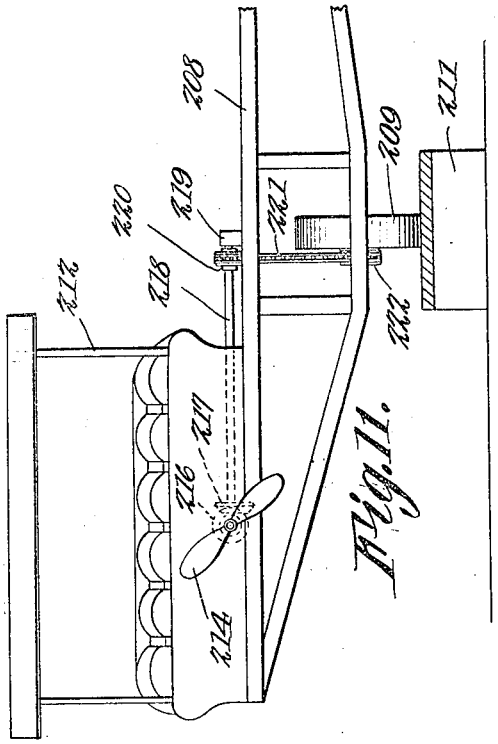

Fig. 11.

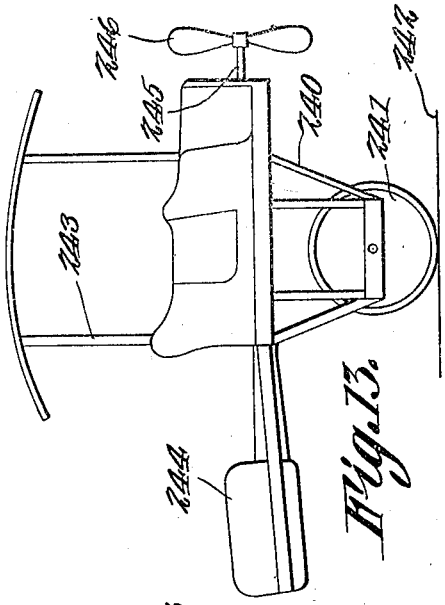

Fig. 13.

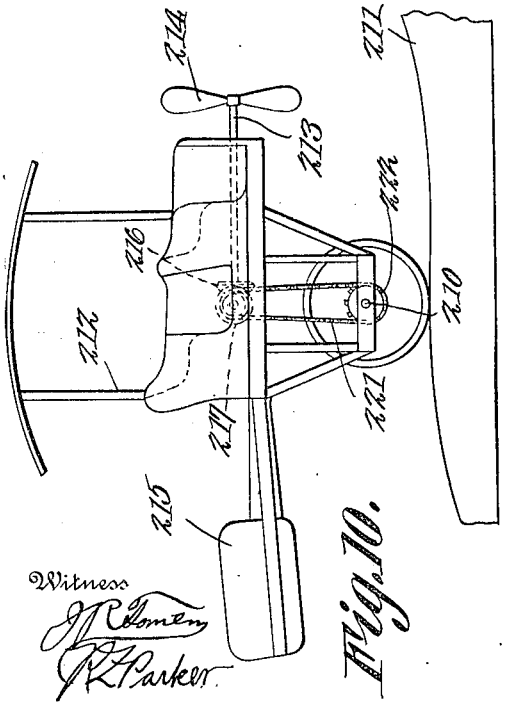

Fig. 10.

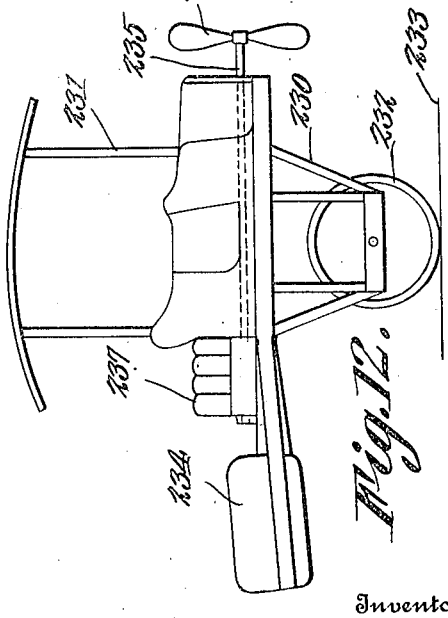

Fig. 12.

