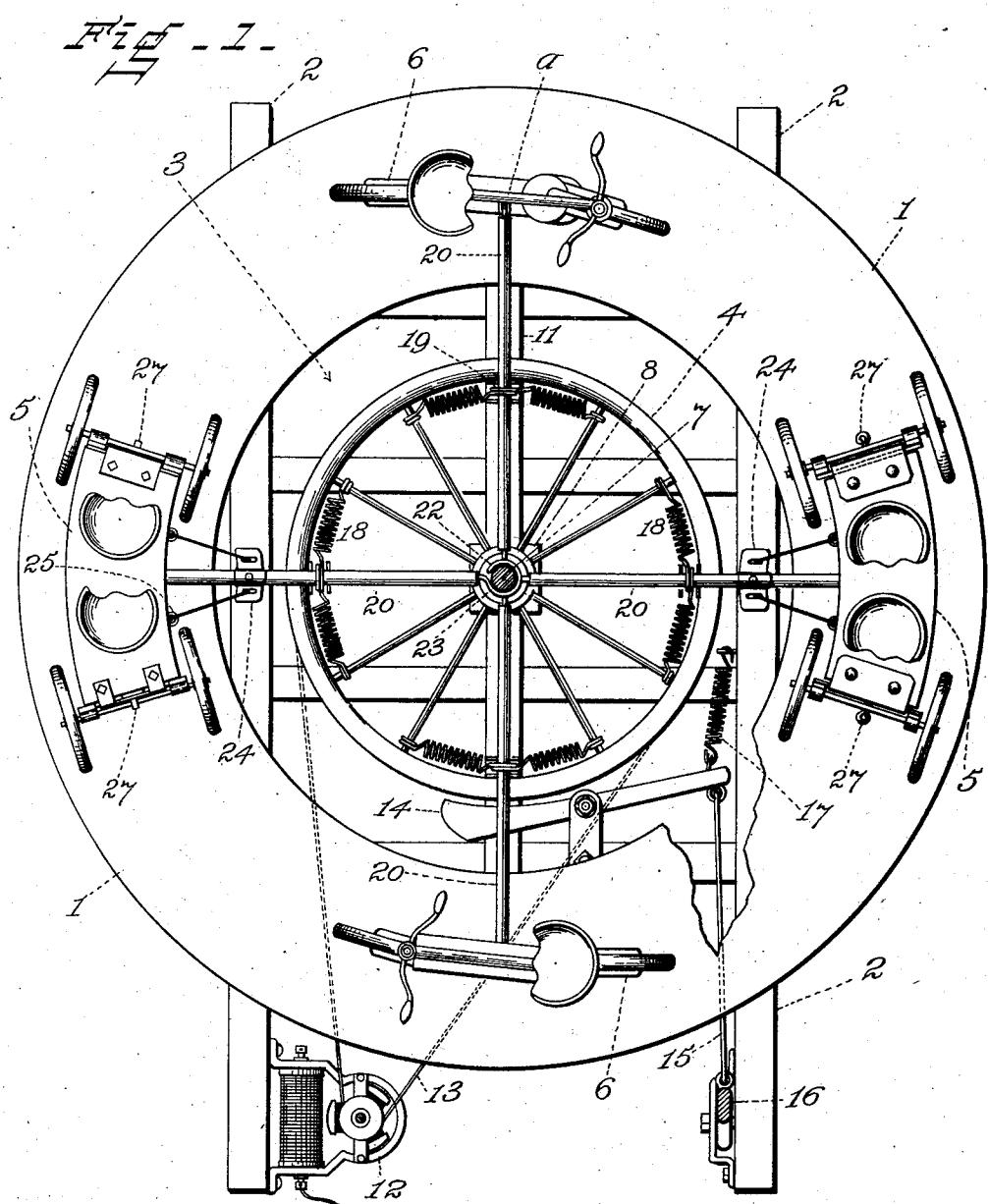


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AMUSEMENT APPARATUS.  
APPLICATION FILED OCT. 6, 1910.

1,011,414.

Patented Dec. 12, 1911.

