No. 873,570. PATENTED DEC. 10, 1907.

W. F. MANGELS & C. N. BREWSTER.

AMUSEMENT APPARATUS.

APPLICATION FILED JULY 27, 1907.

2 SHEETS—SHEET 1.

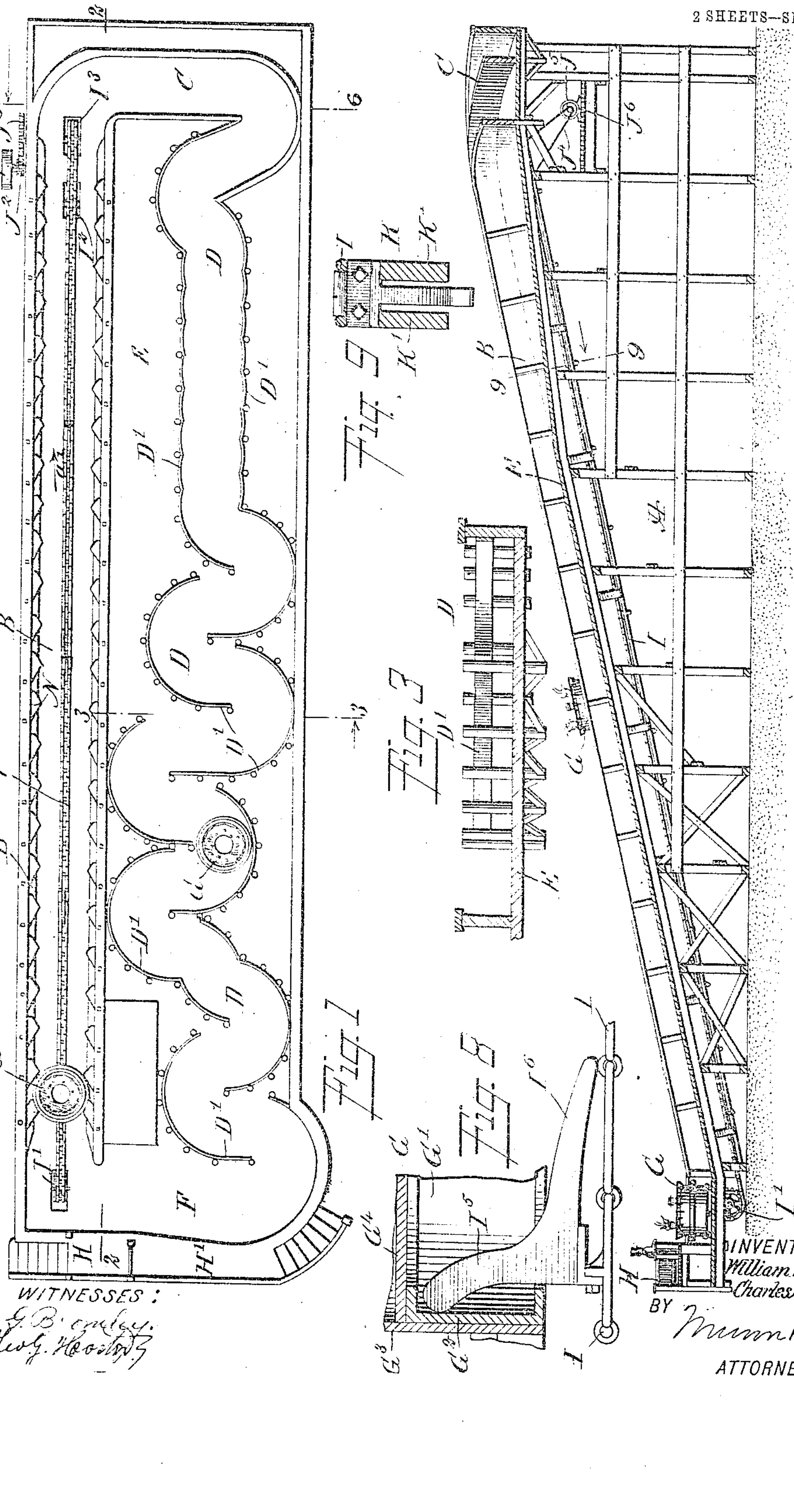

Fig. 1

Fig. 2

Fig. 3

Fig. 8

Fig. 9

WITNESSES:

