No. 634,669. Patented Oct. 10, 1899.

H. O. & A. W. MORITZ.

GRAVITY COASTER.

(Application filed Feb. 4, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

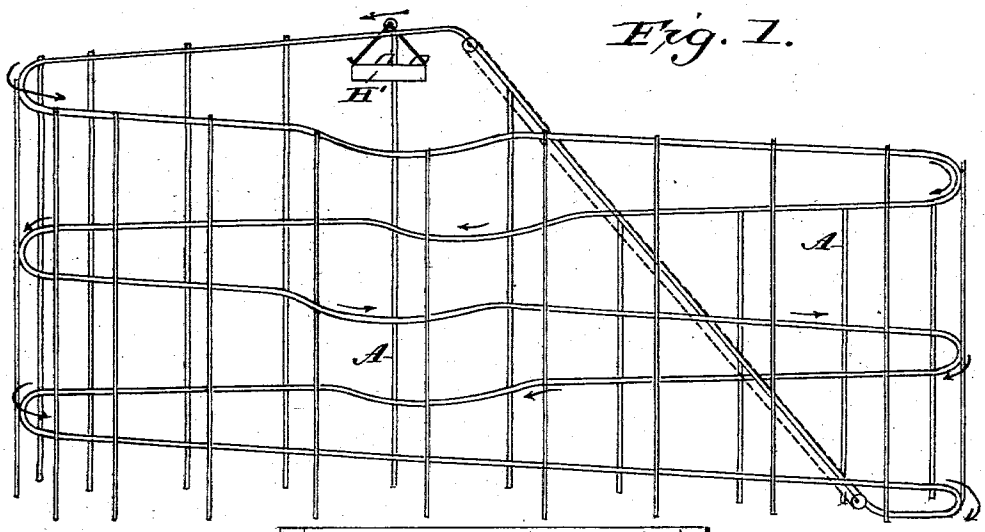

Fig. 2.