2 SHEETS—SHEET 1.



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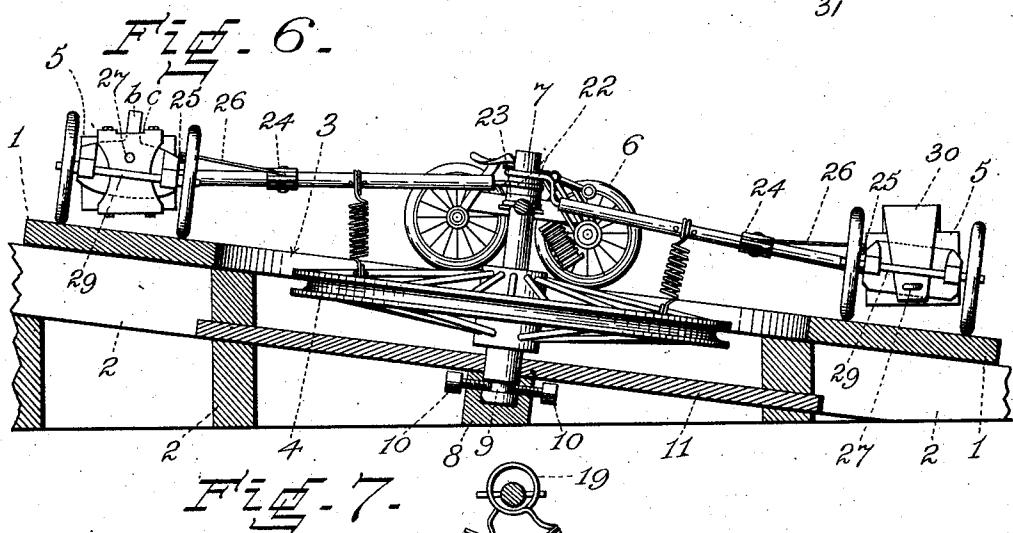
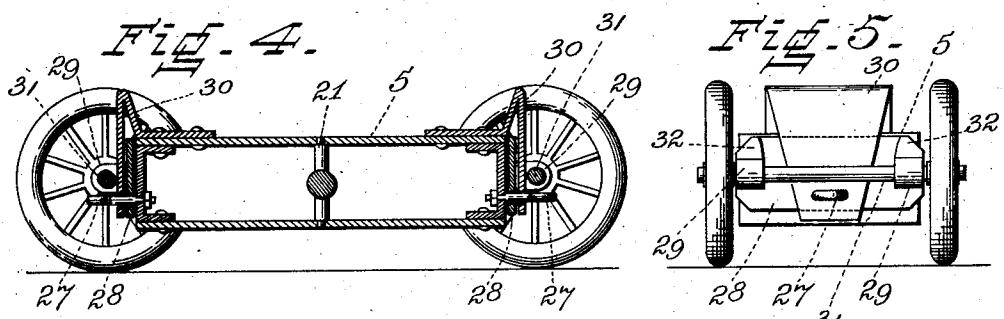
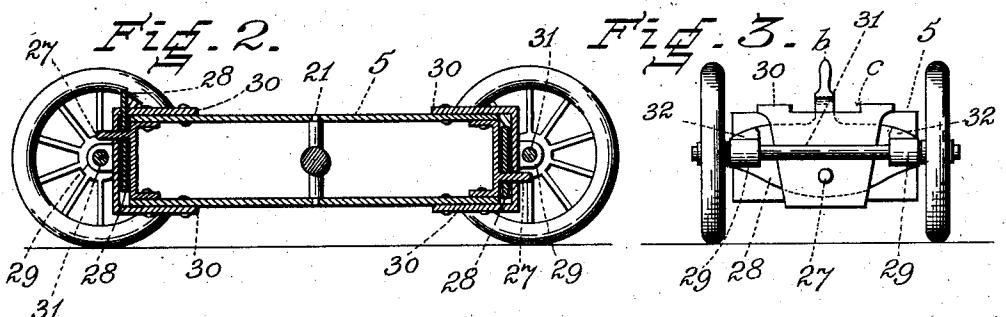
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# UNITED STATES PATENT OFFICE.

