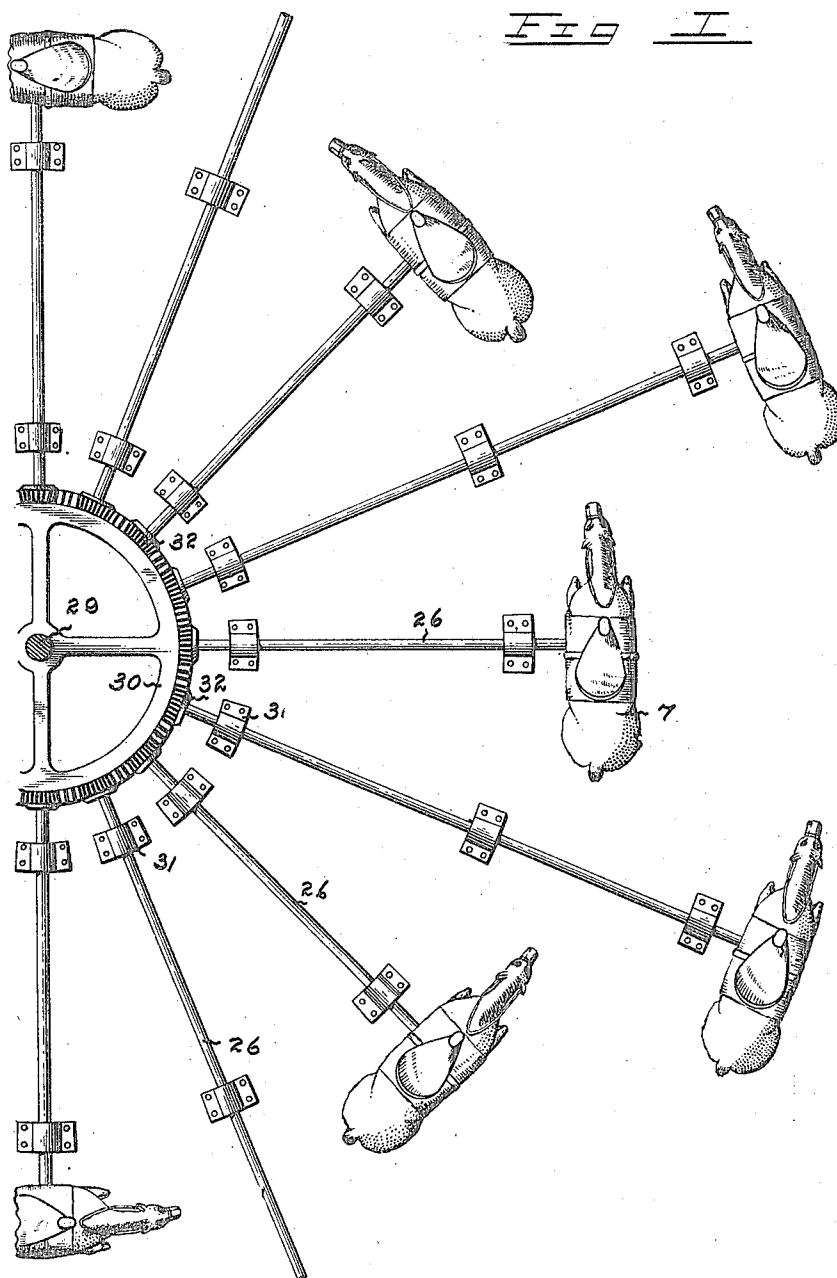


A. McK. WATERS.
 AMUSEMENT DEVICE.
 APPLICATION FILED MAR. 17, 1915.

1,197,085.

Patented Sept. 5, 1916.
 3 SHEETS—SHEET 1.