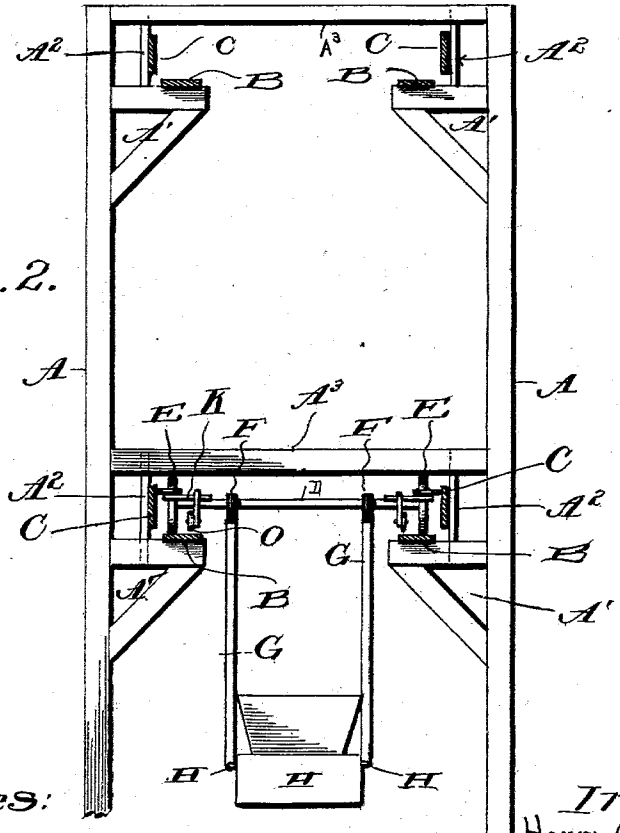

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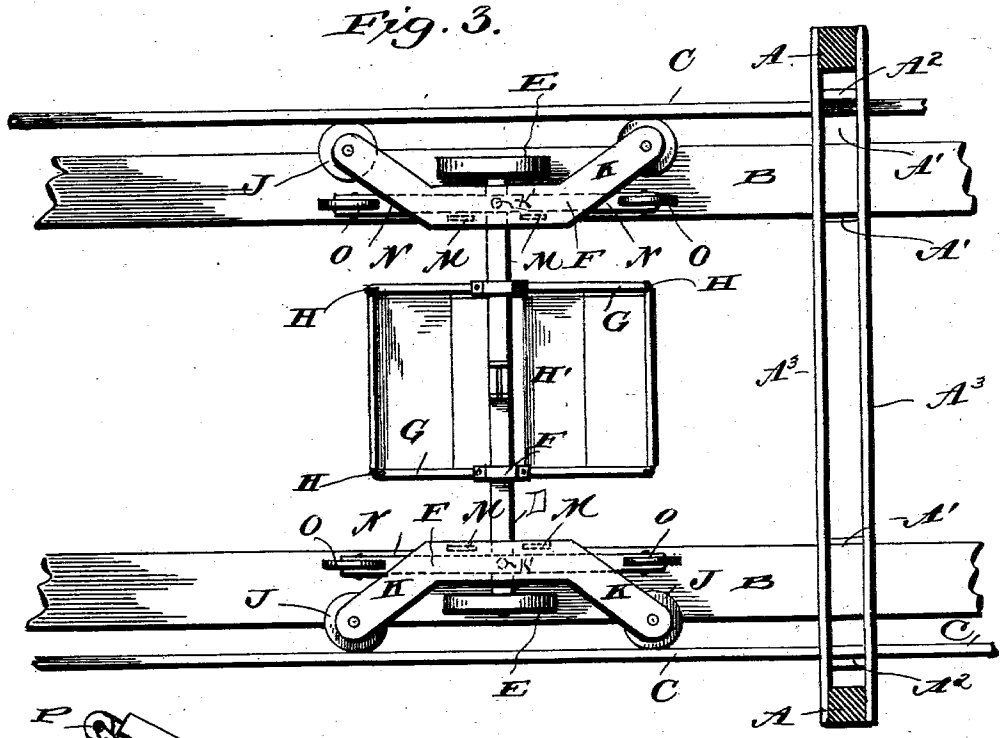
Fig. 3.



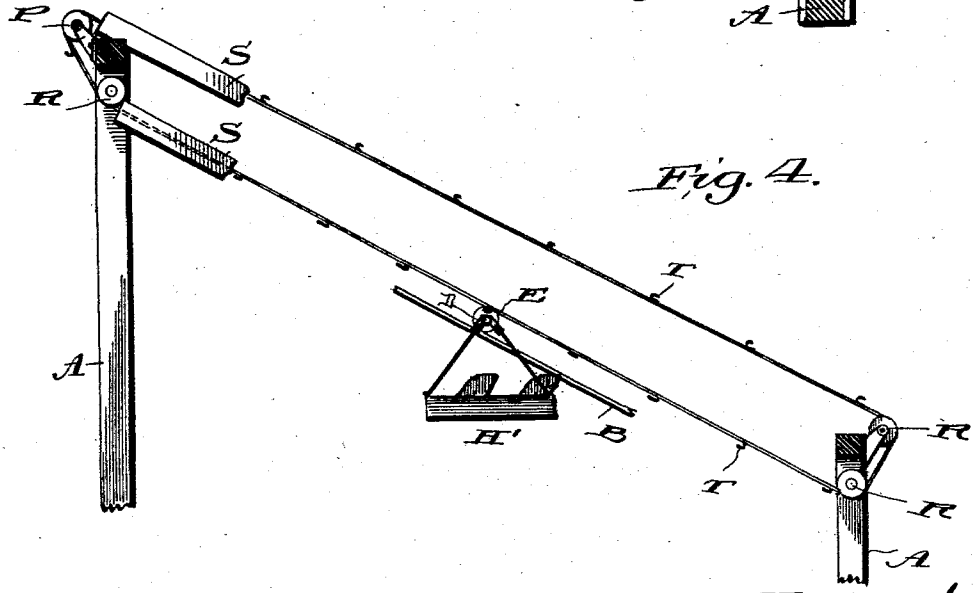


Fig. 4.

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UNITED STATES PATENT OFFICE.

HENRY O. MORITZ AND ADOLPH W. MORITZ, OF NEW YORK, N. Y.

GRAVITY-COASTER.

SPECIFICATION forming part of Letters Patent No. 634,669, dated October 10, 1899.

Application filed February 4, 1899. Serial No. 704,553. (No model.)

To all whom it may concern:

Be it known that we, HENRY O. MORITZ and ADOLPH W. MORITZ, citizens of the United States, residing at New York, (Brooklyn,) in the county of Kings and State of New York, have invented certain new and useful Improvements in Gravity-Coasters; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in artificial coasters or gravity sliding courses adapted for use in connection with swinging carriages or any other vehicles descending an inclined plane or track, such as are used for summer or pleasure resorts.

