E. KOHLER.

AMUSEMENT DEVICE.

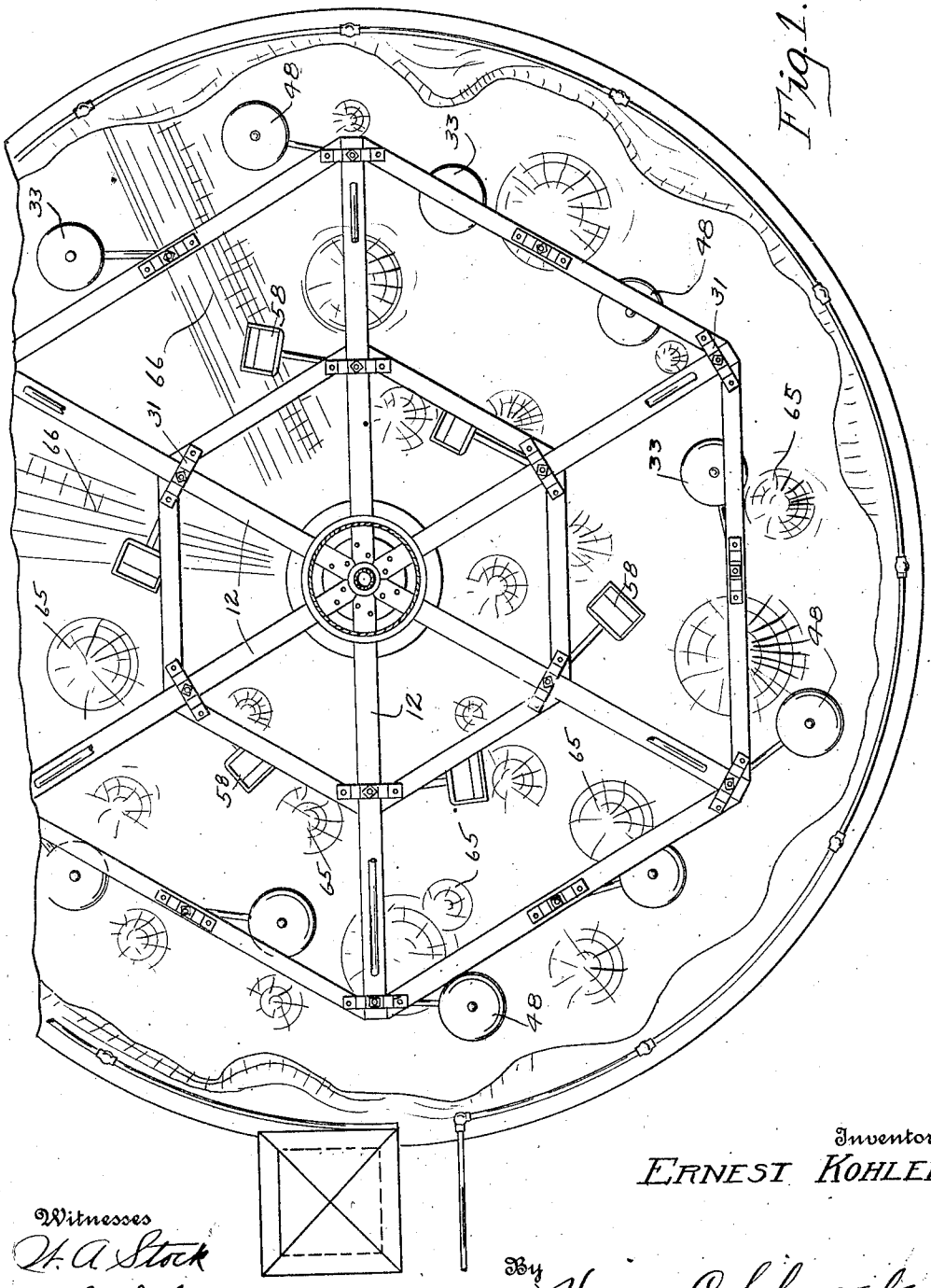
APPLICATION FILED JAN. 17, 1912.

1,058,444.

Patented Apr. 8, 1913.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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F. P. Schroeder

Inventor

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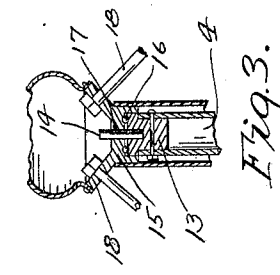

Fig. 3.

