Aug. 20, 1940. S. G. BARNARD 2,211,876

AMUSEMENT RIDE

Filed Feb. 14, 1938 2 Sheets-Sheet 1

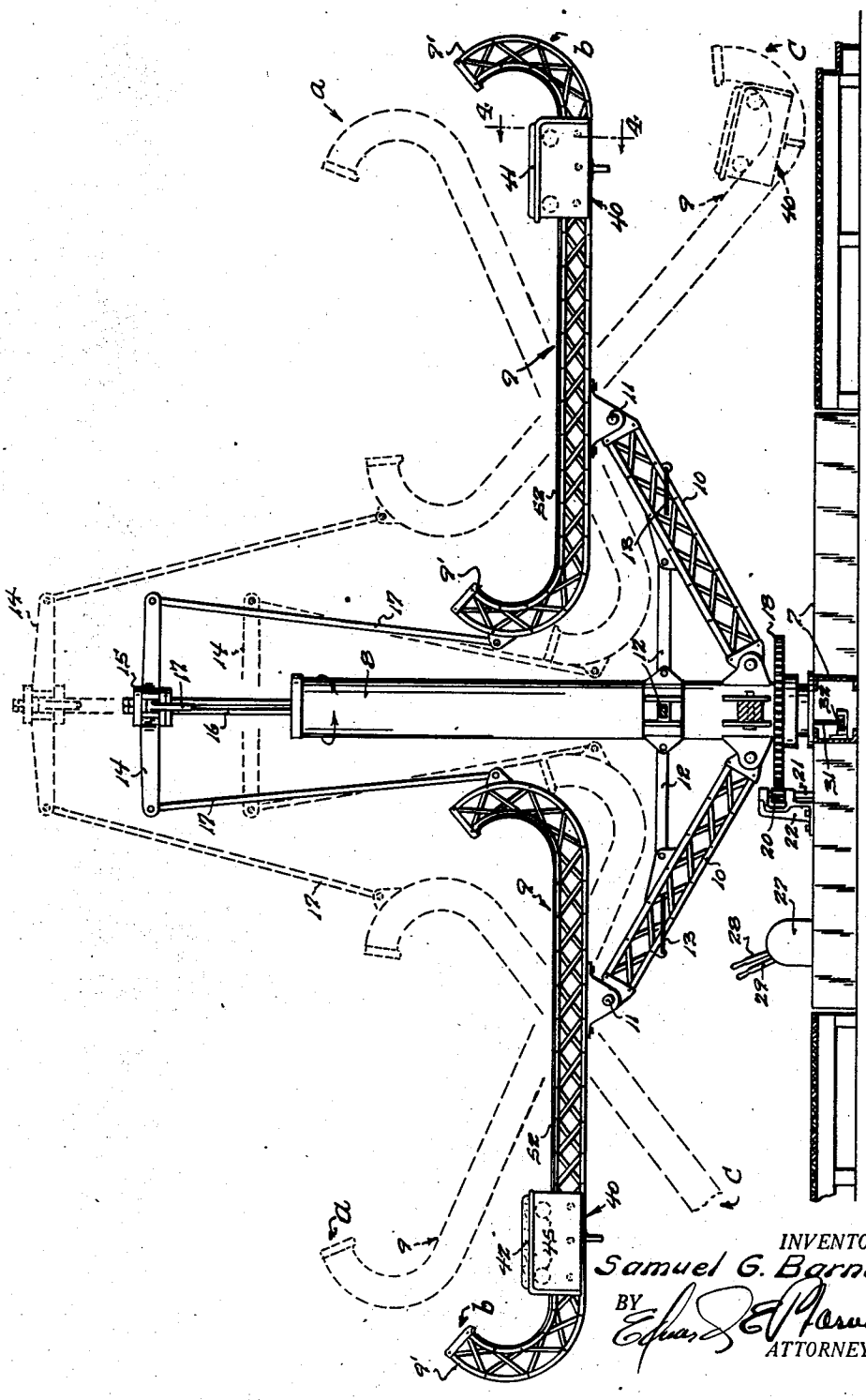

Fig. I.

