Nov. 26, 1929. H. W. SELLNER 1,737,032

AMUSEMENT RIDE

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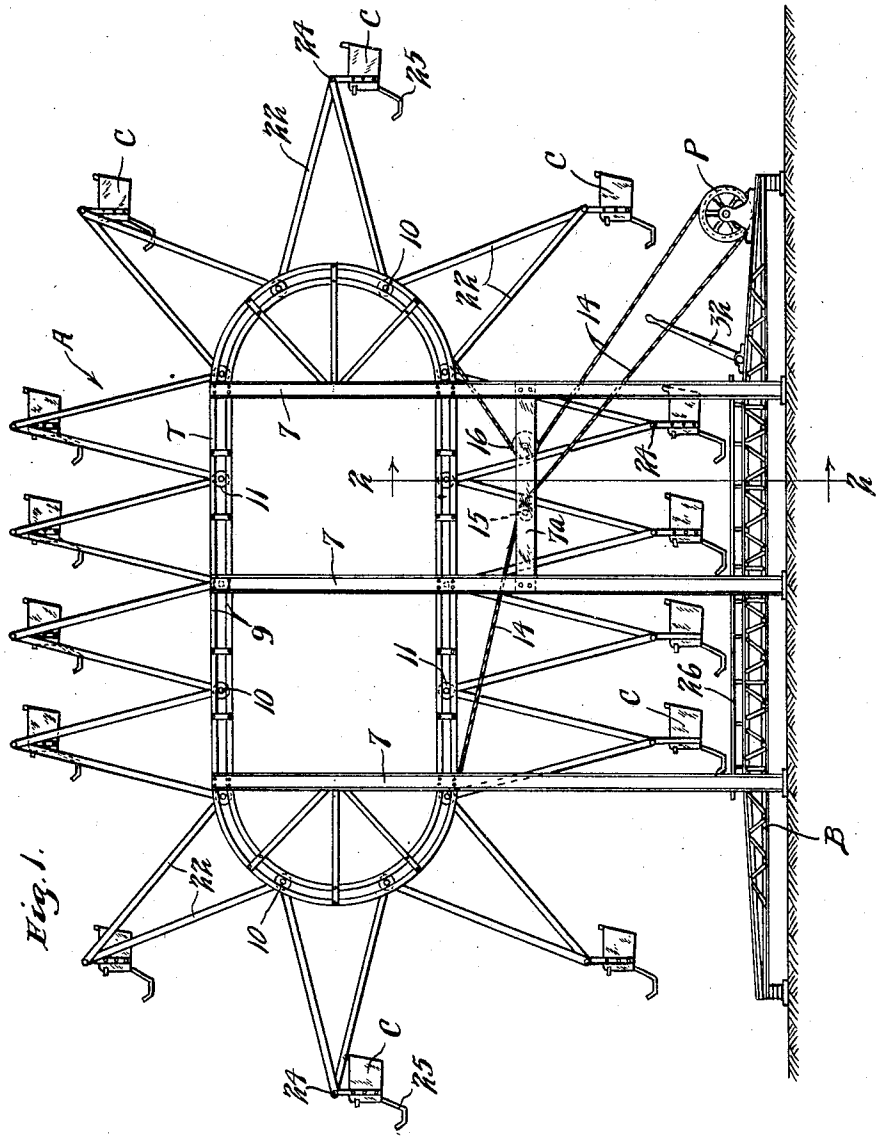

Fig. 1.

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Fig. 2.

