

1,379,185.

J. A. HEALY.

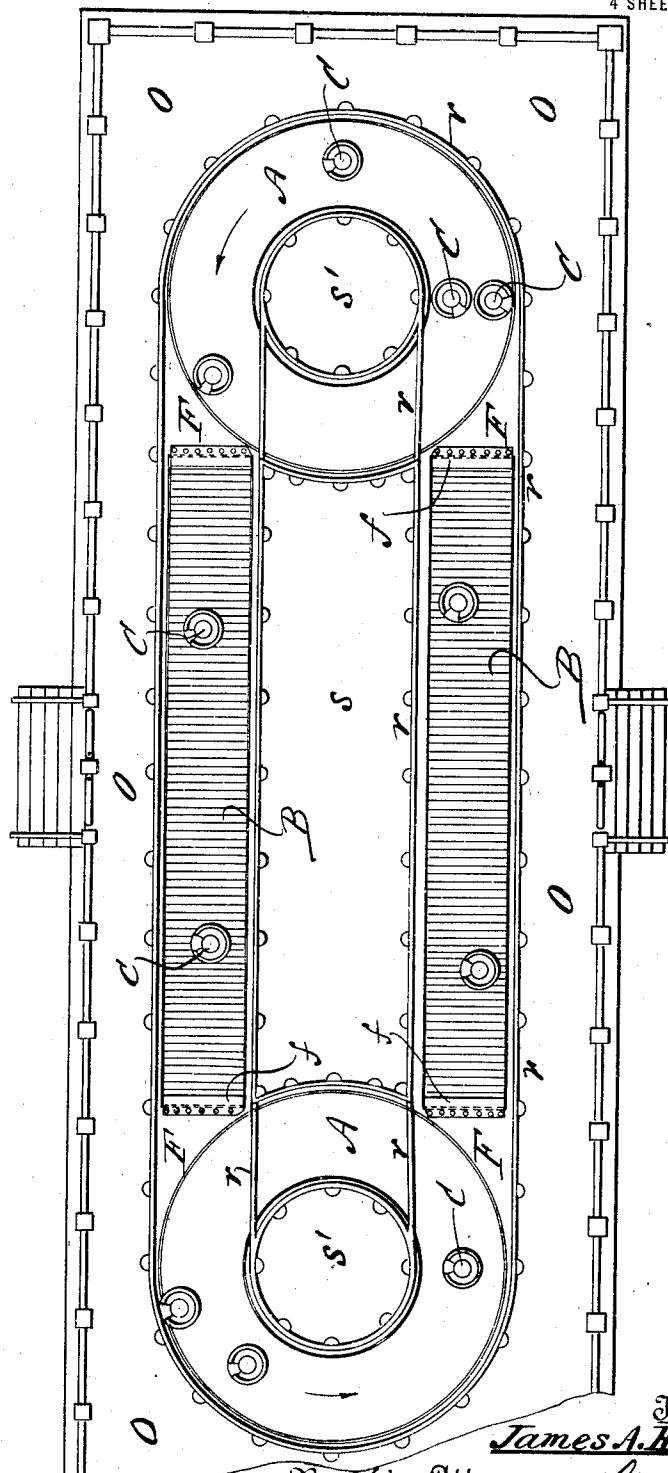
AMUSEMENT APPARATUS.

APPLICATION FILED FEB. 10, 1921.

Patented May 24, 1921.

4 SHEETS—SHEET 1.

Fig. 1.



Inventor:

