H. THURSTON.

AMUSEMENT APPARATUS.

APPLICATION FILED DEC. 28, 1912.

1,099,951.

Patented June 16, 1914.

Fig. 1.

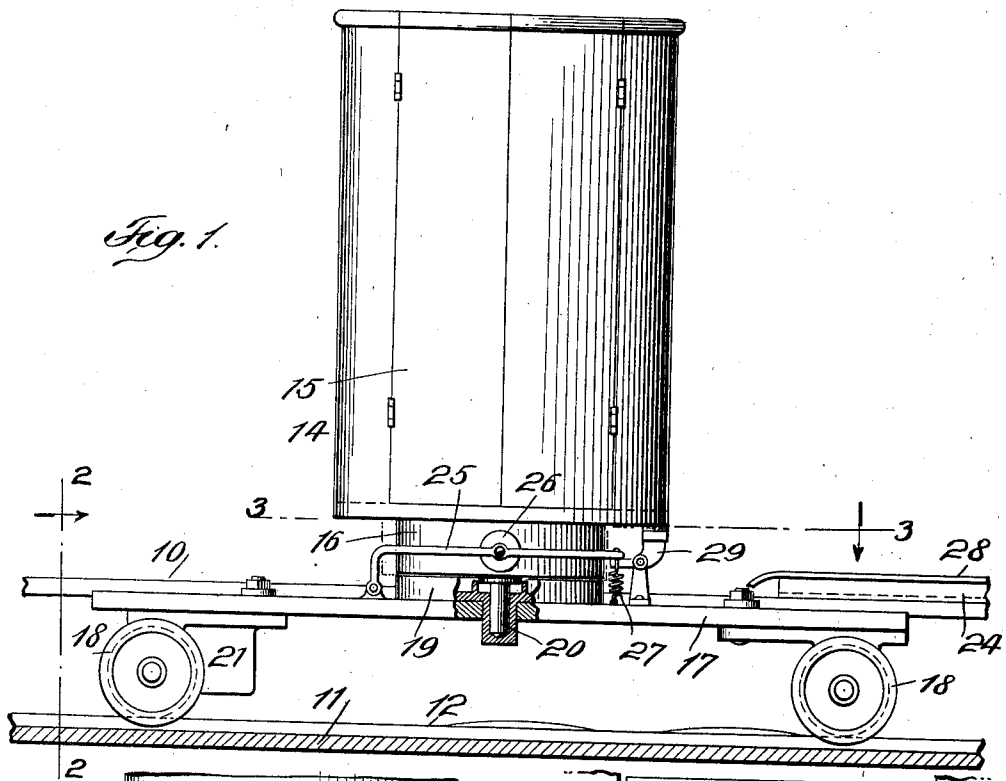
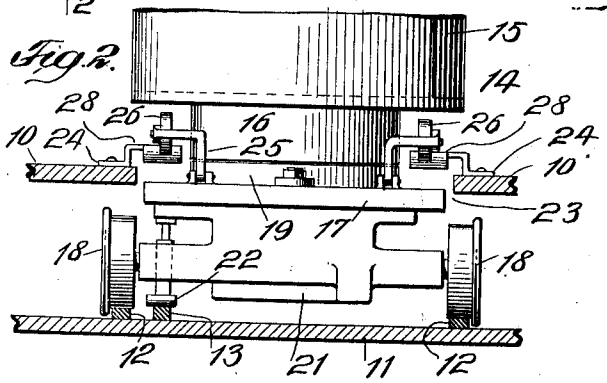



Fig. 2.



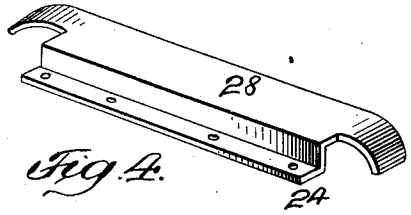




Fig. 4.

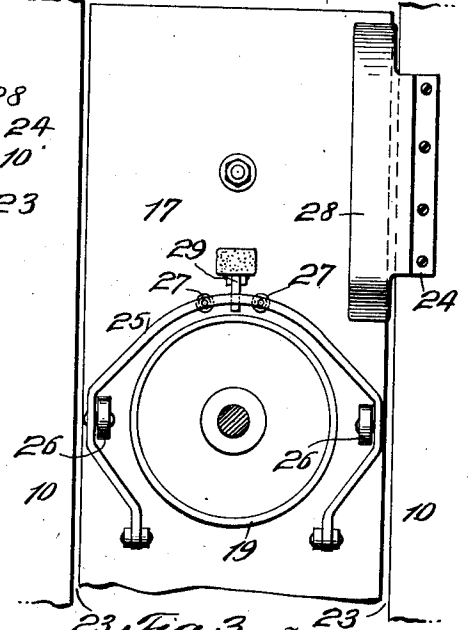



Fig. 3.