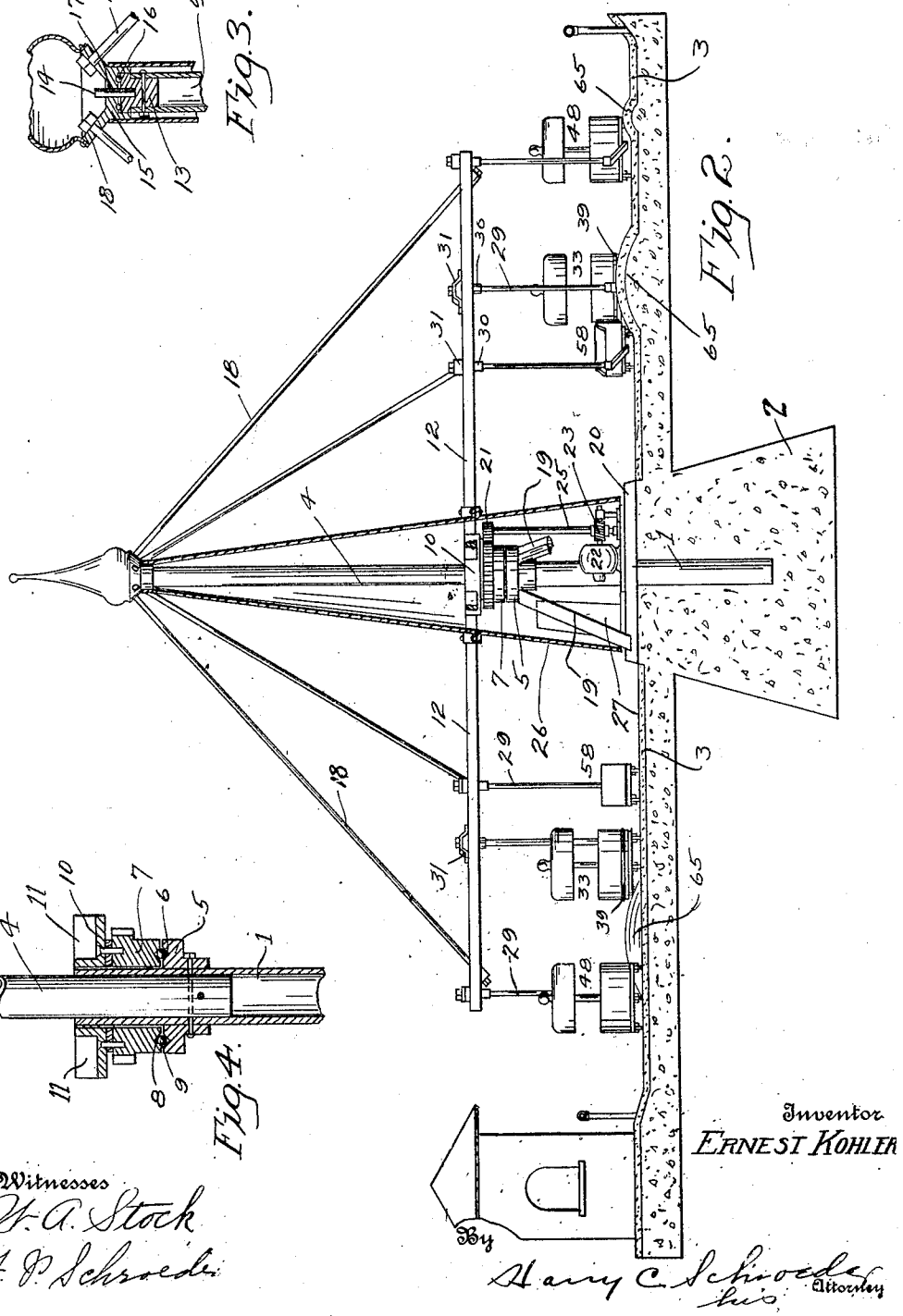

Fig. 2.

Fig. 4.

Witnesses

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4 SHEETS—SHEET 3.