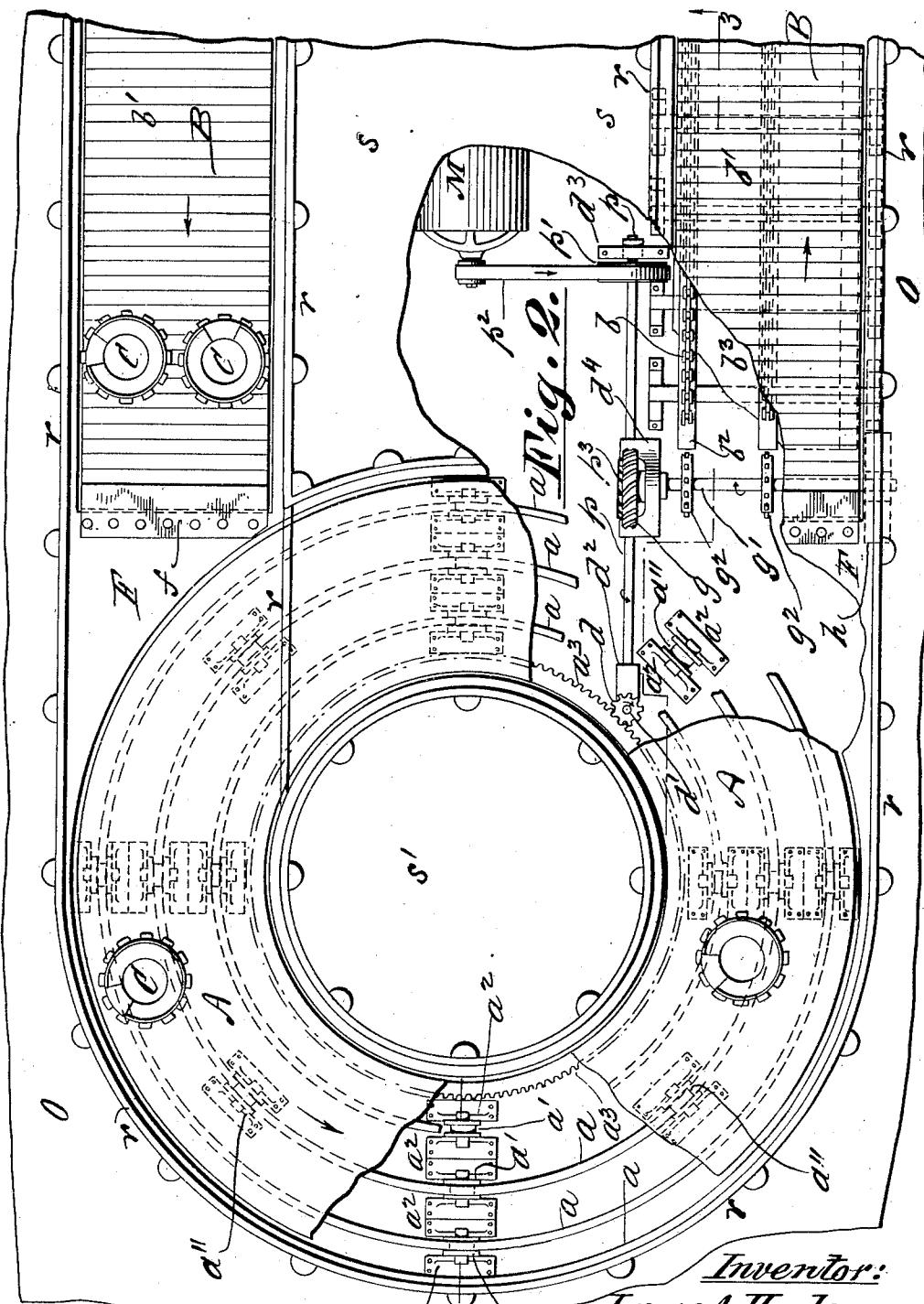
James A. Healy,
By his Attorney, Geo. F. Math