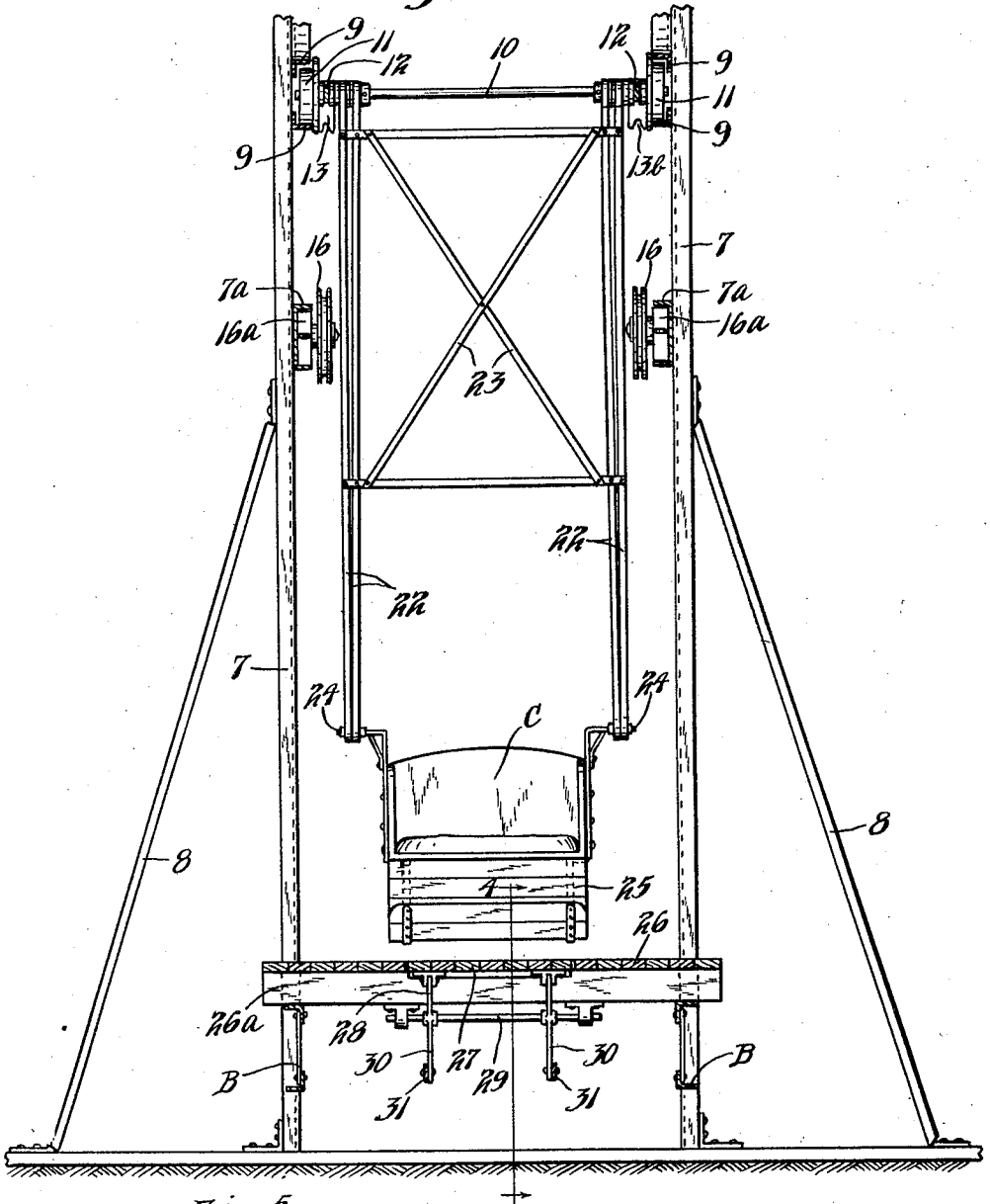

Fig. 5.

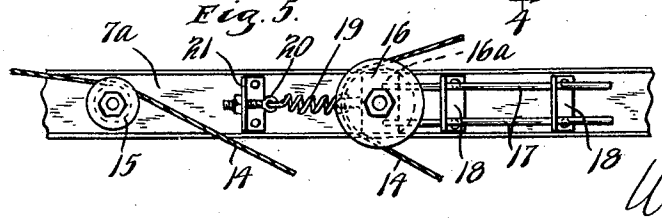

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Fig. 4.