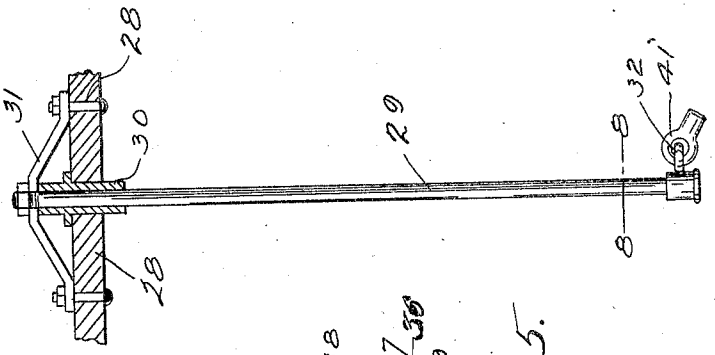

Fig 7

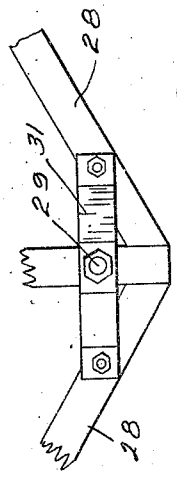

Fig. 9.

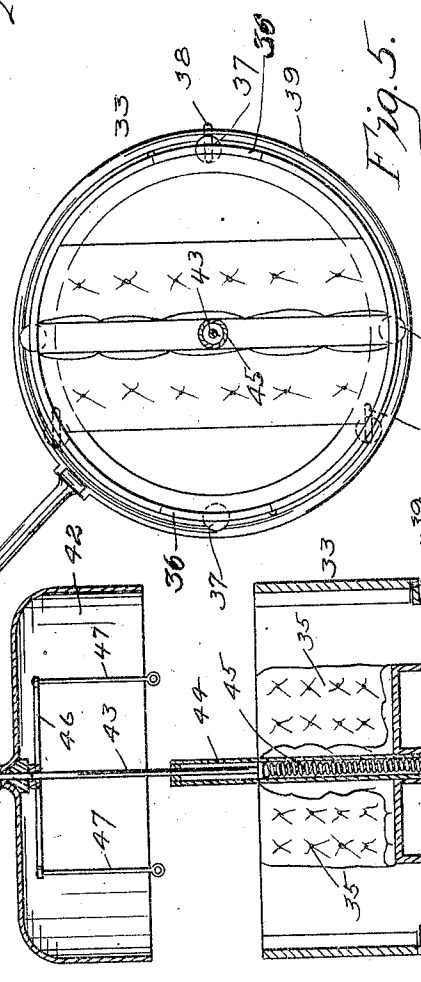

Fig. 5.

Fig. 6.

Fig. 8

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4 SHEETS—SHEET 4.

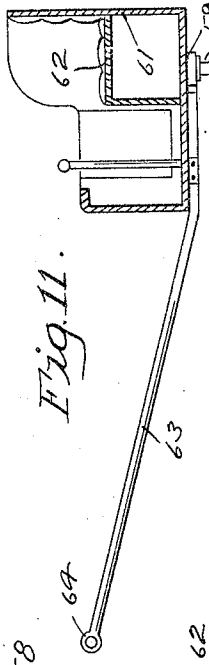

Fig. 11.

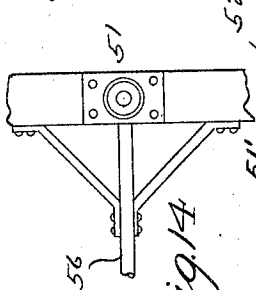

Fig. 14.

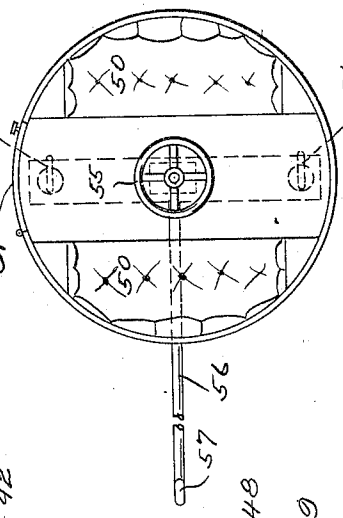

Fig. 13.

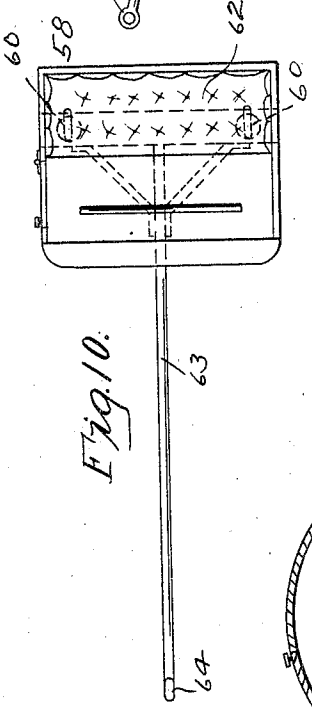

Fig. 10.