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Fig. 4

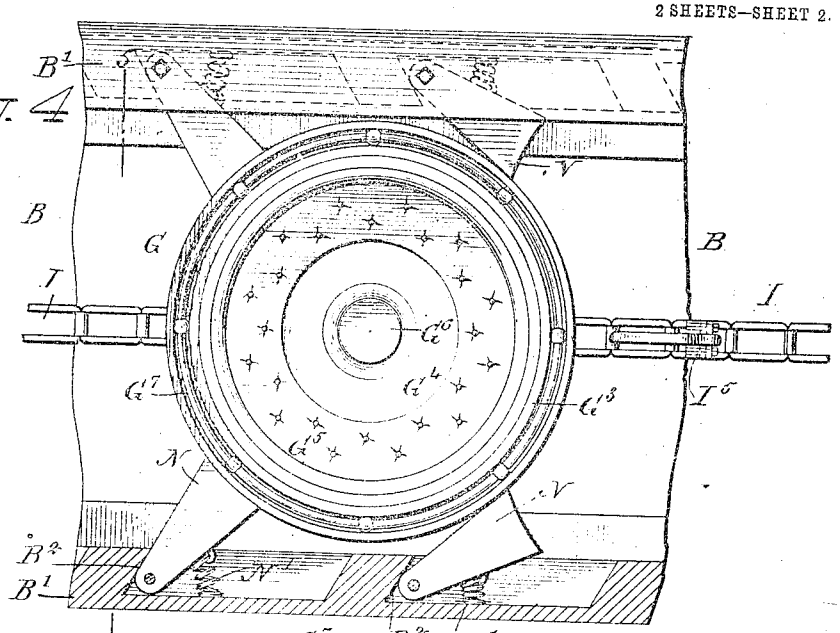


Fig. 5

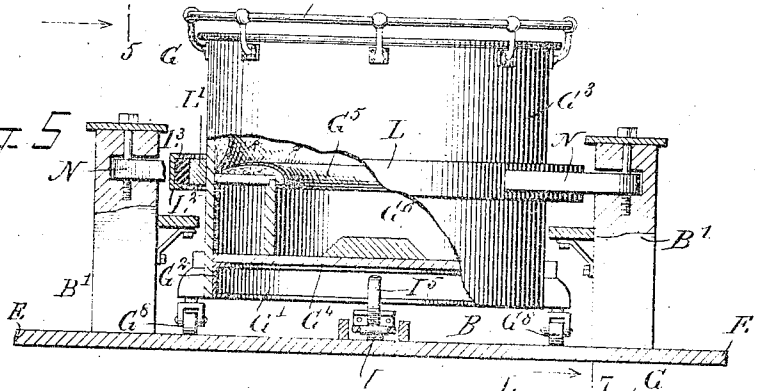


Fig. 6

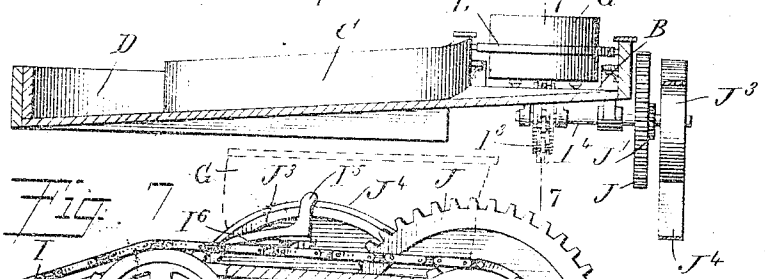
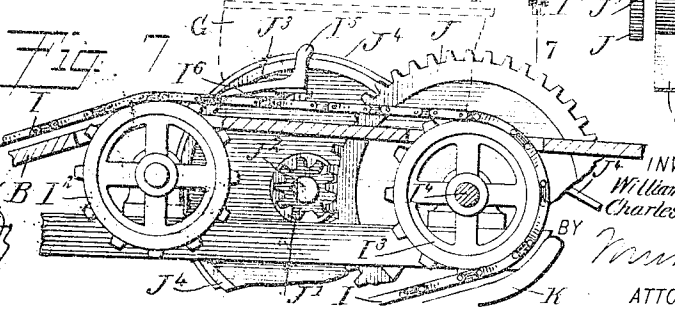