Witness

J. C. Tomeny

R. Parker

Inventor,

J. A. Fisher

By C. A. Snow & Co.

Attorneys.

UNITED STATES PATENT OFFICE.

JOHN A. FISHER, OF HOMESTEAD, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO H. WALLACE FISHER, OF McKEESPORT, PENNSYLVANIA.

AMUSEMENT DEVICE.

1,286,177. Specification of Letters Patent. Patented Nov. 26, 1918.

Application filed April 19, 1917. Serial No. 163,219.

To all whom it may concern:

Be it known that I, JOHN A. FISHER, a citizen of the United States, residing at Homestead, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Amusement Device, of which the following is a specification.

The structure forming the subject matter of this application is an amusement device of the roundabout type, and one object of the invention is to provide novel means whereby a vertical movement combined with an orbital movement may be imparted to carriages which are supported at the periphery of the structure.

Another object of the invention is to provide novel means whereby the carriages may be given a combined vertical and orbital movement, without causing the carriages to tilt forwardly or backwardly.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 is a vertical section of an amusement device constructed in accordance with the present invention, remote parts being omitted;

Fig. 2 is a top plan showing one of the arms and attendant parts;

Fig. 3 is a transverse section taken through one of the vertically moving arms;

Fig. 4 is a sectional detail showing a portion of the turntable and parts carried thereby;

Fig. 5 is a section taken through the turntable of Fig. 1;

Fig. 6 is a side elevation, parts being broken away, the view depicting the way in which the turntable is built up;

Fig. 7 is a fragmental elevation showing a slight modification in the supporting wheels.

Fig. 8 is a side elevation showing a modified wheel construction;

Fig. 9 is a fragmental side elevation showing a modified driving means;

Fig. 10 is a side elevation showing a modification in the carriage;

Fig. 11 is an end elevation of the structure shown in Fig. 10;

Fig. 12 is a side elevation showing a further modification in the carriage;

Fig. 13 is a side elevation wherein the carriage is shown as modified still further.

In the accompanying drawings and referring particularly to Figs. 1 to 4, there is shown a support 1 carrying an annular inner track 2 having a groove 3 in its top. Although the part 2 has been called a "track," the use of this term does not imply that the part 2 is circumferentially continuous. As shown, it is made up of spaced piers. The track 2 is provided with bearings 4 on opposite sides of the groove 3. The bearings 4 support shafts 5. On each shaft 5, a pair of flanged wheels 6 is journaled. The track 2 has bosses 7 at intervals, carrying brackets 8 supporting vertical shafts 9 on which horizontal wheels 10 are rotatable. The invention comprises a turntable or ring made up of channel members 11 held apart by fillers 100. Bolts 101 pass through the channel members 11 and through the fillers 100. Bolts 102 connect the channel members 11 below the lower edges of the fillers 100, and on the bolts 102 are journaled tubular sleeves 103. The turntable is supported for rotation on the wheels 6. The horizontal wheels 10 engage the outer channel member 11 of the ring or turntable and offset any tendency in the ring or turntable to move horizontally. A bearing 51 is mounted on the "track" 2 as shown in Fig. 5, and carries a shaft 52 provided with a pinion 53 meshing into the rack composed of the sleeves 103 on the bolts 102. The table may be reinforced

by trusses 15, and may include a central post, 79, coacting with the support 1, to aid in upholding the table. The turntable 11 is provided with supports 16, as shown best in Fig. 4, the supports carrying shafts 17.

Mounted to swing vertically on the shafts 17 are arms 18 which may be constructed as desired. In the present instance, but not of necessity, the arms 18 include side bars 19 connected by ties 20, and united near to the ring or turntable by counters 21. The bars 19 may be reinforced by underlying trusses 22 which converge as they extend downwardly, as shown in Fig. 3, the trusses 22 being connected by crossed counters 23. Axles 24 are carried by the trusses 22. Each axle supports a single wheel 25 coöperating with an outer track 26 of annular form, the track 26 being supported on a suitable framework 54. As shown in Fig. 1, the track 26 slants inwardly, and the track 26 may be provided with any desired number of vertical curves or dips, one of which appears at 27 in Fig. 3. Mounted on the arms 19 adjacent the outer ends thereof are canopies 28 containing seats 29.