FIG I



WITNESSES.
A. Bickel
Roy L. Bailey

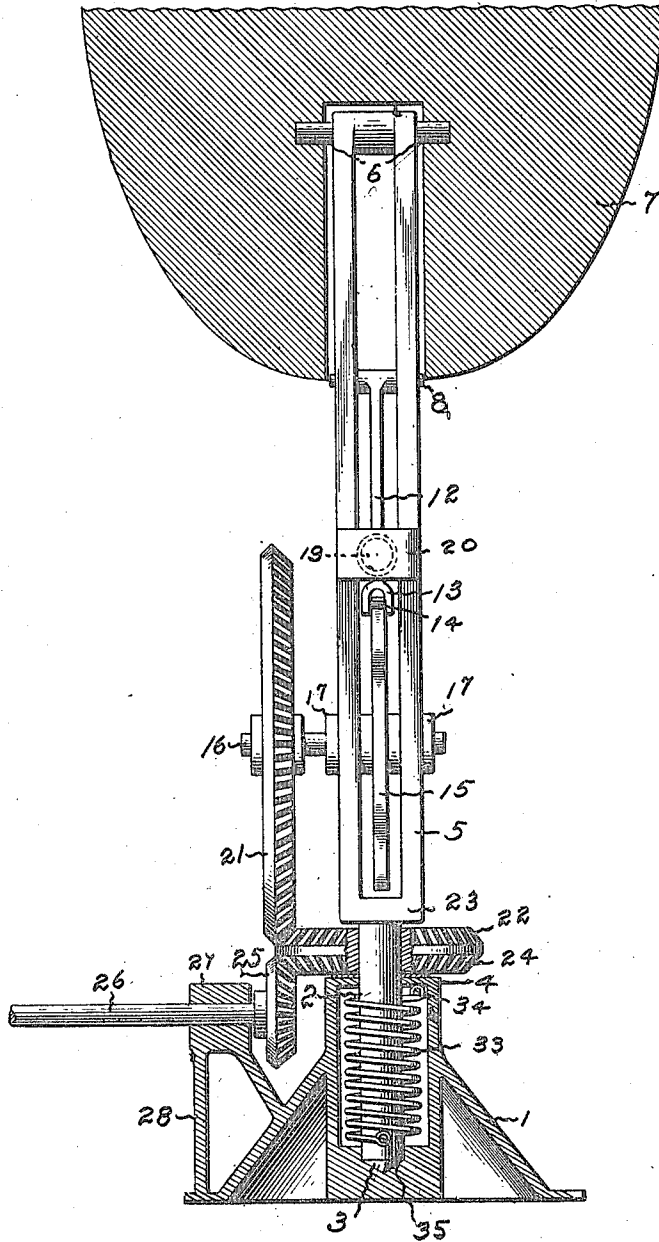
INVENTOR.
Andrew McK. Waters
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3 SHEETS—SHEET 2.

Fig 2



WITNESSES:
A. B. Buel
Roy L. Bailey

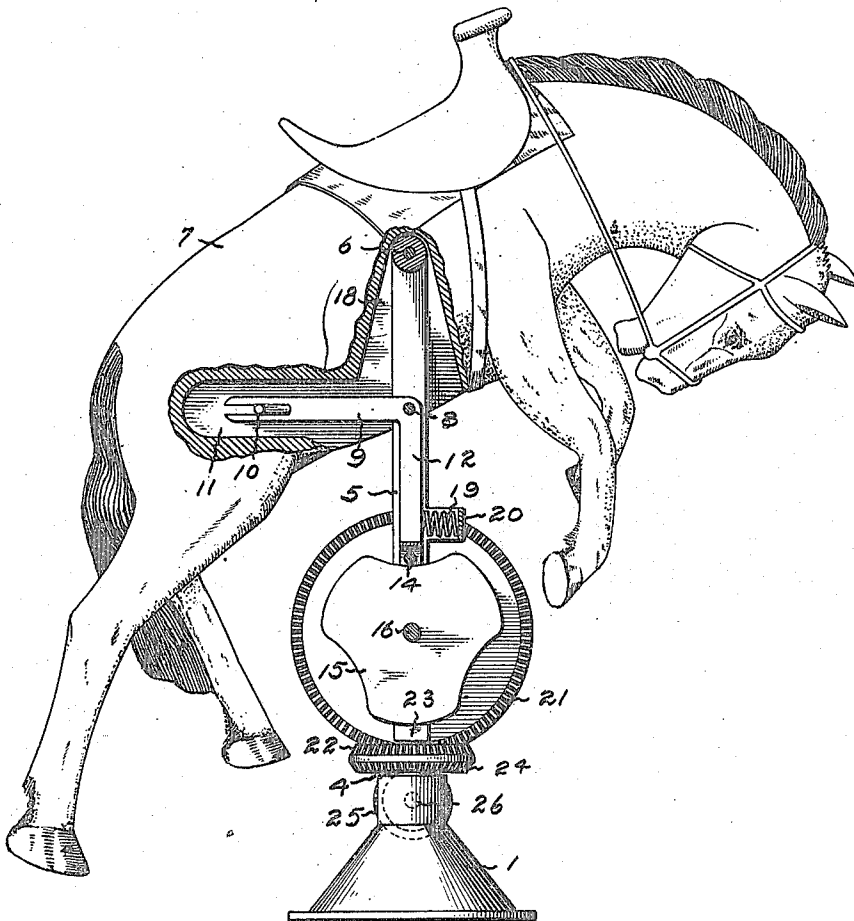
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3 SHEETS—SHEET 3.