Fig. 7



WITNESSES

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AMUSEMENT APPARATUS.

No. 873,570. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed July 27, 1907. Serial No. 385,795.

To all whom it may concern:

Be it known that we, WILLIAM F. MANGELS and CHARLES N. BREWSTER, citizens of the United States, and residents of the city of New York, Coney Island, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Amusement Apparatus, of which the following is a full, clear, and exact description.

The invention relates to amusement devices, such as shown and described in the Letters Patent of the United States, No. 820,805, granted to William F. Mangels, on May 15, 1906.

The object of the invention is to provide a new and improved amusement apparatus for use in exhibition grounds, parks, pleasure resorts and the like, and arranged to provide a very enjoyable and exciting ride for the occupants of a car traveling over the course or circuit of the apparatus.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the improvement; Fig. 2 is a sectional side elevation of the same on the line 2—2 of Fig. 1; Fig. 3 is an enlarged cross section of the same on the line 3—3 of Fig. 1; Fig. 4 is an enlarged plan view of the up-track and a car thereon, part of the up-track being in section; Fig. 5 is a cross section of the same on the line 5—5 of Fig. 4; Fig. 6 is an enlarged cross section of the transverse path leading from the summit of the up-track to the beginning point of the circuitous route, the section being on the line 6—6 of Fig. 1; Fig. 7 is an enlarged sectional elevation of the driving gear for the propelling chain in the up-track, the section being on the line 7—7 of Fig. 6, and part of the framework being omitted; Fig. 8 is an enlarged sectional side elevation of a portion of a car and the propelling chain for the same, and Fig. 9 is a cross section of the support for the return run of the propelling chain, the view being taken on the line 9—9 of Fig. 2.

On a suitably constructed framework A is arranged an up-track B, terminating at its summit in a transversely extending path C, slightly inclined downwardly, and leading at its lower end into the upper end of a circuitous route D, formed on an inclined surface E attached to the framework A. The lower end of the circuitous route D terminates in a transversely extending station path F leading to the foot or beginning point of the up-track B, so that a car G can travel in a continuous circuit, as hereinafter more fully described.

Alongside the station path F is arranged an entrance platform H and an exit platform H', of which the entrance platform H is for passengers intending to take a ride to board the car F, while the exit platform H is used for the disembarkation of the passengers or occupants of the car G after the completion of the ride.

The up-track B is provided with a propelling sprocket chain I, passing over sprocket wheels I' and I^2, I^3, located respectively at the foot and summit of the up-track B. The portion of the chain I passing over the sprocket wheels I^2 and I^3 is approximately horizontal, for the car G to readily pass from the summit and the up-track B onto the transverse path C.

The shaft I^4 of the sprocket wheel I^3 is provided with a gear wheel J in mesh with a pinion J' attached to a shaft J^2 carrying a pulley J^3 connected by a belt J^4 with a pulley J^5 on the main shaft of a motor J^6, of any approved construction, and employed for driving the said gearing and the sprocket wheel I^3, with a view to cause the sprocket chain I to travel in the direction of the arrow *a'*, Fig. 1.

