H. G. TRAVER.
AMUSEMENT DEVICE.
APPLICATION FILED SEPT. 9, 1911.

1,065,642. Patented June 24, 1913.

Fig. 5

2%2
senses 2E7
colunabla PLANOGRAPH co., WASHINGTON, D.C.

Witnesses

Inventor

COLUMBIA PLANOGRAPH CO., WASHINGTON, D.C.
UNITED STATES PATENT OFFICE.

HARRY G. TRAVER, OF WOODCLIFF LAKE, NEW JERSEY, ASSIGNOR TO PARK ENGINEERING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

AMUSEMENT DEVICE.

1,065,642.


Application filed September 9, 1911. Serial No. 648,515.

To all whom it may concern:

Be it known that I, HARRY G. TRAVER, a citizen of the United States, residing at Woodcliff Lake, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification, reference being had thereunto in the accompanying drawing.

My invention relates to certain novel and ingenious improvements in amusement devices, and has for its object the production of a unique whirling motion which will give unusual sensations of surprise and pleasure.

The invention consists essentially in a plurality of groups of swings, all of which groups revolve around a common axis, while the members of each group have each another revolution around the axis of the group; and also the invention comprises certain details and peculiarities in the construction, arrangement and combination of parts, substantially as will be hereinafter described and then more particularly pointed out in the claims.

In the accompanying drawing, illustrating my invention; Figure 1 is a top plan view of my improved amusement device; Figure 2 is a partial side elevation of one of the rotary groups of swings, together with the main frame, certain parts being indicated in section; Figure 3 is a detail plan view of the gearing for actuating the members of a group of swings; Figure 4 is a detail sectional view showing the means for supporting the large revolving gear. Figure 5 is a partial side elevation, with certain features in cross section, similar to Figure 2 but indicating more clearly the arrangement of certain of the parts.

Similar characters of reference designate corresponding parts throughout the different figures of the drawing.

I denotes a central structure or main frame which comprises a vertical skeleton tower made in any suitable manner of beams, braces, stays, etc., and suitably anchored in the ground at certain points, as 2. This main central frame 1 is arranged, adapted and designed to permit a skeleton frame to revolve around the same, said frame comprising parts or sections for each group of swings or cars, and each of said sections consisting essentially of an upper horizontal beam 9, lateral angular beams 10, and intermediate braces 16, all these parts being suitably fastened together in a rigid and compact manner, but so that the revolving frame may easily rotate about the central upright 1. In this revolving frame, it will be noted that each of the four sections is provided with an inclined rotary shaft 8, held in suitable bearings as indicated in Figure 2. This revolving frame is also supported at the top of the upright 1 by a pivoted joint 3 on which it revolves. All these features are clearly shown in Figure 5.

4 denotes a large horizontal gear wheel having its teeth projecting downwardly. This wheel is supported upon pairs of anti-friction rollers 17, 17, carried by posts 18, which constitute a part of the main central frame 1. This gear wheel 4 is securely and rigidly fastened to the revolving frame as shown in Figure 1. Gear 4 is actuated by means of a vertical pinion 6, driven by a motor 5. Of course, this is only one way of driving it. Other means can be devised for doing the same work if desired. I cite this as only one example of motor.

The inclined shafts 8 carry arms 11 arranged at right angles to each other and to the shafts 8 and suitably stiffened by braces 12 and 13. Suspended from the ends of the arms 11, are cars, baskets, or other means for carrying passengers, said cars being designated 14. The cars are preferably provided with planes or wings 15, in order to make them look and act like aeroplanes. Of course, the form and style of the car may vary greatly.

In order to impart to the inclined shafts 8, a rotary movement, I utilize a special kind of transmitting and reversing gearing. This comprises a large stationary horizontal gear 7 which is fixedly secured to the upright frame 1. Each shaft 8 is supported in a plate 19, which is fixed rigidly on the revolving frame. Each shaft 8 carries a 100 gear wheel 20 which meshes with a pinion 21 on a stud 22 likewise supported in plate 19. Stud 22 also carries a gear 23 which meshes with a pinion 24, on a stud 25, likewise supported in the plate 19. The stud 25 further carries a gear wheel 26 which engages the teeth of the fixed gear wheel 7.