JOHN HENRY CURRAN, OF AUBURN, NEW YORK.

## AMUSEMENT APPARATUS.

1,011,414.

Specification of Letters Patent. Patented Dec. 12, 1911.

Application filed October 6, 1910. Serial No. 585,715.

To all whom it may concern:

Be it known that I, JOHN HENRY CURRAN, a citizen of the United States, residing at Auburn, in the county of Cayuga and State 5 of New York, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification.

My invention relates to that class of 10 amusement devices commonly known as "roundabouts," "auto-whirls," etc., in which small cars capable of carrying one or more persons are caused to travel on an undulated, inclined or horizontal circular runway by a suitably stationed driving engine 15 or by motor-cycles running thereon. Its objects are, first: to provide the said cars with devices whereby their horizontal poise may at all times be assured as they are driven around the said track or runway; second: to relieve the shock or jar incident upon the sudden starting of the same; and third: to furnish simple connections 20 between the cars or motor-cycles and the central point of the rotating mechanism which may in no-wise interfere with each other as the said cars or motor-cycles are driven or drive around the track.

I accomplish the aforementioned objects 25 by the peculiar construction and adaptation of parts shown in the accompanying drawings on two sheets, in which:

Figure 1, is a plan view of my invention. Fig. 2, is a longitudinal section of a car. 30 Fig. 3, is an end elevation of Fig. 2. Fig. 4, is a longitudinal section of a car showing a somewhat modified form of the appliances shown in Fig. 2. Fig. 5, is an end elevation of Fig. 4. Fig. 6, is a cross section of 35 an inclined circular runway or track with the cars and one motor-cycle in position thereon, and Fig. 7, is a detail drawing, on an enlarged scale, of my appliance for relieving the shock or jar incident to a sudden starting of the driving mechanism, which starts the car or cars around the 40 track.

Similar reference figures refer to similar parts in the several drawings.

An inclined circular runway or track 1, 45 is supported in the desired incline by a suitable frame-work 2, which is arranged on its under side and rests on the ground. An interior circular opening 3, is formed 50 therein, and of such diameter as will accommodate the placing in position and ro-

tation of a horizontal driving wheel 4. The cars for passengers are shown at 5, and the position of the motor-cycles, when they are used, is seen at 6. A vertically inclined central shaft 7, which carries and turns with the horizontally inclined driving wheel 4, is stepped at its bottom end in a suitable step-piece 8, which is arranged with the frame work 2, and near that point it is 55 provided with a circumferential groove 9, in which pass the ends of the screw-bolts 10, which are outwardly extended therefrom and through the said step-piece 8, as clearly seen in Fig. 6. A sustaining-piece or bar 11, is provided on the frame-work 2, in such position that the central shaft 7, may pass through it and the hub of the drive-wheel 4, carried on the said shaft nearly 60 rest thereon, as seen in Fig. 6.

A motor 12, of any desired pattern is provided for turning the drive-wheel 4, when motor-cycle power is not available, a belt 13, connecting it therewith as seen in Fig. 1. A brake 14, for stopping the turning of the 65 drive-wheel 4, when its turning power is shut off, is suitably hinged on the frame-work 2, the end opposite the braking end having a link-rod 15, connecting with a hand lever 16, which also is pivoted on the frame-work 2, outside of the circular runway or track 1. A spiral spring 17, connects the said end of the said brake with the frame-work at a desired point to serve 70 in keeping the brake end thrown out of contact with the drive-wheel until such time as is desired in braking.