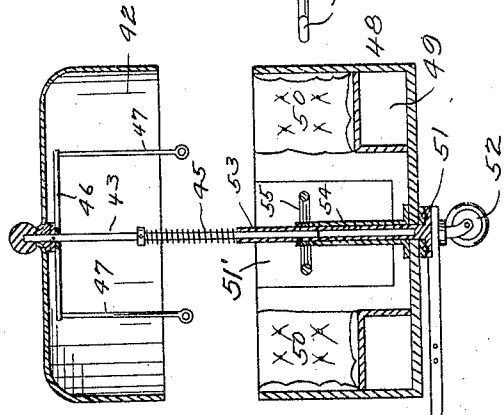

Fig. 12.

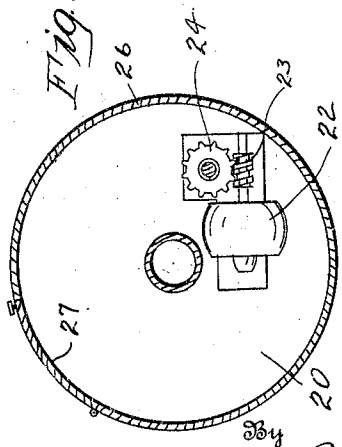

Fig. 15.

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UNITED STATES PATENT OFFICE.

ERNEST KOHLER, OF ALAMEDA, CALIFORNIA, ASSIGNOR OF ONE-HALF TO JOHN ALLEMANN, OF ALAMEDA, CALIFORNIA.

AMUSEMENT DEVICE.

1,058,444. Specification of Letters Patent. **Patented Apr. 8, 1913.**

Application filed January 17, 1912. Serial No. 671,667.

To all whom it may concern:

Be it known that I, ERNEST KOHLER, a citizen of the United States, residing at Alameda, in the county of Alameda and State of California, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification.

My present invention relates to amusement devices, and more particularly to such devices which give pleasure to patronizers through the novel manner in which they are drawn in cars or compartments about a predetermined path of movement.

The principal object of my invention is to provide a device of the character described which is simple in construction and having its elements so disposed that the compound movements which are imparted to the cars are not through mechanism which soon becomes worn out, but which enables the device to be constructed, assembled and maintained at a comparatively reasonable outlay.

A further object of my invention is to so dispose the several elements of the device to accomplish the foregoing, consistent with the safety which is desirable to avoid injury of occupants, of the cars, employees or bystanders.

A further object of my invention is to provide a plurality of cars which, in action, differ in the degree of sensation caused by their movements and whereby a person may select a car according to their desire in this respect.

In the drawings, forming a part of this specification: Figure 1, is a partial plan view of the device, parts being broken away and shown in section to disclose details of the structure. Fig. 2 is a central sectional vertical view through the device embodying my invention, parts being shown in elevation to simplify the view. Fig. 3 is a central vertical view in detail section of mechanism adjacent the upper portion of the supporting standard. Fig. 4 is a similar view adjacent the driving mechanism of a rotatable structure. Fig. 5 is a plan view of one of the types of cars used in connection with the device. Fig. 6 is a central vertical sectional, view through the type of car shown in Fig. 5, and including a canopy structure used in connection therewith. Fig. 7 is an elevation of means for operatively connecting the cars to the rotatable structure, a part being shown in section, to disclose the details of construction. Fig. 8 is a cross sectional view on the line 8—8 of Fig. 7. Fig. 9 is a top plan view of the device as disclosed in Fig. 7. Fig. 10 is a plan view of a modified car. Fig. 11 is a central, vertical sectional view of the car shown in Fig. 10. Fig. 12 is a view similar to Fig. 6 showing a further modified type of car used in connection with the device. Fig. 13 is a plan view of the car disclosed in Fig. 12. Fig. 14 is a partial plan view of a truck used in connection with the car disclosed in Figs. 12 and 13. Fig. 15 is a horizontal sectional view through a protecting casing of the driving mechanism used in connection with this device, parts being removed in order to disclose details of construction.

Similar characters refer to similar parts throughout the several views.

In the drawings, 1 designates a vertical standard rigidly supported by a base or sub-structure 2 which may be conveniently formed of concrete with a surface covering of cement. To facilitate transportation and assemblage, I prefer to form the upper portion of the standard 1, of a separate piece 4, suitably connected together as shown in Fig. 4 of the drawing.