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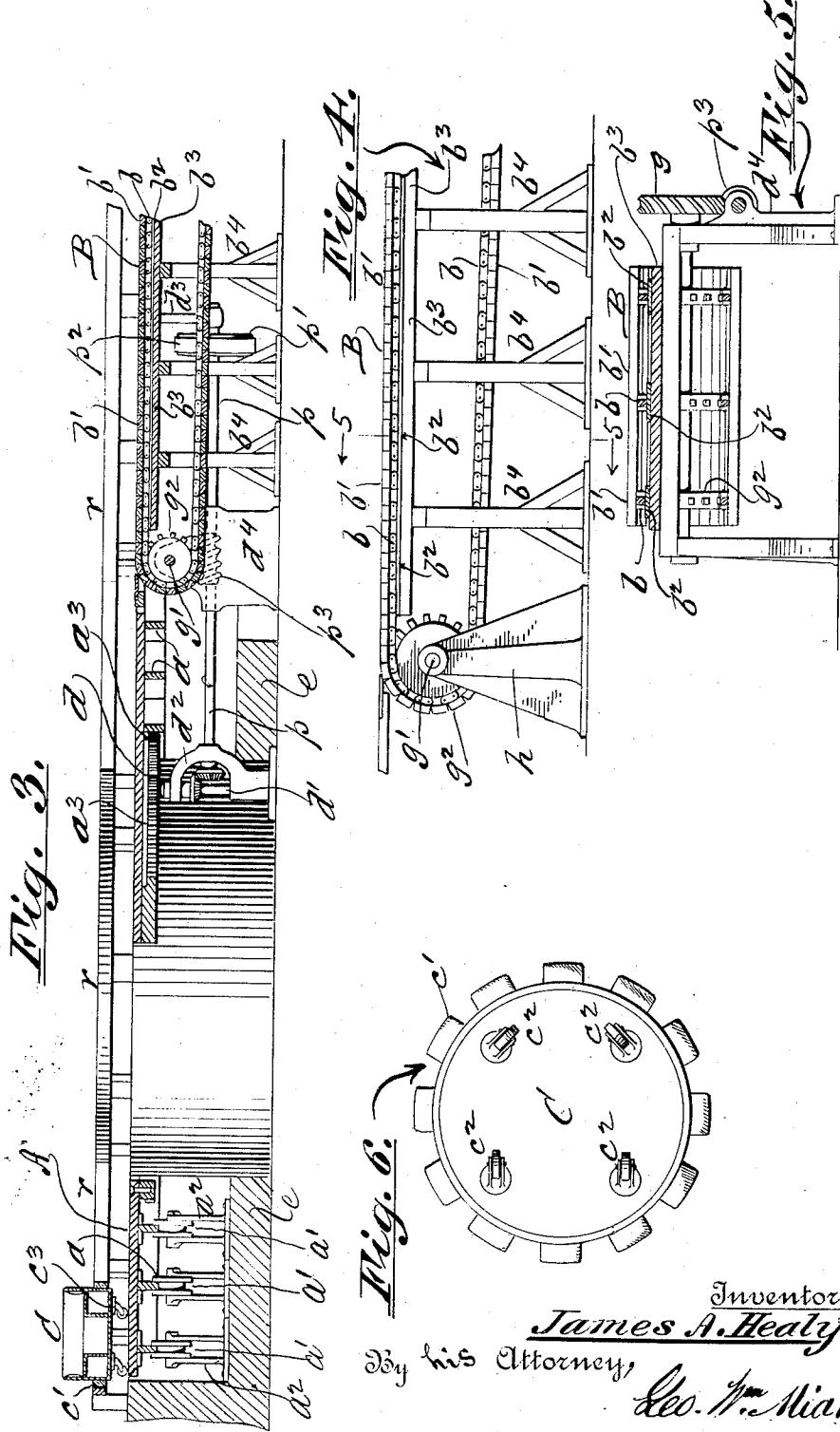
Inventor:
James A. Healy,
By his Attorney,
Leo. W. McAtt