A further part of our invention relates to a novel construction of coasting conveyance of any suitable character which may be swingingly held to an axle of any suitable shape which is mounted on wheels which are adapted to travel on tracks, suitable antifriction pulleys or wheels being provided, as well as guide-wheels journaled at right angles to the wheels on the axle carrying the swinging conveyance, which wheels travel on suitable tracks, whereby the truck may be steered while making the descent on the circuitous and undulating course.

A further purpose of the invention resides in the provision of means for mounting the tracks on suitable brackets so that the swinging carriages may freely descend between the supports from the bottom and side tracks without any obstruction.

In connection with the coasting-swing we employ an endless chain, which is designed to grip the car or carriage at the foot of the incline and to haul it to the starting-place at the top of the course, and to guide the chain suitable means is provided, which will be hereinafter more fully described.

To these ends and to such others as the invention may pertain the same consists in the novel construction, combination, and adaptation of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and then specifically defined in the appended claims.

We clearly illustrate our invention in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of a coaster-course having continuous inclined and undulating tracks, showing a swinging carriage traveling thereon and means for elevating the carriage. Fig. 2 is a detailed view in cross-section showing the supporting-brackets for the tracks. Fig. 3 is a detail view of one of the swinging carriages. Fig. 4 is a detail view of the hoisting endless chain, showing also the guides for the chain.

Reference being had to the details of the drawings by letter, A A designate vertical posts on which the inclined tracks of the course are supported. These tracks are made up of the flat boards B, which are supported on the bracket-arms A′, leaving a space between their ends, between which the carriage may freely pass.

Side guide-rails C are fastened to upright pieces A^2, the upper ends of which pieces are secured to the cross-beams A^3, connecting the upright posts A A.

The axle D of the conveyance may be either round or square, as may be preferred, and is mounted in the wheels E, which wheels are designed to travel on the boards B. Mounted on the said axle is the yoke F, having bifurcated ends, between which are pivoted the arms G, which in turn are pivoted at their lower ends to the connecting-clips H, secured to the conveyance of whatever kind it is desired to attach to the swing. In our present invention, as shown in the accompanying drawings, we show a carriage-box H′, though various modifications in the form of carriage may be substituted therefor. The axle is square, as shown in the drawings, and the said yoke fitting the same is held thereto, while the carriage is allowed to swing backward and forward while making the descent on the inclined course and in passing around curves.

Pivoted, as at K′, to the axle, near each end thereof, is a yoke K, having journaled at each end of its arms a wheel J, the said wheel be-

ing designed to travel on the broad vertical sides of the boards C. As the carriage is traveling around curves in passing down the incline the said yoke turns on the pivot and strikes against the lugs M, carried on the yokes N, which latter is also pivoted to the axle by the common pivot K′ and designed to turn with the axle and causes the axle to be steered around the curves in the tracks. At the ends of the yokes N are journaled the wheels O, which when the carriage tilts or the axle, as by sudden momentum, the wheels O are thrown against the track-boards B, which serve as guard-wheels.

For elevating the carriage mounted on the swing an endless chain is provided, which travels over pulleys R and in guide-troughs S, and suitable grips T on the chain engage with hooks on the swing automatically to haul the carriage to the top of the incline.

From the foregoing description it will be seen that the carriage mounted on the swing, as described, may freely pass between the brackets supporting the tracks and that the carriage is easily guided or steered in its downward course over the undulating track.

Having thus described our invention, what we claim to be new, and desire to secure by Letters Patent, is—

1. In combination in a coasting swing or carriage an axle mounted on wheels, a yoke secured thereto, pivoted connecting-arms connecting the yoke to the carriage-box and pivoted guide-arms on the said axle, and means for steering the axle, substantially as shown and described.

2. In combination with the axle mounted on wheels, the yokes K pivoted to or near the ends of the axle, wheels pivoted to the ends of the said yoke, the yokes N secured to the axle and having lugs against which the pivoted yokes K are adapted to bear to steer the truck, and the tracks on which the wheels are adapted to travel, substantially as shown and described.

3. In a coasting-course, the combination with the vertical posts A, A, the brackets secured to the inner sides of said posts, tracks secured to the brackets cross-pieces A^3 connecting the vertical posts, and strips A^2 held between the said brackets and the cross-pieces, and track C mounted on the said strips, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY O. MORITZ.
ADOLPH W. MORITZ.

Witnesses:
ALLAN BOWIE,
JOHN STUART ARNOLD.