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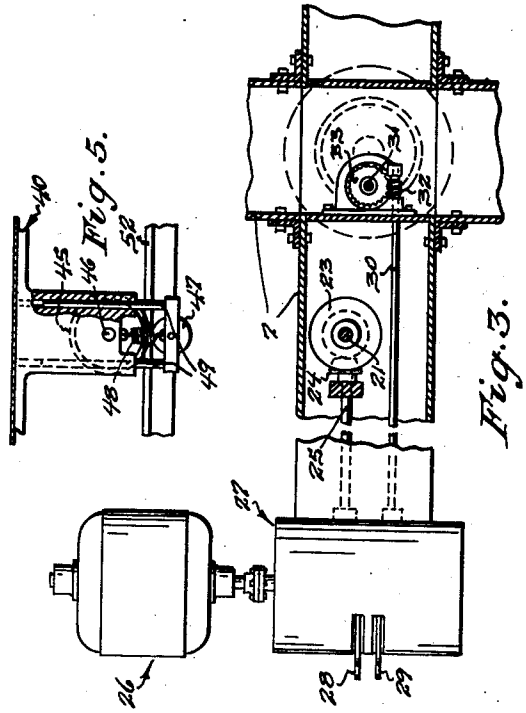

Fig. 5.

Fig. 3.

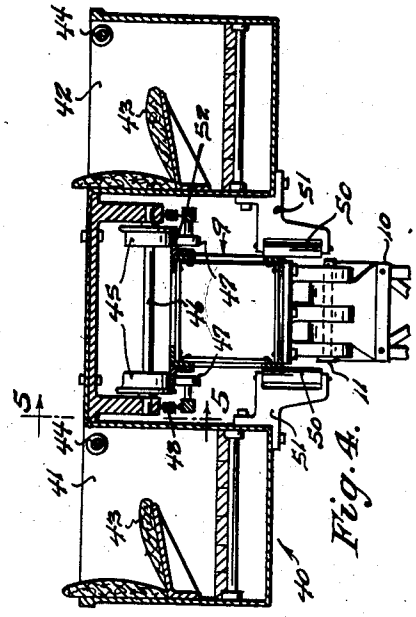

Fig. 4.

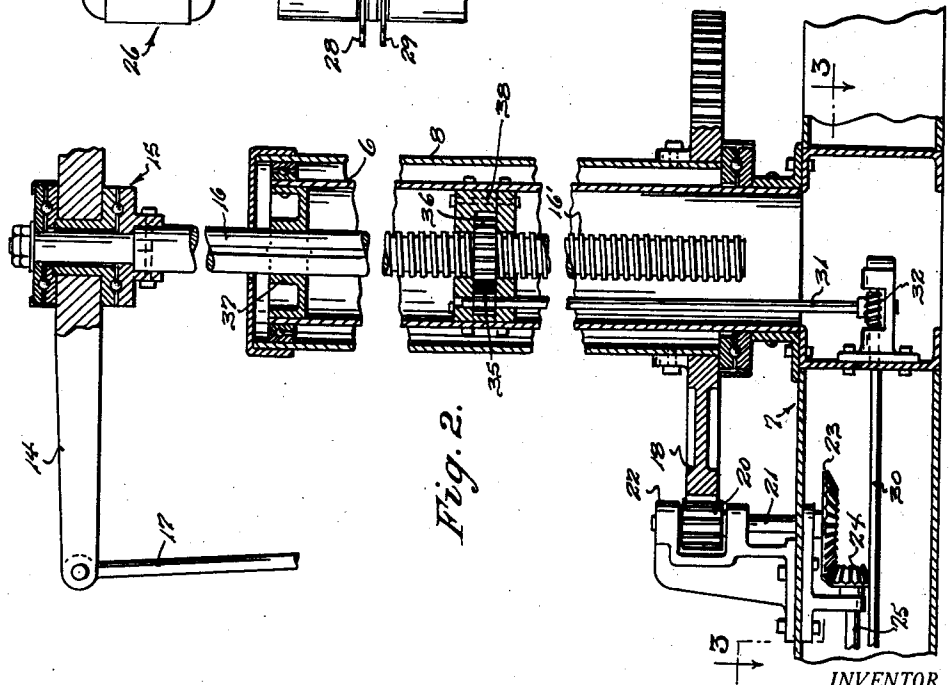

Fig. 2.