When the turntable is rotated, the arms 19 are carried around along with the turntable, the canopies 28 moving in an orbit. Because the arms 19 are pivoted to the turntable for vertical movement, the wheels 25 coöperate with the dips or vertical curves 27 of the outer track 26. Because the outer track 26 slants inwardly, as shown in Fig. 1, the wheels always have a firm bearing on the track. Especial attention is directed to the fact that each arm 19 carries a single wheel 25. Owing to this construction, the canopies or carriages 28 maintain a horizontal position, although they may rise and fall to coöperate with the dips or curves 27. The construction is such that the passengers in the carriages or canopies 28 are never pitched forwardly or rearwardly, when the arms 19 rise and fall, following the dips or curves 27. Since a single wheel 25 is used, the canopies or carriages 28 always remain in a horizontal position. The passengers in the carriages 28 experience no shock when the low points of the track 26 are reached, and the construction is such that the dips 27 may be made as abrupt as desired.

The numeral 56 denotes a power house to which the shaft 52 extends.

It has been pointed out hereinbefore that the arm 19 carries a single wheel 25. In Fig. 7 of the drawings, the arm is indicated by the reference character 19^a and is provided with two wheels 25^a. The wheels 25^a are in alinement and will operate substantially the same as the single wheel 25, so far as permitting the structure to accommodate itself to the curves 27 is concerned.

In Fig. 8 of the drawings, the truss at the outer end of the vertically swinging arm is denoted by the numeral 200 and carries a pivot element 201 on which a truck 202 is mounted to swing, the truck 202 carrying wheels 203 supported for rotation by axles 204. Since the truck 202 is pivoted at 201 to the truss 200, the truck has an important compensating movement in the operation of the structure.

As indicated in Fig. 9, the turntable may be in the form of a channel member 205 to which the arm 206 is pivoted at 207. The channel member 205 is provided with any suitable means 206 for receiving a cable 207 whereby the turntable may be rotated.

In Figs. 10 and 11, the vertically swinging arm is denoted by the numeral 208, and a wheel 209 is journaled at 210 on the arm, the wheel 209 being adapted to coöperate with the track 211 as hereinbefore set forth. The canopy or carriage is designated by the reference character 212 and in the carriage 212 is journaled a shaft 213 carrying a propeller 214, the carriage 212 being supplied with the necessary adjuncts of the kind indicated at 215, so that the carriage, in appearance, may simulate an aeroplane. The propeller 214 is merely a dummy, added for the sake of appearance, to the end that the structure may resemble an aeroplane. On the shaft 213 is mounted a beveled pinion 216 meshing into a beveled pinion 217 on a shaft 218 journaled at 219 on the arm 208. The shaft 218 is supplied with a sprocket wheel 220 about which is trained a sprocket chain 221 engaged around the sprocket wheel 222 carried by the shaft 210 which rotates with the wheel 209. When the wheel 209 is rotated by contact with the track 211, motion is imparted to the shaft 218 through the sprocket wheel 222, the sprocket chain 221 and the sprocket wheel 220, and from the shaft 218, rotation is imparted to the propeller shaft 213 by means of the intermeshing beveled pinions 216 and 217.

In this way, the dummy propeller 214 is made to rotate rapidly, giving the device the general appearance of an aeroplane.

In Fig. 12 of the drawings, the vertically swinging arm is denoted generally by the numeral 230 and supports a carriage 231. A wheel 232, journaled on the arm 230, cooperates with the track 233. As indicated at 234, the carriage 231 is constructed to represent an aeroplane, and journaled suitably in the carriage 231 is a shaft 235 carrying a propeller 236. In this form of the invention, the propeller shaft 235 is actuated by an engine 237 carried by the arm 230, and constituting a part of the carriage 231. When the engine 237 is put into operation, the propeller shaft 235 is rotated, and the propeller 236 will cause the turntable with which the arm 230 is connected, to

rotate. In this form of the invention, no driving means other than the engine 237 and the propeller 236 is employed. The part 237 has been best designated as an "engine", but it is to be understood that this term is intended to permit the use of any suitable motor driving means whereby the shaft 235 may be rotated.