The sprocket chain I is provided at intervals with lugs I^5, each secured to a chain link and having a tail I^6 adapted to rest on a chain link in the rear of the one on which the lug I^5 is secured, so as to hold the lug I^5 firmly in an approximately right angular position relative to the chain I. The upper run of the propelling chain I travels on the inclined surface E, while the lower or return run of the chain I travels on a supporting guard K attached to the framework A, and preferably formed of two spaced beams (see Fig. 9), on which rides the chain I, and between which pass the lugs I^5 during their return travel.

A lug I^5 while passing around the lower sprocket wheel I' is adapted to pass into a recess G' formed on the underside of the car G, standing at the time at the beginning

point of the up-track B, the lug I^5 in its further travel finally engaging the inner surface of the wall G^2 of the recess G', to carry the car G along, that is, up the up-track B. The wall G^2 is preferably in the form of a ring of channel iron secured to the inside of the circular body G^3 of the car G, below the bottom G^4 thereof, and by the arrangement described the car G is positively engaged by the lug I^5 entering the recess G', so that the car G is readily carried up the up-track B.

The body G^3 of the car G is made circular and is provided at the inside with an annular seat G^5 and a centrally disposed foot rest or brace G^6 attached to the car floor G^4, so that the occupants of the car G seated on the seat G^5 can readily brace themselves by resting their feet on the said foot rest or brace G^6. An annular and exteriorly disposed hand rail G^7 is arranged at the upper end of the car G for the passengers to take hold of with their hands to steady themselves. The car body G^3 is provided at its lower end with caster wheels G^8, adapted to travel on the surface of the up-tracks B, C, F and the route D.

Each car G is provided with an external bumping ring L, for engagement with the side walls of the tracks B, C, F and the route D, and the said bumping ring L is formed of an inner ring L', preferably of wood, and attached to the car body G^3 (see Fig. 5), an outer ring L^2 of channel iron and an intermediate ring L^3 of rubber or other elastic or flexible material and partly embraced by the outer ring L^2. Now by the arrangement described the bumping ring L is rendered resilient, to prevent too severe shocks to the car and to the occupants while traveling down the circuitous route D. When this takes place the bumping ring L bumps occasionally against the side walls D' of the route D, so that the car G is caused to turn or spin around on its axis during its downward travel.

In the side walls B' of the up-track B are pivoted retaining arms N pressed by springs N' and adapted to exteriorly engage the bumping ring L of the car G, so as to prevent the latter from accidentally running down the up-track B in case a lug I^5 should break or the chain I be broken, or the propelling mechanism disarranged for some cause or other.

By reference to Figs. 4 and 5 it will be seen that the retaining arms N are free to swing outward against their springs N' when a car approaches, and the said arms N swing inward as the car passes to engage the bumping ring L at the rear, thus holding the car G against accidental return travel on the up-track B. It is understood that an inward swinging movement of the arms N is limited by the arms abutting against shoulders B^2 formed in the side walls B' of the up-track B (see Fig. 4).

When the amusement apparatus is in use passengers on the entrance platform H can readily enter a car G, held by an attendant, adjacent to the said platform on the path F, and when the passengers are seated in the car G, the latter is pushed by the attendant onto the beginning point of the up-track B. The car is now engaged at the wall G^2 by a lug I^5 of the propelling chain I, so that the car is dragged up the up-track B, the lug I^5 passing out from under the car at the time the lug travels around the sprocket wheel I^3. When this takes place the car G has passed the summit of the up-track B and travels onto the path C, down which the car now travels by its own weight, to finally pass into the upper or entrance end of the circuitous route D. The car now travels down the circuitous route D by its own weight, and its bumping ring L occasionally bumps against the walls D' of the said route D, to cause the car to turn or spin around during the downward travel, it being understood that by arranging the circuitous route D, as illustrated in Fig. 1, the car is liable to be turned in either direction, thus rendering the ride very interesting and exceedingly exciting for the occupants of the car. The car G finally leaves the lower end of the circuitous route D and passes onto the station path F, at which point the attendant stops the car, to allow the passengers to disembark at the exit platform H'. After the car is emptied it is pushed by an attendant along the track F to the entrance platform H, and the above described operation is then repeated.