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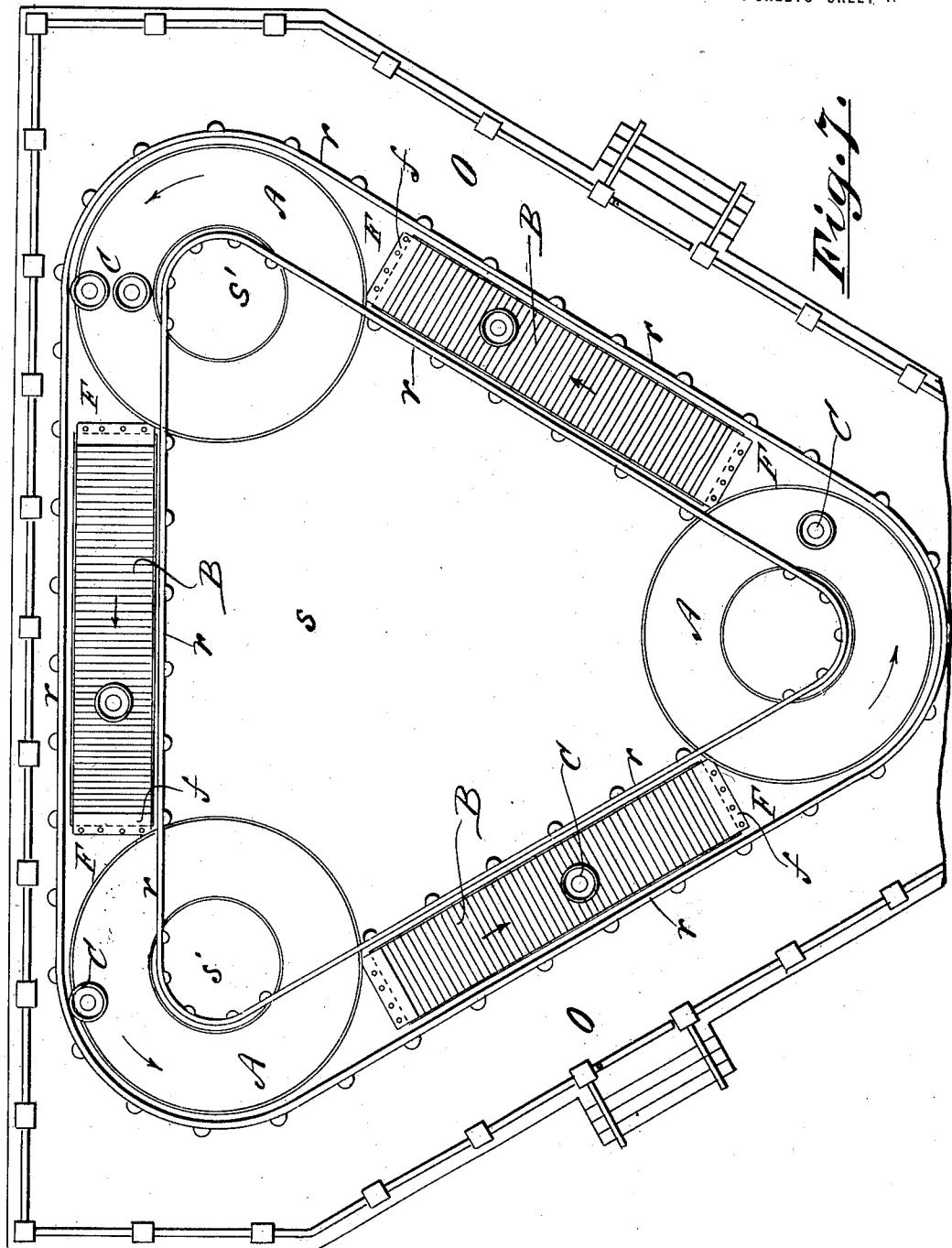


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4 SHEETS-SHEET 4.



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Geo. W. Heath

UNITED STATES PATENT OFFICE.

JAMES A. HEALY, OF BROOKLYN, NEW YORK.

AMUSEMENT APPARATUS.

1,379,185.

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To all whom it may concern:

Be it known that I, JAMES A. HEALY, a citizen of the United States, and a resident of the borough of Brooklyn, county of 5 Kings, city and State of New York, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification.

My improvements relate to the class of 10 amusement devices in which independently rotatable cars, or "tubs" so called, are provided for the conveyance and entertainment of passengers over a prescribed route. The object of my invention is to increase the 15 scope, efficiency, usefulness, and attractiveness of apparatus of this class by extending and varying the route traversed by the rotatable tubs as compared with the prior state of the art, and at the same time to render the apparatus simple in construction 20 and operation, and safe for patrons.