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UNITED STATES PATENT OFFICE

2,211,876

AMUSEMENT RIDE

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Application February 14, 1938, Serial No. 190,450

4 Claims. (Cl. 272—7)

My invention relates to amusement devices and particularly to that class of device conventionally known as an "amusement ride" and which finds its greatest outlet in carnivals and other like travelling shows.

While the developments in this field are many there has been one objection common to substantially all of the ride ramifications, the necessity for successive rather than simultaneous loading of the plural cars used. Stated otherwise, the exigencies of the compounded movements engineered into the machines have required that one loading platform be used from which the cars are loaded in turn. The major disadvantage of this delayed loading is of course the resulting loss of income during the periods of idleness but also of extreme import to the operators is distraction of onlookers' attention by other amusements upon a failure to maintain, substantially constant, an atmosphere competitive to the condition of hurly-burly pervading carnivals.

The present invention aims to overcome the above objection by providing an amusement ride which can be loaded in a fractional part of the time heretofore required by comparative machines, to provide a machine characterized by a movement more flexible in its action and more positive in its control than the movements engineered into prior amusement rides, and in other ways generally to perfect a machine which will serve to more nearly meet the desire of the normal individual than has been possible with many of the so-called "jack-in-the-box" rides which in the main have characterized the more recent amusement machines introduced.

It is, more particularly, an object of my invention to provide an amusement ride capable of producing a sensation equivalent to that experienced in toboggan runs, especially the banked turns thereof, and visualizing this, the foregoing objects and advantages, and others which will become apparent in the course of the following description and claims, the invention consists in the novel construction, adaptation and combination of parts hereinafter described and claimed.

In the drawings:

Figure 1 is an elevational view of an amusement ride embodying my invention with parts being deleted to prevent confusion.

Fig. 2 is a fragmentary vertical section taken to an enlarged scale to detail the structural relation between operating parts.

Fig. 3 is a fragmentary horizontal section taken on the line 3—3 of Fig. 2.

Fig. 4 is a detail transverse vertical section on the line 4—4 of Fig. 1; and

Fig. 5 is a detail longitudinal vertical section taken on the line 5—5 of Fig. 4.

Referring to these several views the numeral 6 represents a stationary tubular standard supported in an upright position from a horizontal X-frame base 7 of which the structural members are or may be of box formation. About this standard a tube 8 is journaled for rotation and supported by this tube for movement about the fulcrums 11 of fixed jib-girders 10 are a plurality of lattice-work lever members 9 operating as track-ways for cars 40. Such lever members are terminally upturned as at 9' to operate, at the inner end, as a cushioning stop for limiting car travel and, at the outer end, as a "bank" under the force of extreme centrifugal movement. Between the jib-girders are guys 13 and from the girders to a collar carried on the tube are stay or truss rods 12.

16 denotes an elevating shaft splined for non-rotary vertical movement through a head piece 37 fixedly received in the standard 6 and this shaft is formed with a threaded lower end 16' fitting internal threads of a gear 36 which provides external spur teeth engaged by a pinion gear 35, the pinion being driven by a shaft 31 operated from a motor-driven horizontal shaft 30 through intermeshing worm and worm wheel gears 32—33. 26 represents the motor and 27 a control box for obtaining opposite directional rotation, by the manual control lever 29, of said gear 36. A thrust bearing for the gear is indicated at 38.

Said motor and control box additionally provide regulated rotation of the tube 8 through the instrumentality of a manual speed-governing lever 28, the connecting structure comprising a driven horizontal shaft 25 acting through intermeshing bevel gears 23—24 to drive a pinion shaft 21, a gear 20 on this shaft being positioned by a bracket 22 in mesh with a spur wheel 18 fixedly secured to the tube.