Fig 3



WITNESSES:
R. Buehler
Roy L. Bailey

INVENTOR.
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UNITED STATES PATENT OFFICE.

ANDREW McK. WATERS, OF SAN FRANCISCO, CALIFORNIA.

AMUSEMENT DEVICE.

1,197,085.

Specification of Letters Patent.

Patented Sept. 5, 1916.

Application filed March 17, 1915. Serial No. 15,077.

To all whom it may concern:

Be it known that I, ANDREW McK. WATERS, a subject of the Kingdom of Great Britain, formerly residing in the Province of New Zealand, and at present residing in the city and county of San Francisco, State of California, whose post-office address is 402 New Call Building, have invented new and useful Improvements in Amusement Devices, of which the following is a specification.

This invention relates more particularly to improvements in hobby horses.

Among the objects sought to be accomplished are to provide a hobby horse so constructed and mounted that it is adapted to simulate the actions of a "bucking bronco"; that is so driven and operated that a multiple of hobby horses may be driven from a common central source, the horses being arranged in concentric circles.

Other objects and advantages will appear as the description progresses.

In the drawings accompanying and forming part of the present specification, to which like reference characters have been applied, a simple form of putting this invention into practice is shown. I do not wish to be understood as confining this invention to the disclosures made in said drawing and description, as many variations may be introduced, within the spirit of this invention, as defined in the claims succeeding the said description.

In the accompanying three sheets of drawings, Figure 1 is a diagrammatic plan viewed from above of a series of units constructed and arranged in accordance with this invention in the form of a merry-go-round. Fig. 2 is an enlarged detail in front elevation partially in cross-section illustrating the driving gear for operating the hobby horse. Fig. 3 is a side elevation partially in cross-section of a hobby horse mounted upon a swivel supporting pedestal, including the driving gear for operating a hobby horse.

In detail the construction illustrated in the drawings includes the supporting base 1, for the vertical swivel stem 2 pivotally stepped therein at 3, and guided in the top of the base at 4. The swivel stem operates freely in the base. The supporting pedestal 5 is preferably divided (see Fig. 2,) and has the trunnions 6 extending horizontally through its upper end and engaging the

body of the horse 7. The trunnions 6 engaging the horse about at the center of gravity of the load supported thereby, consisting of the body of the horse and the rider who sits in the saddle in the usual manner. The load thus balanced can be teetered or operated with the minimum amount of power as hereinafter described.

The horse 7 is caused to teeter or pivot on the trunnions 6 by a bell crank lever, pivoted on the pin 8 extending between the sides of the pedestal 5, and having a horizontal extension 9 divided at its outer end, to engage a pin 10 embedded in the body of the horse across the recess 11 formed therein. The vertical extension 12 of the bell crank terminates in a yoke 13, with the cross-pin 14 therein in the path of the cam 15.

The cam 15 is fixed upon the cross shaft 16 journaled in the bearings 17—17 formed on the opposite sides of the pedestal 5. The rotation of the cam 15 to the left (see Fig. 3) causes its peripheral contour to engage the pin 14 interposed in the path thereof, the profile of the cam carrying the pin 14 in an arc on its pivotal center 8, lifting the outer end of the extension 9 engaging the pin 10, which causes the elevation of the tail end of the horse: the elevation of the tail and lowering of the head of the horse successively occurring in accordance with the profile of the cam, realistically simulating the plunging of a "bucking horse". The recess 18 formed in the body of the horse to receive the pedestal 5 is flared to allow for the plunging action of the horse (see Fig. 3). When the pin 14, that should be provided with a suitable anti-friction roller, descends into a depression in the profile of the cam the rear end of the horse drops suddenly, the vertical extension 12 of the bell crank lever abutting the end of the spiral spring 19, fixed in the bracket 20 extending laterally from the pedestal. The impact of the extension 12 against the spring 19 causes a rebounding or bouncing action, further adding to the realism of the plunging of the horse.

The cam 15 is rotated by the bevel-gear 21 fixed on the shaft 16 and enmeshed with the intermediate gear 22, rotatable on the swivel 2 and confined between the top 4 of the base and shoulder 23 of the pedestal. The intermediate gear is provided with the bevel tooth face 24, enmeshed with the driv-

ing pinion 25 fixed upon the end of the drive shaft 26 journaled in the bearing 27, forming part of the bracket 28 extending outward from the base 1. The rotation of the driving shaft 26 is communicated to the intermediate gear revoluble on the swivel 2, and communicating its rotation to the driving gear 21 fixed on the shaft 16 of the cam 15.