To this end the invention consists in the specific combination of parts and devices herein described and claimed, a distinctive 25 feature being the use of a plurality of rotating platforms in conjunction with a plurality of intermediately positioned traveling platforms arranged to transfer the free, independently rotatable passenger "tubs" or 30 cars from one rotatable platform to the other, substantially as hereinafter set forth, whereby a practically continuous, endless route is afforded, over and around which the cars are transmitted individually and 35 collectively in a promiscuous manner, causing merriment for occupants and spectators alike.

In the accompanying drawings,

Figure 1, is a plan of an installation of 40 apparatus embodying the essential features of my invention;

Fig. 2, is a plan of one end thereof on a larger scale, broken away in part for convenience of illustration;

Fig. 3, is a vertical section taken upon 45 plane of the zig-zag line 3—3, Fig. 2;

Fig. 4, is a side elevation of an extremity of one of the endless traveling platforms, supports, etc.;

Fig. 5, is a transverse section taken upon 50 plane of line 5—5, Fig. 4;

Fig. 6, is a view of the under side of one of the passenger cars or tubs;

Fig. 7, is a plan similar to Fig. 1, showing 55 a modification wherein three rotating plat-

forms and three intermediate transfer platforms, are combined in one unitary installation.

My apparatus consists essentially of two or more rotating platforms A, A, between 60 which are positioned endless traveling platforms B, B, arranged to transfer the cars or tubs C, C, from one rotating platform to the other, said rotating platforms A, A, traveling in the same direction, and the 65 transfer platforms B, B, in opposite directions as related to each other, so as to convey the tubs C, alternately from one rotating platform A, to the other.

As shown by way of exemplification in 70 the drawings, the rotating platforms A, A, are annular in shape, their under sides having annular rail flanges a, rigidly attached thereto, which rest upon and travel on grooved rollers a', a', mounted in suitable 75 bearings a², a², supported on the basic structure e. In Fig. 2, of the drawings the rotatable platform A, therein shown is provided with three concentric flanges a, a, a, for which three equidistant sets of rollers 80 a', a', are provided, with intermediate rollers a'', a'', (Fig. 2) for the middle flange, so as to effectually steady and centralize the said rotatable platform A.

The under side of the rotatable platform 85 A, has also rigidly attached to it an annular gear rack a³, with which meshes a driving pinion d, upon the upper end of a countershaft d', mounted in a bearing standard d², which also supports the drive end of a 90 power shaft p, the driven end of which is mounted in a fixed bearing d³, secured to a stationary part. The power shaft p, is provided with a pulley p', for engagement with a power-transmitting belt p², driven by an 95 electric motor M, or equivalent source of motion and power, as may be found most expedient.

The power shaft p, is also journaled on a 100 pillow block d⁴, and has rigidly affixed to it a worm p³, with which meshes a worm gear g, on the inner end of a horizontal countershaft g', positioned at right angles to the power shaft p, and journaled in said pillow block d⁴, and on a fixed standard h, 105 (Figs. 2 and 4). This horizontal countershaft g', has rigidly mounted upon it the sprocket wheels g², g², which engage with and drive the endless sprocket chains b, b, to which the slats b', b', constituting the 110

traveling platform B, are articulately secured in a manner well known in the art, the upper strands of said endless chains b, b, traveling over and being supported upon 5 longitudinal traction rail plates b², b², resting on a longitudinal table b³, supported in turn on truss standards b⁴, b⁴, as shown more particularly in Figs. 3, 4 and 5.

It is to be understood that the endless 10 chains b, b, and slats b', b', are supported at the other extremity of the endless loop by means of a corresponding shaft and sprocket wheels, around which the flexible platform B, travels as an endless belt, in a manner 15 well known in the art.

F, F, are stationary floors positioned between the rotating platforms A, A, and the traveling platforms B, B, for the purpose of bridging over the intervening spaces, the top 20 surfaces of said bridge floors F, F, being on a level with the common superficial planes of both the rotatable platforms A, and the traveling platforms B, so that the tubs C, will readily roll over said bridge surfaces 25 F, F, under the impetus imparted to them by said traveling surfaces. f, f, are span plates countersunk in the edges of the bridge floors F, F, adjacent to the bights of the endless platforms B, B, to compensate for the curvatures 30 of said traveling platforms as they pass around the sprocket wheels g², g².