The standard 1, at a suitable height from the surface 3, carries a bearing collar 5 preferably provided with a ball race 6 upon which is revolubly supported a gear collar 7, also preferably provided with a ball race 8, and balls 9 interposed and carried by the said collars 5 and 7. The gear collar 7 supports and carries with it, a collar 10, provided with recesses 11 which form inner end hangers for radially extending arms 12.

The upper portion 4 is provided with a cap 13, which supports a revolubly mounted guy rod carrier 15 preferably through the intermediacy of ball bearings 16.

A pin 14 may be carried by the cap 13 and adapted to enter a centrally disposed aperture 17 in the member 15, or any equivalent means may be provided to stabilize the structure. Guy rods 18 extend from the member 15 to a point adjacent the outer ends

of the arms 12 whereby they are supported as clearly shown in the drawing.

To further add to the stability of the device, I provide braces 19 which are conveniently mounted upon a platform 20 and engage under the collar 5, as clearly shown in Fig. 2.

Inasmuch as the collar 10 and member 15 are revoluble about the axis of standard 1, movement is conveniently imparted to the structure carried thereby, by means of an intermeshment of gear collar 7 with a gear 21, movement being imparted to the latter by a motor 22, worm 23, worm wheel 24 and shaft 25.

For the purpose of protecting the mechanism hereinbefore described, from inclement weather and other undesirable matter, I provide a frusto conical or pyramidical shell 26, carried by the movable structure and which may be provided with a door 27 permitting access to the interior thereof.

As before stated, I provide a plurality of cars, which cars are drawn in the path of movement by the arms 12, responsive to action of the motor 22. And further, it is one of the objects of my invention to provide cars which, in action, differ in the sensation imparted by the movement. Each of the cars is connected to the radial arms 12 or to connecting beams 28 interposed therebetween, by a pendant rod 29. This rod, I prefer to secure to its support by passing it through a thimble 30 and providing brace pieces 31 as clearly shown in Fig. 7 of the drawings. The lower end of the rod 28 is provided with an eye 32 extending rearwardly with respect to the direction of travel of the movable structure.

One form of car is shown in detail in Figs. 5 and 6. This car designated generally by 33, includes a body 34 provided with seats 35, doors 36, sheaves 37, and is mounted upon casters 38. A ring 39 is guided by the said sheaves 37 and such ring is pivotally connected to a drag rod 40 which in turn is pivotally connected at eye 41 to the movable structure. By this construction, the car body 34 is free to move laterally and also to tilt, to some extent, or move upwardly.

I prefer to provide the car 33 with a canopy 42 mounted upon a standard 43, movable vertically in a hollow standard 44 carried by the car body 34, a tension spring 45 normally tending to raise the canopy. Adjacent the top of the canopy a cross rod 46 is provided and hangers 47 secured thereto enable the canopy to be lowered over the car body thus inclosing the occupants when such is desired.

A second form of car is shown in detail in Figs. 12 13 and 14. This type of car is designated generally as 48, and includes a body portion 49 provided with seats 50, and a door 51', and is revolubly mounted upon a truck 51 having casters 52.

Referring more particularly to the truck 51, it rigidly carries a hollow standard 53 passing upwardly through the floor of body 49 while the body 49 carries a cylindrical shell, 54, concentric to the standard 53, and to which a hand wheel 55 is rigidly secured. The truck is connected to the movable structure by a drag rod 56 having an eye 57 for engagement with eye 32 of rods 29. In this type of car, the body may be movably mounted upon its truck, and if desired, a canopy, similar to that described in connection with the type of car 33, may be used in connection with this type of car.

A still further type of car is disclosed in detail, in Figs. 10 and 11, and designated generally by 58. This type of car includes a truck 59 provided with casters 60 and the car body 61, provided with a seat 62, is rigidly mounted upon the truck. A drag bar 63 is attached to the truck with an eye 64 on the bar by which connection is made to the eye 32 carried by rod 29.

In Figs. 1 and 2 of the drawings, I have shown a preferred arrangement or disposition of the cars with respect to the movable structure. That is, either type of car 33 or 48 is operatively connected to the movable structure adjacent the ends of the arms 12 which therefore position the cars furthermost from the axis of rotation of the mass; either type may also be operatively connected to beams 28, but which positions the cars so connected nearer the axis of rotation of the mass; and thirdly, I prefer to position the type of car 58 innermost and connected to the arms 12. Thus, the cars are disposed in succeeding staggered relation to each other.