Witnesses

Julius A. Roth.

Arthur Marion.

Inventor

Howard Thurston

By his Attorney

Chas. E. Gill

# UNITED STATES PATENT OFFICE.

HOWARD THURSTON, OF COSCOB, CONNECTICUT.

## AMUSEMENT APPARATUS.

1,099,951. Specification of Letters Patent. Patented June 16, 1914.

Application filed December 28, 1912. Serial No. 739,028.

*To all whom it may concern:*

Be it known that I, HOWARD THURSTON, a citizen of the United States, and a resident of Coscob, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification.

The invention pertains more particularly to improvements in the amusement apparatus made the subject of Letters Patent No. 1,083,308, granted to me January 6, 1914, and which apparatus comprises, among other features, a pair of track rails defining a circuitous path, a series of cars on said rails having platforms and bodies mounted thereon on vertical axes and adapted to hold passengers, means for effecting the travel of the cars along said track rails, means for effecting at predetermined intervals the turning of the bodies of said cars in one direction and in the reverse direction, and means for imparting an undulating movement to the cars while in transit, the object being to impart to the car bodies and to the passengers standing therein or thereon in pairs undulating movements and turning movements on vertical axes corresponding with or sufficiently approximating those of the waltz or other round or analogous dance.

My present invention does not modify the plan or scope of the aforesaid apparatus made the subject of said Letters Patent, but resides in certain improvements in the details thereof, and more particularly to improvements in the construction of the individual cars and in the means provided for imparting the turning or angular movements to the bodies of said cars on their vertical axes, the object of the present invention being to provide more efficient means for imparting to the bodies of the cars their angular movements with certainty and to the proper extent only and without creating in the car bodies any jarring or other action inconsistent with harmonious waltz or other dance movements.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which I illustrate only so much of the apparatus as may be necessary to an understanding of the features constituting the present invention, Figure 1 being a side elevation, partly in section, of a car and other features embodying the invention, the platform supporting the track-rails being shown in longitudinal section; Fig. 2 is a vertical transverse section on the dotted line 2—2 of Fig. 1, through the upper and lower floorings of the apparatus, with the car, shown in end view, partly broken away; Fig. 3 is a horizontal section, partly broken away, on the dotted line 3—3 of Fig. 1, and Fig. 4 is a detached perspective view of one of the stationary cam-plates secured to the flooring of the apparatus in position to be engaged by a member on the car during the travel of the latter for effecting a limited turning action of the car body.

In the drawings 10 designates the upper or main flooring of the apparatus, 11 a lower flooring on which are parallel track rails 12 and, when desired, an electric or "third-rail" 13, and 14 one of the cars comprising a body-portion 15, a drum portion 16 rigid with the lower end thereof, a platform 17 having wheels 18 mounted on said track-rails, a circular base-portion 19 rigid with said platform and receiving said drum-portion, and a vertical pivot 20 defining the central vertical axis of the body-portion 15. The wheels 18 are on swiveled axles one of which may carry an electric motor 21 of usual type and a shoe 22 to engage the third rail 13. The cars 14 may, however, be propelled by any suitable or convenient power.

The flooring 10 is constructed with a slot 23, preferably extending along a circuitous line, of suitable width to receive between its edges the platform 17 of the car and permit the car to travel along and on the rails 12 under any suitable power that may be employed to drive the car. The rails 12 will preferably have undulating surfaces for the purpose of imparting an undulating movement to the car traveling on them, as described in my aforesaid pending application, and otherwise said rails are of usual type.

The car-body 15 is to have imparted to it, during the travel of the car, proper turning or angular movements on its vertical axis, and to this end, in accordance with my present invention, I provide at suitable points at opposite sides of the tramway-slot 23, though not directly opposite to each other, cam-plates 24, and on the car-platform 17 I secure means to coöperate with said cam-plates in effecting the turning action of the car-body 15, said means, in the construction presented, comprising an approximately horseshoe-shaped bar or frame 25 straddling

the drum portion 16 of the car-body and pivotally secured at its ends to platform 17, while at its sides said bar carries wheels 26 and at its bend or curved middle portion the bar is connected with a spring or springs 27 which normally act to draw the bar downwardly toward the platform 17 and thereby initially keep the wheels 26 free of the lower surface of the body 15, between which and the platform 17 said wheels are located.