The construction and arrangement of parts above described may be duplicated for each rotatable platform A, and endless traveling platform B, incorporated in the device, considered as a unitary structure or installation. That is to say, each rotatable platform and one traveling platform may be actuated by correlated operative parts and mechanism 40 as exemplified in Figs. 2 and 3, although if preferred, or rendered desirable by exigencies of installation, each platform, both rotatable and traveling, may be driven and controlled independently without departing from the spirit and intent of my invention in this respect, the essential feature being the interposition of traveling transfer platforms B, between the rotatable platforms A, substantially as herein set forth, 45 and for the purpose specified.

In this connection it may be noted that any plural number of rotating platforms A, A, and intermediate traveling platforms B, B, may be installed to act in conjunction and 55 correlation. Thus in Fig. 1, I show a duplex arrangement of parts, whereas in Fig. 8, the same principle is incorporated in a triple installation, with like results; and obviously four or more rotatable platforms and intermediate 60 endless traveling platforms might in like manner be combined in one installation if properly spaced apart.

Obviously also, the direction of motion is not material provided the traveling platforms B, operating in conjunction with each 65

rotatable platform A, travel in opposite directions, so that one delivers the passenger tubs C, to the rotatable platform and the other receives said cars therefrom.

The "tubs" or rotatable cars C, are preferably although not necessarily of circular form, being provided peripherally with buffers c', for contact with the other cars and with the guard rails r, r, which latter prescribe the course of travel and lateral play of the tubs within certain limits. Each tub C, is mounted upon a plurality (three or more) of caster wheels or rollers c², c², which allow the car to travel freely and independently over the supporting surfaces 80 under the impetus imparted thereby. Thus, the centrifugal force exerted upon the cars by the rotating platforms A, will cause the cars to travel tangentially into contact with concentric portions of the guard rails r, r, 85 the impact of such contact causing the car to rotate on its center, and tending to impart centripetal motion thereto, so that in passing around the end curves of the route the motion of the cars will be more or less 90 erratic and irregular. Furthermore as the cars C, are free to move laterally on the endless traveling platforms B, B, the independent motion thus acquired by the cars will cause them to carom against each other and 95 against the side guide rails r, the heavier laden cars traveling faster over the route than the others by reason of the fact that they cling more tenaciously to the supporting surface than the lighter laden cars, thus 100 adding an element of chance to the speed and time involved in circumambulatory travel, with possible complications incidental to temporary contactual engagement with the guard rail and other cars.

It is to be understood that by the term "guard rail" as herein employed I mean to designate and include any equivalent structure or means for limiting and prescribing the path of transit of the cars C, over both 110 the rotatable platforms A, and the traveling transfer platforms B, substantially as herein set forth.

In this connection attention is called to the fact that while ample provision is made for conveying the cars over a pre-determined route, the motion of the cars is not positive in that they are each and all free to adapt themselves separately to circumstances incidental to travel as above indicated,—resulting in whirling or gyratory movements imparted to the cars individually, independent of and in addition to their bodily conveyance over the route by the moving supporting surfaces.

Another element of variable car motion may be attained and imparted thereto by differentiating the superficial speed of the rotatable platforms A, as related to that of the transfer platforms B, so that the trans-

fer of the cars from the traveling platforms B,—to the rotatable platforms A, will retard or accelerate the motion of said cars, as the case may be. Thus, for instance, the superficial speed of the rotatable platforms A, 5 may be greater than that of the traveling platforms B, imparting sufficient centrifugal motion to the cars to cause them to impinge more or less forcefully against the concentric 10 portion of the guard rail *r*, thereby causing said cars to rotate and gyrate as they swing around the curve.

The construction and operation of my amusement apparatus is comparatively simple and inexpensive, there being no complication of parts, while the danger of breakage is reduced to a minimum. Furthermore the fact that the cars are not positively dragged around the course mitigates and 20 reduces the danger of accident to the passengers therein.