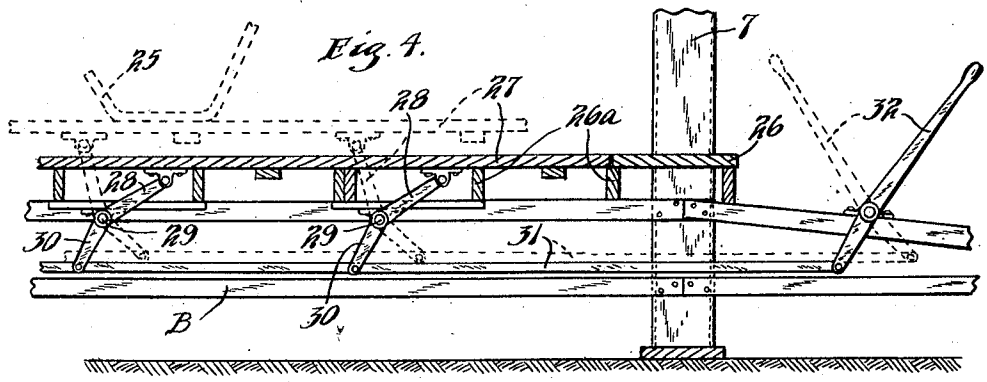


Fig. 3.

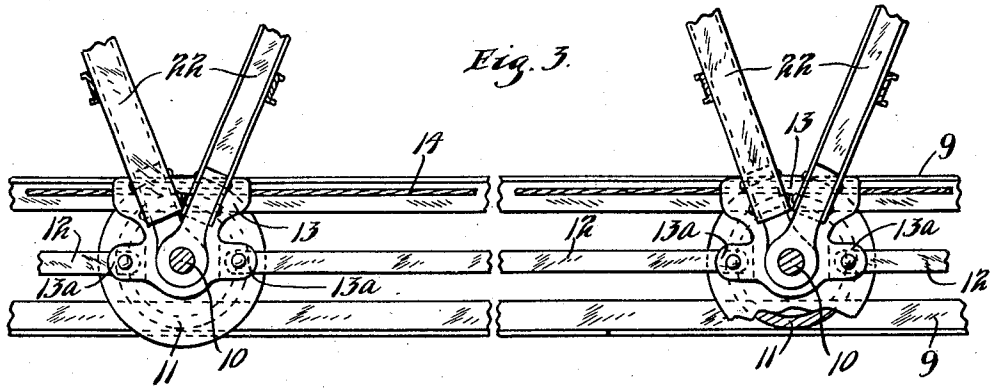
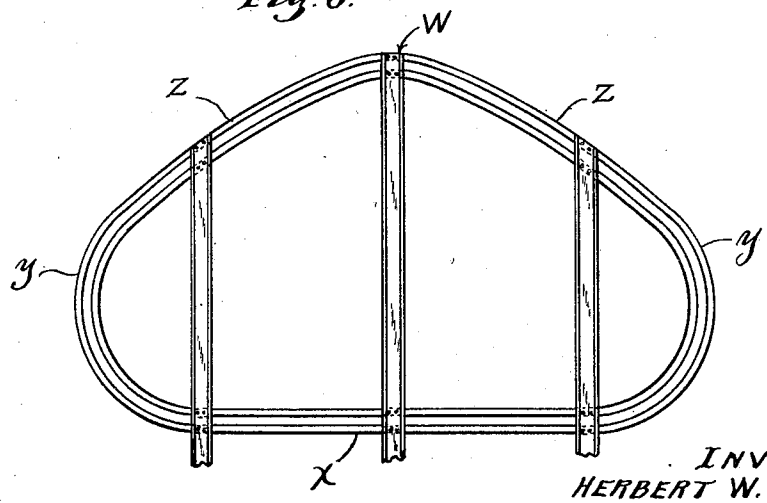


Fig. 6.



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UNITED STATES PATENT OFFICE

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AMUSEMENT RIDE

Application filed September 26, 1928. Serial No. 308,466.

This invention relates to amusement apparatus and especially to an amusement ride of the round-about type operating in a vertical plane.

It is an object of my present invention to provide an enjoyable and pleasureable amusement ride which will give the passengers unexpected thrills and wherein the speed of a series of passenger cars in traveling through a course will be accelerated unexpectedly.

A further object of the invention is to provide an amusement ride wherein a plurality of passenger cars are moved through an endless course in a substantially vertical plane, said cars being elevated to a considerable height and then dropped to a lower level.