To provide connection between the elevating shaft 16 and said lever members 9 for collective operation of the latter about their respective fulcrums 11 I provide a spider 14 revolubly received in a bearing assembly 15 fitting the exposed end of the shaft, the arms of the spider connecting by rods 17 with the inner ends of the lever members.

Reverting to the cars 40 I designate by 52 laterally extending double track rails upon which flanged car wheels 45 are mounted, the axles 46.

one at each end of the car, upon which these wheels are mounted being suitably journaled in the wing dependencies of a body frame which desirably is of an inverted U-shape in end elevation. Complementing the wheels 45 are secondary track wheels 47 (detailed in Fig. 5) carried by horizontal axles, the axles being supported in journal boxes which are suspended by plunger rods 49 below the frame wings, the wheels being yieldably held in tracking engagement to the undersides of the tracks 52 by springs 48.

Supported by the body frame is the car body which is formed at each side of the lever member with open compartments, as 41 and 42, for the accommodation of passengers, these compartments being open at the outer ends in the provision of entrance ways to the seats 43 which run lengthwise of the cars facing the direction of rotation of the machine. Hand-holds are designated at 44. Rigidly secured to the car bodies at each side of the lever members are one or more hangers 51 indicated as being disposed centrally of the car. Guide wheels 50 journaled in these hangers operate over angle-iron stringers which extend as corner bars for the levers.

In illustrating my amusement ride I have depicted a machine constituting one of numerous embodiments well within the spirit of the invention, an invention broadly a departure from prior machines in the art of amusement rides. It is believed clear that the operator, either by variations in the speed of the tube 8 or in the degree of tilt of the lever members 9, controls the physical powers of centrifugal and gravity forces to alter the position of the cars at will. Movement of the lever members, for example, to the uppermost dotted-line position indicated by the letter a in Fig. 1 in conjunction with a low speed of revolution positions the cars at the inner end of the car travel, from where increasing speed spirals the cars outwardly to an extreme outer position whereat the same assume a high "bank." The high "bank" can be obtained with less rotary speed by lowering the outer ends of the lever members toward or into the full-line position indicated by the letter *b*. For loading purposes the arms occupy the dotted-line position represented by the letter *c*.

What I claim, is:

1. An amusement ride comprising, in combination, a track-way pivoted on a transverse horizontal axis and supported in radial relation to and revoluble about a vertical axis, a car for the track-way, drive means for rotating the track-way about said vertical axis for actuating the car outwardly under the motivating influence of centrifugal force, and manually-governed means independent of the drive means permitting the track-way to be tilted about its pivotal axis to variable angularities, selectively.

2. An amusement ride comprising, in combination, a series of track-ways disposed in radiating relation to and revoluble about a vertical axis, cars for the respective track-ways, speed-variable drive means comprising a source of power and connection therefrom to the track-ways for collectively rotating the latter to actuate the cars outwardly on the respective track-ways under the motivating influence of centrifugal force, and means controlled by the operator for imparting governed elevation to the outer ends of the track-ways to oppose the centrifugal throw on the cars.

3. An amusement ride comprising, in combination, a series of track-ways pivoted on transverse horizontal axes and supported radially for revoluble movement about a common vertical axis, cars for the respective track-ways, a source of power, a drive coupling between said source of power and the track-ways for collectively rotating the same, and an operator-governed independent drive coupling between said source of power and the track-ways for operating the same about their respective pivots to alter the angularities of said ways.

4. An amusement ride comprising, in combination with a rotary stand, a series of radiating arms revoluble with the stand and pivotally supported thereby for tilting movements about transverse horizontal axes, track-ways extending longitudinally of the several arms, cars for the respective track-ways, loading platforms disposed below the outer ends of the arms, a motor and connection therefrom to the stand for rotating the stand to drive the cars outwardly on the arms by centrifugal force, and motor-driven means connecting with the arms for actuating the same about their respective pivots to collectively lower the outer ends of the arms into positions whereat simultaneous loading of the several cars is permitted.

SAMUEL G. BARNARD.