As the rotating frame carries the groups of cars and their actuating shafts 8 around the axis of the main central upright 1, it 110
will be obvious that the various gear wheels 26 will be revolved in consequence of their being in mesh with the teeth of the stationary gear wheel 7; and through the medium of the pinions 24 and 21 and the gear wheels 23 and 20, the inclined shafts 8 will be revolved and the cars 14 will be caused to rotate around said shafts and follow a unique circuitous path. The object of having the series of gears is to enable the shafts 8 to have a certain speed, it being thought desirable that the speed should be virtually equivalent to the speed of the revolving frame around the main upright 1.

Of course, there may be any number of cars associated in a group with each inclined actuating shaft, and there may be any number of groups. Four groups is a convenient number. Considering an individual car or swing, it will be observed that it not only travels through a long circular path around the axis of the central vertical frame 1, but it also travels through another path about the axis of the shaft 8, and the latter path will be a circle of a greater or less size. Each car, furthermore, will partake of more or less centrifugal movement, due to the swinging out of the same, in consequence of its traveling around the shaft 8.

The inclination of shaft 8 and the inclination of the arms 11 will, of course, cause the movement of the cars 14 to be unique and curious. In Fig. 2, car 14, hung from the upper end of an arm 11, is shown in one position, and the car 14 at the lower end of an arm 11 is indicated at another position. The circular movements of these cars, when they are in the position indicated will differ greatly and they will add to the enjoyment of the surprising sensations due to the remarkable movement of the cars.

Many changes in the precise construction and arrangement of the various parts may be made without exceeding the scope of the claims and I reserve the liberty of making all such changes as may be thought desirable.

What I claim is:

1. In an amusement device, the combination of a central support, a frame revolving about it, groups of cars carried by said frame, inclined shafts actuating said groups of cars, means for revolving the frame, and means for imparting a separate or individual revolution to the cars.

2. In an amusement device, the combination of a central support, a frame revolving about it, cars suspended on said frame, inclined shafts actuating the cars, a gear wheel secured to said frame, means for loosely supporting said gearing, and means for actuating the gear.

3. In an amusement device, the combination with a central support, of a frame revolving about it, a gear wheel secured to said frame, anti-friction rollers supporting the gear wheel, a pinion engaging gear, means for actuating the pinion, inclined shafts supported in the revolving frame, groups of cars actuated by said inclined shafts, all arranged so that each car is given a double movement.

4. In an amusement device, the combination with a central support, of a frame revolving about it, a horizontal wheel secured thereto, means for revolving said gear wheel, means for actuating the gear, inclined shafts supported in the revolving frame, a stationary gear on the central support, gearing between said stationary gear and the inclined shafts, and groups of cars actuated by the inclined shafts, all substantially as described.

5. In an amusement device, the combination of a central support, a revolving frame, groups of cars carried by said frame, inclined shafts actuating said groups of cars, a horizontal gear wheel on the revolving frame, means on the central support for loosely supporting said gear, means for actuating the gear, a stationary horizontal gear on the central support, and gearing connections between it and the several inclined shafts.

6. In an amusement device, the combination with a central support, of a frame revolving about it, inclined shafts supported in said frame, arms carried by said shafts, cars supported on said arms, and means for revolving the frame and also revolving the inclined shafts, whereby each car is given a double movement.

7. In an amusement device, the combination of a main central support, a frame revolving about it, gearing on said frame and around the main support, means for actuating the gear, and a plurality of inclined shafts supported revolvably in said frame, each shaft carrying a group of cars or swings, all arranged so that each swing may have a double revolution, once about the main support and once around the shaft that drives the group.

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

HARRY G. TRAVER.

Witnesses:

JEANNETTE STORR,

L. S. PERRINE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D.C."