Another object is to provide an amusement ride of the Ferris wheel type wherein a plurality of passenger cars may be conveniently loaded at one time from the ground.

Another object is to provide a ride of the class described including an endless course disposed in a vertical plane and provided with substantially straight sections and curved sections and means for causing a series of pivotally supported passenger cars to pass about said endless course in such manner that the speed of said cars will be greatly accelerated as they pass around the curved portions of the track.

Another object is to provide means, in connection with said ride, for holding the passenger cars stationary when it is desired to load the same.

These and other objects will be apparent from the following description made in connection with the accompanying drawings wherein line characters refer to similar parts throughout the several views, and in which:—

Fig. 1 is a side elevation of an embodiment of the invention.

Fig. 2 is a vertical section of the lower portion of the ride taken on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary side elevation on a larger scale of a pair of the wheels and arms taken from inside the ride and showing the couplings and a connections of the wheels and projecting arms of the carrier element.

Fig. 4 is a vertical section taken on line 4—4 of Fig. 2 illustrating my improved mechanism for preventing the cars from swinging during the operation of loading.

Fig. 5 is a fragmentary detail elevation showing the manner in which the endless driving cable is guided to the power pulley and the automatic belt tightener for the same.

Fig. 6 is a side elevation showing a slightly modified form of the course or track for the ride.

As illustrated in the drawings, I provide a suitable vertical frame preferably supported upon an elongated base B and comprising two series of elongated up-right posts, each series as shown, including three posts 7 suitably braced by the diagonal stays 8 and said two series being parallel and spaced apart a sufficient distance to nicely accommodate the passenger cars. To the inside and upper portions of each series of posts an endless track T is secured, said tracks as shown in Figs. 1, 2 and 5 inclusive having straight and horizontal upper and lower sides and having arcuate ends. The right and left hand tracks are oppositely and concentrically disposed and each track preferably comprises inner and outer rails 9, preferably of angle bar construction.

A carrier or conveying element runs in said tracks and comprises an endless train of trucks suitably coupled together, each truck comprising a pair of spaced shafts 10, said shafts carrying flanged wheels 11 at their extremities and being spaced apart equi-distant by means of suitable links 12, said links being applied at both right and left hand ends of the shafts. Blocks or brackets 13 are carried at the ends of shafts 10, said blocks constituting bearings for said shafts and having a pair of oppositely disposed ears 13^a to which the links 12 are pivotally secured. Blocks 13 at their outer edges, which are substantially parallel with the track, are shaped to form crotch shaped cable guides 13^b and a pair of endless cables 14 encircle the endless carrier, one cable lying in the cable guide 13^b of the right side of the ride and the other cable lying in the guide 13^b of the left side of the ride. Said endless cables 14 pass over power pulleys P fixed to a suitable shaft which is

connected with a source of power. One of the leaves of each cable 14 passes over an idler sheave 15 suitably mounted on the upright frame, while the other leaf is passed over a spring actuated belt tightener spaced from idler sheave 15 a relatively short distance and illustrated in detail in Fig. 5. As shown, the belt tightener 16 comprises a sheave pivotally mounted on a block 16ª, said block having parallel and horizontally extending rods 17 secured to one end thereof, which rods are slidable in spaced guides 18 secured to a cross piece on the frame of the rod. The opposite end of the block 16ª is connected with a contractile spring 19, the opposite end of said spring being adjustably connected by means of an eye bolt 20 to a suitable bracket 21 rigidly mounted on said cross piece of said frame.

Each section of my endless conveyor defined by a pair of the shafts 10 and the appropriate links 12 connecting the ends thereof, rigidly carries a pair of outwardly projecting arms A. Said arms each comprise a pair of links or bars 22 having their outer ends overlapped and secured together and having their inner ends spaced apart and secured to the two shafts of said conveyor section. The two arms A of each conveyor section are spaced apart a sufficient distance to permit a passenger car C to be pivotally mounted on a horizontal axis between the outer ends thereof, and as shown, passenger cars C are provided with outwardly extending horizontal trunnions 24 which pass through the overlapped extremities of the links or bars 22 serving to secure said links together as well as to pivotally secure the car to the arms.