In Fig. 13 of the drawings, the arm is shown at 240, and a wheel 241 is journaled on the arm, the same being adapted to cooperate with the track 242. The carriage is denoted by the numeral 243 and is constructed, as indicated at 244, to represent an aeroplane. A shaft 245 is journaled in the carriage 243 and carries a dummy propeller 246. In this form of the invention, the dummy propeller has nothing to do with the operation of the structure, but is added merely for the sake of appearance, like the propeller 214. No specific driving means for the propeller 246, however, is provided, the same being rotated by contact with the air, when the structure is in operation.

Having thus described the invention, what is claimed is:—

1. In an amusement device, a rotary support; a track about the support and having vertical dips; a rigid arm pivoted to the support for swinging movement in a vertical plane; a wheel structure mounted on the arm; and a passenger carrier mounted on the arm, the wheel structure being in continuous contact with the track, and the carrier being in the form of an aeroplane fixed on the arm against movement independently of the arm and projecting forwardly from the arm, whereby when the wheel structure descends the dips of the track, the gliding effect of an aeroplane will be produced while the wheel structure is in contact with the track and while the carrier is supported by the track.

2. An amusement device comprising a turn table; means for supporting the turn table for rotation; an arm pivotally assembled with the turn table for vertical swinging movement; a wheel mounted on the arm; a circular track having vertical dips wherewith the wheel coacts; a passenger carrier mounted on the arm; a shaft supported for rotation with respect to the carrier; a propeller wheel carried by the shaft; and means for operatively connecting the shaft with the track engaging wheel.

3. An amusement device comprising a turntable; means for supporting the turntable for rotation; an arm pivotally assembled with the turntable for vertical swinging movement; a wheel mounted on the arm: a circular track having vertical dips wherewith the wheel coacts; a passenger carrier mounted on the arm; an imitation propeller journaled on the carrier; and means for operatively connecting the propeller with the wheel, whereby the wheel will impart rotation to the propeller when the wheel is rotated by contact with the track.

4. An amusement device comprising a central rotary frame, a surrounding track having vertical dips, arms radiating from the frame each arm pivoted to swing about one horizontal axis only, a passenger carrier rigidly secured to each arm, and a wheel member associated with each arm for engagement with the track whereby said passenger carriers are caused to travel around said track following the dips thereof without tilting from their substantially horizontal position.

5. An amusement device comprising a central rotary frame, an annular track concentric with said frame and provided with vertical dips, a radial arm extending from said frame and horizontally pivoted thereto to have movement relative to the frame in a single vertical plane only, a passenger carrier rigidly mounted on the outer portion of said arm, and a wheel member carried by said arm and engaging said track, whereby said passenger carrier is caused to travel around said track following the dips thereof without tilting from its substantially horizontal position.

6. An amusement device comprising a central rotary frame, a surrounding track having vertical dips, a rigid arm horizontally pivoted to the frame for swinging movement in a single vertical plane only, a passenger carrier rigidly fixed on the arm, and a wheel structure carried by the frame for engagement with the track, whereby said passenger carrier is caused to travel around said track following the dips thereof without tilting from its substantially horizontal position.

7. An amusement device comprising a central rotary frame, a surrounding track having vertical dips, arms radiating from the frame and horizontally pivoted thereto to have movement relative to the frame in a single vertical plane only, a passenger carrier rigidly secured to each arm, a depending truss member secured to each of said arms, a shaft rigidly secured to the truss member, and a wheeled structure pivotally supported on said shaft for engagement with the track, whereby said passenger carriers are caused to travel around said track following the dips thereof without tilting from their substantially horizontal position.

8. An amusement device comprising an inner track, vertical wheels carried by the inner track, horizontal wheels carried by the inner track, a turntable supported for rotation on the vertical wheels and engaged by the horizontal wheels against lateral

movement, arms having their inner ends horizontally pivoted to the turntable to have movement relative thereto in a single vertical plane only, an outer track having vertical dips, a passenger carrier rigidly mounted on each of said arms, a wheel member associated with each arm for engagement with the outer track, and means for imparting rotation to the turntable, whereby said passenger carriers are caused to rotate around the outer track following the dips thereof without tilting from their substantially horizontal position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN A. FISHER.

Witnesses:

JOHN W. SMART,

JOHN W. GARDNER.