It is understood that while one car is traveling down the circuitous route D, another car filled with passengers may be hauled up the inclined track B, so that one, two or more cars may be in service at the same time.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. An amusement apparatus, comprising a single inclined surface having a circuitous route laid out thereon from the upper end of the said inclined surface to the bottom thereof, and a car adapted to travel down the said inclined surface and confined in its downward travel along the said route.

2. An amusement apparatus, comprising an inclined surface having side walls provided with inwardly extending portions projecting alternately from opposite sides forming a circuitous route extending from the upper end of the said inclined surface to the bottom thereof, and a car adapted to travel down the said inclined surface and confined in its downward travel along the said route, the side walls of the said route being engaged by the outside of the car to cause the car to

spin during its downward travel on the said route.

3. An amusement apparatus, comprising an inclined surface having side walls provided with inwardly extending portions projecting alternately from opposite sides, forming a circuitous route, extending from the upper end of the said inclined surface to the bottom thereof, and a car adapted to travel down the said inclined surface and confined in its downward travel along the said route, the said car being circular in shape and the outside of the car being adapted to bump against the side walls of the said route to cause the car to spin during its downward travel on the said route.

4. An amusement apparatus, comprising an up-track, an inclined guide path leading from the up-track, a single inclined surface having a circuitous route extending from its upper to its lower end, the lower end of the said path leading to the upper end of the said route, and a car adapted to travel over the said track, path and route.

5. An amusement apparatus, comprising an up-track, an inclined guide path leading from the up-track, a single inclined surface having a circuitous route extending from its upper to its lower end, the lower end of the said path leading to the upper end of the said route, a connecting track leading from the lower end of the said route to the beginning point of the said up-track, and a car adapted to travel over the said tracks, path and route.

6. An amusement apparatus, comprising an inclined surface having side walls formed of curved sections, the sections being staggered to form a circuitous route on said surface, and a car adapted to travel down the inclined surface between the walls thereof.

7. An amusement apparatus provided with a car having an externally arranged bumping ring formed of non-resilient outer and inner layers, and a resilient device interposed between the said outer and inner layers.

8. An amusement apparatus provided with a car having an externally arranged bumping ring formed of non-resilient outer and inner layers, and a resilient device interposed between the said outer and inner layers, the said resilient device being in the form of a rubber ring.

9. An amusement apparatus provided with a car having an externally arranged bumping ring formed of non-resilient outer and inner layers, and a resilient device interposed between the said outer and inner layers, the said resilient device being in the form of a rubber ring, the outer layer being in the form of a channel iron ring embracing the rubber ring, and the inner layer being of wood.

10. An amusement apparatus provided with an up-track, a circular car adapted to travel on the said up-track and provided at its bottom with a recess, and a propelling chain in the said up-track and having rising lugs for engagement with the wall of the recess of the said ring.

11. An amusement apparatus provided with an up-track, a circular car adapted to travel on the said up-track and provided at its bottom with a recess formed by a ring made of channel iron, and a propelling chain in the said up-track and having rising lugs for engagement with the wall of the edges of the said ring.

12. An amusement apparatus provided with an endless propelling chain having a lug on one of the chain links, the said lug being provided with a tail adapted to rest on a chain link in the rear of the chain link carrying the lug.

13. An amusement apparatus provided with an endless propelling chain having a lug on one of the chain links, the said lug being provided with a tail adapted to rest on a chain link in the rear of the chain link carrying the lug, and a guard on the return run of the said propelling chain to support the said run.

14. An amusement apparatus provided with a propelling chain having lugs, and a guard for the return run of the said chain to slide on, the said guard being formed of spaced beams for the lugs to pass between the beams.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM F. MANGELS.
CHARLES N. BREWSTER.

Witnesses:
EVERARD B. MARSHALL,
F. W. HANAFORD.