The base of structure is provided with a plurality of mounds 65 and ridges 66, or either may be dispensed with, the surface covering 3, which is of hard dense material, also cove ing the mounds and ridges. These mounds or ridges may be generally termed as car displacers, since because of their disposition in the path of movement of the cars, they either displace the cars laterally, raise them, or impart some compound movement thereto. For instance, the type of car designated generally by 33 will have imparted thereto a rotary movement in addition to an upward, tilting or sidewise movement, upon its encountering a mound. This takes place in that the car body 34 is free to revolve and since the casters 38 are carried by car body, they partially or wholly overcome the resistance in encountering a mound, by seeking the lowest level of the support, and consequently rotate the car body. While the type of car 48 is not rotated through encountering a mound, but it may be manually rotated at the will of the occupant or occu-

pants, while the type of car 58 is not rotatable about its support.

From the foregoing it is made manifest that I provide an amusement device through which, through its revoluble or movable structure imparts movement to cars about a predetermined path, and because of the configuration or car displacers formed upon or carried by the base upon which the cars run, they, the cars, have imparted thereto compound movements according to each particular type of car and its means of mounting.

I claim:

1. An amusement device of the character described comprising in combination, a structure having a predetermined path of movement, a revolubly mounted car, means operatively connecting said car with said structure to permit lateral displacement of the former with respect to the path of movement of the latter, and means disposed in the path of said car to displace the same, substantially as and for the purpose set forth.

2. In an amusement device of the character described, the combination of a structure having a predetermined path of movement, a plurality of cars, means operatively connecting said cars with said structure to permit lateral displacement of the former with respect to the latter, the disposition of said means with respect to said structure being such as to present said cars to travel in different paths of movement, and means disposed in the path of movement of said cars to displace the same, substantially as and for the purpose set forth.

3. An amusement device of the character described comprising in combination, a revoluble structure, a car, means operatively connecting said car with said structure to permit lateral displacement of the former with respect to the path of movement of the latter, and means disposed in the path of movement of said car to displace the same, substantially as and for the purpose set forth.

4. An amusement device of the character described comprising in combination, a revoluble structure, a plurality of cars, means operatively connecting said cars with said structure to permit lateral displacement of the former with respect to the latter, the disposition of said means with respect to said revoluble structure being such as to present said cars to travel in different paths of movement, and means disposed in the path of movement of said cars to displace the same, substantially as and for the purpose set forth.

5. An amusement device of the character described comprising in combination, a structure having a predetermined path of movement, a car, means operatively connecting said car with said structure to permit lateral displacement of the former with respect to the latter, and means disposed in the path of movement of said car to displace the same, substantially as and for the purpose set forth.

6. An amusement device of the character described comprising in combination, a structure having a predetermined path of movement, a plurality of revolubly mounted cars, drag rods operatively connecting said cars with said structure to permit lateral displacement of the former with respect to the path of movement of the latter, and means disposed in the path of movement of said cars to displace the same, substantially as and for the purpose set forth.

7. An amusement device of the character described comprising in combination, a revoluble structure, a revolubly mounted car, a drag rod operatively connecting said car with said structure to permit lateral movement of the former with respect to the path of movement of the latter, and means disposed in the path of movement of said car to displace the same, substantially as and for the purpose set forth.

8. An amusement device of the character described comprising in combination, a revoluble structure, a plurality of revolubly mounted cars, drag rods operatively connecting said cars with said structure to permit lateral displacement of the former with respect to the path of movement of the latter, and means disposed in the path of movement of said cars to displace the same, substantially as and for the purpose set forth.

9. An amusement device of the character described comprising in combination, a revoluble structure, a car body, casters for movably mounting said car body, and drag means operatively connecting said car with said revoluble structure at a certain point to draw said car, but permit lateral displacement thereof with respect to the circumscribing path of the point of connection of said revoluble structure as and for the purpose set forth.

10. In an amusement device of the character described the combination with a movable structure having a predetermined path of movement, of a car body, casters for movably mounting said car body, a device for drawing said car but allowing rotation of the latter with respect to the former, drag means operatively connecting said device and said movable structure to draw the car, but permitting lateral displacement of the car with respect to the path of movement of said structure, and means disposed in the path of movement of said car to rotate and tilt the same, substantially as and for the purpose set forth.

11. In an amusement device of the character described the combination with a movable structure, of a car, a canopy for said

car, means normally raising said canopy with respect to the car, means for drawing said canopy toward the car, a device for drawing said car, and means operatively connecting said device and movable structure to draw the car, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ERNEST KOHLER.

Witnesses:
H. C. SHROEDER,
F. P. SCHROEDER.