The cam-plates 24 are secured at their outer portions to the flooring 10 and at their inner parts present elevated track portions 28 having downwardly curved ends and projecting laterally above the floor-slot 23 and above the horizontal plane of the car platform 17 in position to engage the wheels 26 during the travel of the cars and force said wheels firmly against the bottoms of the car-bodies, to the end that said wheels being tightly wedged between said portions 28 and the bottoms of the car-bodies, will during the travel of the cars cause said car-bodies to turn on their vertical axes to an extent or during a period determined by the length of said portions 28. The cam-plates 24 will vary in length and location so as to effect the proper turning of the car-bodies in suitable timing with the music which will accompany the operation of the apparatus or the travel of the cars, and said plates being disposed at opposite sides of the tramway-slot 23 will cause the car-bodies to turn in one direction and also in the reverse direction consistently with dance movements. After a wheel 26 carried by the bar 25 leaves one of the cam-plates 24, the springs 27 will draw the bar 25 downwardly and relieve the wheel from the car-body thus permitting the said body to continue its traveling movement without any turning or rotary movement until another cam-plate 24 has been reached by said wheel or the other wheel 26 and cooperates therewith to turn said body.

It is desirable that the car-body 15 shall not by reason of momentum or otherwise have a turning action beyond that predetermined for it by the track-surfaces 28 of the cam-plates 24, since any such excess of movement would throw the car-body out of time with the accompanying music, and hence I provide on the car-platform a pivoted brake-lever 29, one end of which projects below the bar 25 and is forced downwardly thereby to cause the other end of said lever to firmly press against the bottom of the car-body at all times during which the wheels 26 are clear of the cam-plates 24 and hold said body against turning movement. When either wheel 26 engages a cam-plate 24 and effects the upward movement of the middle or curved portion of the bar 25, the outer portion of the brake-lever 29 will by gravity descend from the car-body and cease to act against the same, thus leaving said body free to be turned by the engagement of the wheel 26 with the plate 24 and the bottom of the car-body. Upon the wheel 26 leaving a cam-plate 24, the springs 27 will cause the bar 25 to turn downwardly not only to free said wheel from the car-body but to apply the brake 29 to said body, thereby to hold the same against turning movement until one of the wheels 26 encounters another cam-plate 24.

My present invention thus provides novel means for effecting the turning action of the car-bodies during the travel of the cars and brake-mechanism coöperating therewith to hold the car-bodies against turning action during the periods at which no such action is desired.

I do not limit my invention to the specific details of mechanism hereinbefore described since obviously the same may be modified without departing from the spirit of my invention.

What I claim, is:

1. An amusement apparatus of the character described comprising a lower flooring having track-rails thereon, an upper flooring slotted above said rails, a passenger car on said rails having a platform and a vertical body portion mounted to turn on a vertical axis, cams secured at opposite sides of said upper flooring and of the slot therein and extending laterally over the path of said platform, and means on the car carrying rollers above said platform to ride on said cams and be by them bound against said car-body to turn the same during the travel of the car.

2. An amusement apparatus of the character described comprising a lower flooring having track-rails thereon, an upper flooring slotted above said rails, a passenger car on said rails having a platform and a vertical body portion mounted to turn on a vertical axis, cams secured at opposite sides of said upper flooring and of the slot therein and extending laterally over the path of said platform, and means on the car carrying rollers above said platform to ride on said cams and be by them bound against said car-body to turn the same during the travel of the car, combined with a brake to hold the car-body against turning action and releasable by said cams.

3. An amusement apparatus of the character described comprising a lower flooring having track-rails thereon, an upper flooring slotted above said rails, a passenger car on said rails having a platform and a vertical body portion mounted to turn on a vertical axis, cams secured at opposite sides of said upper flooring and of the slot therein and extending laterally over the path of said platform, and a pivoted frame on said platform carrying rollers at opposite sides thereof above said platform to ride on said cams

and be by them bound against said car-body to turn the same during the travel of the car.

4. An amusement apparatus of the character described comprising a lower flooring having track-rails thereon, an upper flooring slotted above said rails, a passenger car on said rails having a platform and a vertical body portion mounted to turn on a vertical axis, cams secured at opposite sides of said upper flooring and of the slot therein and extending laterally over the path of said platform, and a pivoted frame on said platform carrying rollers at opposite sides thereof above said platform to ride on said cams and be by them bound against said car-body to turn the same during the travel of the car, combined with a pivoted brake on said platform to engage the car-body and hold the same against turning action, one end of said brake being projected below said frame, and means normally holding the said frame depressed against said brake to bind the same against said car-body.

Signed at New York city, in the county of New York and State of New York, this 17th day of December A. D. 1912.

HOWARD THURSTON.

Witnesses:
J. R. FRITH,
CHAS. C. GILL.