Each passenger car, as illustrated, includes a horizontal seat and a foot rest 25 supported from such seat. Since the cars are pivoted above their centers of gravity, they will be maintained, due to the action of gravity, throughout their travel with the seats disposed in a horizontal position.

I propose to provide a substantially horizontal loading platform 26 supported a short distance above the ground and spaced slightly below the line of travel of the foot-rest portion 25 of the cars. Centrally disposed in said loading platform I mount a vertically movable stabilizing platform 27 adapted to engage the foot rest portion 25 of the cars to prevent the cars from swinging on their trunnions when it is desired to load the same. Stabilizing platform 27 is normally supported on suitable cross pieces 26ª of the loading platform, but it is also connected, by means of suitable short arms 28, with a pair of rock shafts 29, said rock shafts as shown being journaled transversely beneath the loading platform. Rock shafts 29 may be rigidly connected with short depending levers 30 which may be connected at each side of stabilizing platform 27 with elongated operating rods 31, the forward ends of said rods projecting beyond the loading platform and being connected to a suitable shift lever 32 for operating the stabilizer. In Fig. 4 the dotted lines indicate the raised position of the stabilizing platform 27 showing the manner in which said stabilizer engages the bottom portions of the foot rests 25 of the cars maintaining the cars stationary for loading.

In Fig. 6 a slightly modified track or course is illustrated which may be substituted for the track shown in Figs. 1 and 2. The track shown in Fig. 6 comprises a horizontal lower stretch X providing means whereby a plurality of the cars may be disposed at the same level at the same time, arcuate end portions Y causing the arms A to accelerate as the sections of the carrier supporting said arms pass over the stretches Y and inclined and declined substantially straight portions Z culminating in a curved peak W. It will also be seen that various other irregular shapes may be used in designing the track, as well as those illustrated in this application.

Operation

The operation of my improved amusement device may be briefly described as follows:

The endless carrier comprising the spaced shafts 10, the spacing links 12, and the wheels 11 travels around the endless tracks 7 at a uniform speed carrying with it the arms A. The arms are rigidly connected to the respective carrier sections, as will be clearly seen from Figs. 1, 2 and 3 of the drawing, and the joined outer ends of the links 22 constituting the arms always maintain a constant position with respect to the ends of the links and the carrier sections to which they are secured. The triangular arrangement of the links and arms furnish a strong support for the passenger cars. As the arms A move through their endless course they will pass along the straight stretches of the track at a constant rate of speed, but as they pass over the curved or arcuate portions of the track they will obviously cause the speed of the passenger cars to be accelerated. The sensation produced upon the riders is thrilling due to the acceleration of the speed on the arcuate or curved drop or rise as the case may be. The drop may be accentuated by driving the endless carrier in such a direction that the passengers are facing oppositely to the direction of travel.

Since the track is provided with a lower substantially straight horizontal section, a plurality of the arms and passenger cars will be suspended at the same level adjacent to the ground and consequently several of said cars may be simultaneously loaded when the device is at rest. Gravity will of course maintain the seats of the several passenger cars in a horizontal position throughout the

travel of the course since the cars are pivoted to the outer ends of the arms by means of horizontal trunnions 24 positioned above the centers of gravity of said cars and at approximately the centers of gravity of passengers riding in said cars.

In loading the cars it is desirable to maintain the same against swinging and to this end it is only necessary to operate lever 32, causing the rock shafts 29 to elevate the stabilizing platform 27 as shown by dotted lines in Fig. 4. The foot rests of the several cars are then engaged by said stabilizing platform and the cars may be safely loaded.

It will be seen that the spaced transverse shafts 10 of the endless conveyor constitute axles for the wheels, connect the laterally projecting links 22 to form the rigidly connected arms and conveniently secure the blocks 13 with which the links 12 of the endless conveyor are connected, and which blocks also constitute the cable guides or clutches in which the endless drive cable is seated.

From the foregoing description it will be seen that I have invented a comparatively simple amusement ride adapted to furnish passengers with unexpected thrills and to rapidly elevate said passengers and drop the same while passing through an arcuate line of travel.

The construction of the ride throughout is rugged and safe and will withstand hard continuous usage.