In the present embodiment of the invention (see Fig. 1) the various drive shafts 26 of the several units converge toward the common center 29, that is the axis of the merry-go-round, when these units are made a part of such a combination. The bevel gear 30 is concentric with the center 29 and it is not revoluble with the floor of the merry-go-round, upon which the pillow bearings 31 are fixed. The inner ends of the drive shafts 26 are provided with the pinions 32 enmeshed with the gear 30. It is manifest that the swing of the horses around the center 29 causes the rotation of the various pinions 32 enmeshed with the stationary gear 30, the rotation of these pinions being communicated to the drive shafts 26, with the results hereinbefore described.

It is evident that the resistance that the cam 15 meets in raising the tail-end of the horse will tend to lock the gears 21 and 22, the rotation of the gear 22 causing the horse to swivel on the stem 2 in the direction of the rotation of the gear 22; to counter-balance this effect the torsion spring 33 is provided. The spring 33 encircles the swivel 2 within the chambered base 1 and has one end 34 fixed to the base and the opposite end 35 fixed to the swivel 2. When the torsional resistance of the spring 33 becomes greater than the resistance opposed to the cam 15 the pedestal will be held relatively stationary and the gear 21 will rotate, lifting the hind end of the horse that will sway slightly during this operation. The rises in the cam 15 pass under the pin 14 which descends into the depression in the cam profile during which intervals the tension on the spring 33 will be momentarily released and will unwind, causing the horse to swing horizontally on the swivel 2, the effect produced on the rider being that of riding a plunging horse pivoted on one hind-leg, very closely simulating the natural action of a "bucking" horse.

Having thus described this invention what I claim and desire to secure by Letters Patent is:—

1. An amusement device including a base, a supporting pedestal swiveled in said base, a tilting member carried by said supporting pedestal, means for tilting said tilting member and turning the pedestal about its axis, and torsion means connecting said pedestal and base.

2. An amusement device including a base;

a pedestal swiveled in said base; a tilting member pivoted on said pedestal, means for tilting said tilting member, means for intermittently turning the pedestal in one direction and means operating against the last mentioned means for turning the pedestal in the reverse direction.

3. An amusement device including a supporting pedestal, a tilting member pivoted on said pedestal; a lever pivoted on said pedestal having one end slidably engaging said tilting member; and means for moving the opposite end of said lever.

4. An amusement device including a supporting pedestal; a tilting member pivoted on said pedestal; a rotary member journaled in said pedestal; connecting means between said rotary member and said tilting member and buffer means between said last mentioned means and said pedestal.

5. An amusement device including a supporting pedestal; a tilting member pivoted on said pedestal; a rotary member journaled in said pedestal, connecting means between said rotary member and said tilting member; and means for imparting an intermittent action through said connecting means.

6. An amusement device including a base; a pedestal swiveled in said base; a tilting member pivoted on said pedestal; a lever pivoted on said pedestal having one end engaging said tilting member; and a rotary cam journaled in said pedestal and engaging the opposite end of the said lever.

7. An amusement device including a base; a pedestal swiveled in said base; a tilting member pivoted on said pedestal; a lever pivoted on said pedestal having one end engaging said tilting member; a rotary cam journaled in said pedestal and engaging the opposite ends of said lever; a driven gear fixed on the journal of said cam; an intermediate gear rotatable on said pedestal and enmeshed with said driven gear; and means for driving said intermediate gear.

8. An amusement device including a base; a pedestal swiveled in said base; a tilting member pivoted on said pedestal; a lever pivoted on said pedestal and having one end engaging said tilting member; a rotary cam journaled in said pedestal and engaging the opposite ends of said lever; a driven gear fixed on the journal of said cam; an intermediate gear rotatable on said pedestal and enmeshed with said driven gear; a driving pinion enmeshed with said intermediate gear; and means for driving said pinion.

9. An amusement device including a base; a pedestal swiveled in said base; a tilting member pivoted on said pedestal; a rotary member journaled in said pedestal; connecting means between said rotary member and the tilting member; a driven gear journaled on said pedestal and enmeshed with said driving gear; means for rotating said

intermediate gear; and a torsion member connected to said base and said swivel.

interposed between said lever and said pedestal.

10. An amusement device including a pedestal; a tilting member pivoted on said pedestal; a bell-crank lever pivoted on said pedestal and having one end engaging the tilting member, a cam engaging the opposite end of said lever; and a buffer spring

In testimony whereof I have hereunto set my hand this 4th day of February, 1915.

ANDREW McK. WATERS.

Witnesses:

BALDWIN VALE,
A. J. HENRY,

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