Another advantage attained by my combination and arrangement of parts and devices is that the operative mechanism is hidden 25 entirely from view, and isolated and protected in such a way that the same cannot be blocked or tampered with in any manner whatsoever, by outsiders,—the only visible and accessible operative part being the upper surfaces of the platforms A, B, and the cars C, resting thereon. To this end the spaces *s*, between the traveling platforms B, and the central spaces *s'*, within the annular rotatable platforms A, are inclosed in any 35 suitable manner,—the observation platform O, and outer side walls below the latter marginally inclosing the apparatus.

What I claim as my invention and desire to secure by Letters Patent is,

40 1. In amusement apparatus of the character designated, the combination of a plurality of rotatable platforms, intermediate traveling platforms arranged to convey and transfer a passenger car from one rotatable platform to another, and said passenger car unattached and supported loosely on the movable surfaces of said platforms, for the purpose described.

2. In amusement apparatus of the character 50 designated, the combination of a plurality of rotatable platforms, intermediate traveling platforms arranged to convey and transfer a plurality of passenger cars from one rotatable platform to another and said passenger cars unattached and supported loosely on the movable surfaces of said platforms, for the purpose described.

3. In amusement apparatus of the character 60 designated, the combination of a plurality of rotatable platforms, intermediate traveling platforms arranged to convey and transfer a plurality of passenger cars from one rotatable platform to another, and said passenger cars each independently mounted 65 on a plurality of caster rollers and unat-

tached and supported loosely on the movable surfaces of said platforms, for the purpose described.

4. In amusement apparatus of the character designated, the combination of a plurality of rotatable platforms, intermediate traveling platforms arranged to convey and transfer a plurality of passenger cars from one rotatable platform to another, said passenger cars unattached and supported 70 loosely on the movable surfaces of said platforms, and guard rails positioned to limit and prescribe the route traversed by said passenger cars, for the purpose described.

5. In amusement apparatus of the character designated, the combination of a plurality of rotatable platforms, intermediate traveling platforms arranged to convey and transfer a plurality of passenger cars from one rotatable platform to another, said passenger cars each independently mounted on 80 a plurality of caster rollers and unattached and supported loosely on the movable surfaces of said platforms, and guard rails positioned to limit and prescribe the route 85 traversed by said passenger cars, for the purpose described.

6. In amusement apparatus of the character designated, the combination of a plurality of annular rotatable platforms, intermediate 95 endless traveling platforms arranged to convey and transfer a plurality of passenger cars from one rotatable platform to another, and said passenger cars unattached and supported loosely on the movable 100 surfaces of said platforms, for the purpose described.

7. In amusement apparatus of the character designated, the combination of a plurality of rotatable platforms, intermediate 105 traveling platforms arranged to convey and transfer passenger cars from one rotatable platform to another, bridge floors interposed between said rotatable platforms, and a plurality of passenger cars unattached and supported 110 loosely on the movable surfaces of said platforms, for the purpose described.

8. In amusement apparatus of the character designated, the combination of a plurality of rotatable platforms, intermediate endless traveling platforms arranged to convey and transfer passenger cars from one rotatable platform to another, bridge floors interposed between said rotatable platforms and said endless traveling platforms, guard 115 rails positioned to limit and prescribe the route traveled by the passenger cars, and said passenger cars unattached and supported loosely on the moving surfaces of said platforms, for the purpose described.

9. In amusement apparatus of the character designated, the combination of a plurality of rotatable platforms, intermediate traveling platforms arranged to convey and transfer a plurality of passenger cars from 120

one rotatable platform to another, and said passenger cars each of circular form and independently mounted on a plurality of caster rollers and unattended and supported 5 loosely on the movable surfaces of said platforms, for the purpose described.

10. In amusement apparatus of the character designated, the combination of a plurality of rotatable platforms, intermediate 10 traveling platforms arranged to convey and transfer a plurality of passenger cars from one rotatable platform to another, said passenger cars being each of circular shape and

provided with peripheral buffers and also being independently mounted on a plurality 15 of caster rollers and unattached and supported loosely on the movable surfaces of said platforms, and guard rails positioned to limit and prescribe the route traversed by said passenger cars, for the purpose de- 20 scribed.

JAMES A. HEALY.

Witnesses:

GEO. WM. MIATT,
WILLIAM HEALY.