It will be seen that tracks of various shapes may be designed within the scope of my invention. I prefer to have the lower stretch of the track horizontal and substantially parallel to the loading platform in order that several cars may be simultaneously loaded.

It will of course be understood that various changes may be made in the form, details proposed and arrangements of parts without departing from the scope of my invention.

What is claimed is:

1. An amusement device comprising an endless course having a relatively sharp curve therein and lying in a substantially vertical plane, an arm projecting laterally and outwardly from said course in substantially the plane thereof, a passenger car pivoted to the outer portion of said arm on a substantially horizontal axis and means for moving said arm about said course whereby the speed of said car will be accelerated as said arm is moved about said curve in said course.

2. An amusement device comprising an endless track disposed in a substantially vertical plane, a plurality of trucks in said track coupled together to form an endless train, an arm extending laterally and outwardly from each of said trucks and passenger cars pivotally secured on horizontal axes to the outer portions of said arms.

3. An amusement device comprising an endless carrier element having a substantially straight portion and at least two curved portions, an arm extending laterally and outwardly from said carrier element and connected at the inner end thereto, a passenger car pivoted on a substantially horizontal axis to the outer end of said arm, the speed of said passenger car being accelerated as said arm passes around said curved portions.

4. An amusement device comprising inner and outer concentric tracks disposed in a substantially vertical plane, a series of trucks between said tracks coupled together to form an endless train, arms carried by said trucks and extending outwardly and laterally of said tracks, and passenger cars pivotally secured to the outer ends of said arms on substantially horizontal axes.

5. An amusement device comprising an endless elevated course lying substantially in a vertical plane, said course having an elongated substantially horizontal lower stretch and curved end stretches, a series of arms projecting laterally and outwardly from said course, passenger cars pivotally connected to the outer ends of said arms on substantially horizontal axes, means for moving said arms about said course, the length of said arms being substantially equal to the elevation of said lower stretch of track, whereby a plurality of passenger cars may be loaded simultaneously.

6. An amusement device having an endless elevated carrier element, said element lying in a substantially vertical plane, and comprising a plurality of coupled sections, an arm rigidly connected to each of said sections and projecting laterally and outwardly therefrom and a passenger car pivotally secured on a substantially horizontal axis to the outer end of each of said arms.

7. An amusement device comprising a pair of parallel endless tracks each disposed in substantially a vertical plane, a series of trucks coupled together to form an endless train and having wheels disposed in said tracks, each of said trucks carrying a pair of spaced arms, said arms projecting outwardly and laterally from said trucks and a passenger car pivotally mounted on a substantially horizontal axis between the outer ends of each pair of arms.

8. An amusement device comprising an elevated endless course, a series of arms extending laterally and outwardly from said course, means for moving said arms about said course, passenger cars pivotally secured on horizontal axes to the outer portions of said arms, a stabilizing element disposed beneath said course and normally spaced slightly from the orbit of said passenger cars and means for elevating said stabilizing element to bring it into engagement with at least one of said

passenger cars whereby swing of said car on its pivot will be checked.

9. An amusement device comprising an endless elevated course disposed substantially in a vertical plane, said course having a lower substantially horizontal stretch, a series of arms extending laterally and outwardly from said course, a series of passenger cars pivotally connected to the outer ends of said arms on substantially horizontal axes, means for moving said arms about said course, an elongated stabilizing element disposed beneath said course and substantially parallel with said lower horizontal stretch and means for moving said stabilizing element into engagement with a plurality of said passenger cars suspended below said horizontal stretch, whereby said engaged cars will be prevented from swinging on their pivots and may be simultaneously loaded.

10. An amusement device comprising an endless elevated course disposed in a substantially vertical plane, having a horizontal lower stretch, an elongated upper stretch and a pair of arcuate end stretches connecting said upper stretch with said lower stretch, a series of arms extending laterally and outwardly from said course, cars pivoted on horizontal axes to the outer ends of said arms and means for moving said arms about said course whereby the speed of said passenger cars will be accelerated and said cars will rise or fall when said arms are moved about said arcuate stretches.

In testimony whereof I affix my signature.

HERBERT W. SELLNER.