The drive wheel 4, is fastened on the central shaft 7, within the opening 3, of the runway or track 1, as has been said, and is provided with a grooved rim in which passes a driving cable or belt 13. At desired points on its upper side and near its periphery is provided the double spiral spring 18, in the form of an inverted V, see Figs. 1, 6, and 7, the bottom ends of which are securely fastened on the spokes of the drive wheel 4. The top end of the said double spiral spring 18, is turned in a continuous double circled loop 19, Figs. 1, and 7, in which freely passes the sweep 20, the said loop being secured in position by suitable pins passing through the sweep at either side thereof. The outer end of the said sweep 20, is fastened to a centrally pivoted post 21, in the car 5, the other end being furnished with a pig-tail 22, that is 75 80 85 90 95 100 105 110

bent around the central drive shaft 7, and rests on a collar fastened thereon. When a motor-cycle is in use the sweep is furnished at its outer end with a hook which hooks into an eye which is clamped to the motor-cycle, and provided for that purpose, as shown at *a*, in Fig. 1, the other end being provided with a pig-tail as has been mentioned. Where the several pig-tails pass 10 on the central driving shaft, collars 23, are interposed and fastened on said central shaft so the said pig-tails can freely turn thereon. The sweeps 20, near a point outside of where they pass through the double loop 19, on the 15 top of the double spiral spring 18, are provided with a clip-piece 24, which has extensions at either side of the sweep having slots therein. Near either end of the car an eye 25, is provided in which is hooked 20 one end of a brace-rod 26, the other end hooking in the slot of one of the extensions of the clip-piece 24, on the said sweep 20, as shown in Figs. 1, and 6, the said brace rod or rods serving to assure a normally 25 straight tread or course for the wheels of the car as it is circled about the track aforementioned.

The cars preferably are constructed as light steel fabrics or boxes, joined at the 30 ends by angled pieces as seen in Figs. 2, and 4, and are provided with suitable seats and other conveniences for their occupants. The end pieces are further provided, either above or below the horizontal plane of their 35 axles, with pivot studs 27, which are firmly secured thereto, the object of which latter will presently be recognized.

Referring to Figs. 2, to 5, inclusive, it will be observed an axle-plate 28, having 40 axle-boxes 29, at the sides, is pivoted on the said pivot-stud 27, of the end of the car 5, between said end and an outer or shield-plate 30, which may be fastened on the top 45 side of the car and downwardly extended therefrom in front of said axle-plate 28, and continued under the car and there secured, if so desired, as I have shown in Fig. 2. The said axle-boxes 29, are forwardly 50 extended so that the axle 31, may freely turn in front of the shield-plate 30, and preferably with a space between, as seen in Fig. 2. Also they are extended into stops or rests 32, which serve to limit the turning action of the car body on the pivots, see 55 Figs. 3, and 5, where they plainly show. The axle-piece or plate 28, may be upwardly extended into a hand lever *b*, passing through an opening *c*, provided in the shield piece or plate 30, where it is turned 60 downwardly at the top side of the car.

Having thus described the several parts of my improvements and their relation and arrangement, I will now describe the operation of the same.

65 Operation: In this class of amusement

devices, the frame-work and the circular runway or track are usually made of sections so they may be knocked down and thus transported from place to place as the occasion demands. The frame-work and runway or track having been set up with the drive-wheel in place, the sweeps are passed through the loops at the top end of the double spiral springs arranged and securely fastened on the drive wheel near its 70 periphery, their pig-tails at the inner ends passed on the top of the central shaft of the drive wheel with suitable collar-pieces fastened between, their outer ends secured on the pivot-post of the cars and the brace- 75 rods adjusted between the cars and the slotted clip-piece already fastened on the said sweeps. If desired to drive the cars about the track by the impulse or power furnished by a motor-cycle, the latter is 80 placed in proper position on the track and connected with the outer end of a sweep through means for that purpose as has been described, and the cars are thus ready for 85 propulsion on the track. When the power 90 is desired derived from a stationary motor or engine, it will be evident that the motor- 95 cycle can be detached and all of the sweeps connected with cars as has been detailed. In the latter instance a cable or belt connects the engine with the drive-wheel and a brake provided on the frame-work serves 100 to check the impulse the drive-wheel has received from the motor when its power is shut off. As the motive power begins, in either case, whether derived from a motor- 105 cycle or a stationary plant, the drive-wheel turns, the double spiral spring loops attached to it are forced against the side of the sweeps passing therein, the said spirals of said double springs yielding and retracting 110 against any sudden jar or motion caused by a too sudden starting of the motor, thus causing the sweeps to easily start with the cars pivoted at their outer ends as easily beginning their journey about the runway or track.

It will be evident,—more especially where a circular track set at an incline is preferred,—that suitable provision should be made for the cars maintaining a horizontal position during their progress on the said circular track placed at an incline. This end I achieve through the pivot studs at either end of the car turning in an axle 115 plate that carries the axle on which the wheels are placed. The car is further provided with a shield plate fastened on the top side and carried downward in front of the axle plate and behind the axle. Thus the car and the shield plate together turn on the pivot stud with the axle plate between them. The axle plate is provided with stops at either side which limit the 120 turning of the car in either direction and 125

thus its normal horizontal position can be assured. This swinging movement of the car may, if found desirable, be arranged so as to be controlled by the occupant thereof, as I have shown in Fig. 3, where an aperture *c*, is provided in the shield plate at the top side of the car through which is extended a controlling lever *b*, which is continuous with and forms a part of the axle piece carried on the pivot stud between the said shield piece and axle as has been described, thus placing the turning action of the car under the immediate control of the person handling the said controlling lever.

It will be apparent that in place of providing the inner ends of the several sweeps with pig-tails superimposed on each other and turning on the central shaft with collars between, they might be attached to one common bearing or collar also turning on the said central drive shaft; but the method of arrangement I have shown is preferred as affording a wider range for adjustment and operation of the sweeps where a greater number than is shown in Fig. 1, is at one time put in use, for of necessity there will be as many sweeps as cars, and if as many cars were commissioned as the track could accommodate without dangerous interference with each other, no space would be afforded for arranging the ends on one common bearing collar.

Having thus described my invention and its operation, what I claim as new and desire to secure by Letters Patent of the United States of America, is:

1. In an amusement apparatus of the character described, a frame work supporting a circular inclined runway or track and a shaft having a drive wheel centrally disposed within said circular inclined runway or track; sweeps pivotally connected on said centrally disposed shaft; double spring connections between said sweeps and said centrally disposed drive wheel in combination with vehicles on said circular inclined runway or track pivotally connected and arranged with the outer ends of said sweeps substantially as herein described and shown.
2. In an amusement apparatus of the character described, a frame work supporting a circular inclined runway or track and a shaft having a drive wheel centrally disposed within said circular inclined runway or track; sweeps provided with slotted clip pieces and pivotally connected on said centrally disposed shaft; double spring connections between said sweeps and said centrally

disposed drive wheel in combination with vehicles on said circular inclined runway or track having pivoted bodies each pivotally connected and arranged with the outer end of said sweeps substantially in the manner and for the purpose herein described and shown.

3. In an amusement apparatus of the character described a frame work supporting a circular inclined runway or track and a shaft having a drive wheel centrally disposed within said circular inclined runway or track; sweeps having slotted clip pieces and pivotally connected on said centrally disposed shaft, double spring connections between said sweeps and said centrally disposed drive wheel, in combination with vehicles on said circular inclined runway or track having pivoted bodies provided each with a pivot post adapted for connection with the outer end of said sweeps, pivot studs at the ends, axle plates adapted for axles, and disposed on said pivot studs between the ends of the vehicle bodies and a shield plate fastened thereon, and connecting means between said vehicle bodies and said slotted clip pieces of said sweeps substantially as herein described and shown.

4. In an amusement apparatus of the character described a frame work supporting a circular inclined runway or track and a shaft having a drive wheel centrally disposed within said circular inclined runway or track; sweeps having slotted clip pieces and pivotally connected on said centrally disposed shaft, double spring connections between said sweeps and said centrally disposed drive wheel, in combination with vehicles on said circular inclined runway or track having pivoted bodies each provided with a pivot post adapted for connection with the outer end of the respective sweep, pivot studs at the ends, axle plates adapted for axles and disposed on said pivot studs of said vehicle bodies between the ends thereof, a shield plate fastened thereon, and connecting means between said pivoted vehicle bodies and said slotted clip pieces of said sweeps substantially constructed and arranged in the manner and for the purpose herein described and shown.

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

JOHN HENRY CURRAN.

Witnesses:

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A. L. HEMINGWAY.