P. M. SWAIM.

ELEVATED COASTING APPARATUS.

APPLICATION FILED DEC. 21, 1920.

1,392,719.

Patented Oct. 4, 1921.

2 SHEETS—SHEET 1.

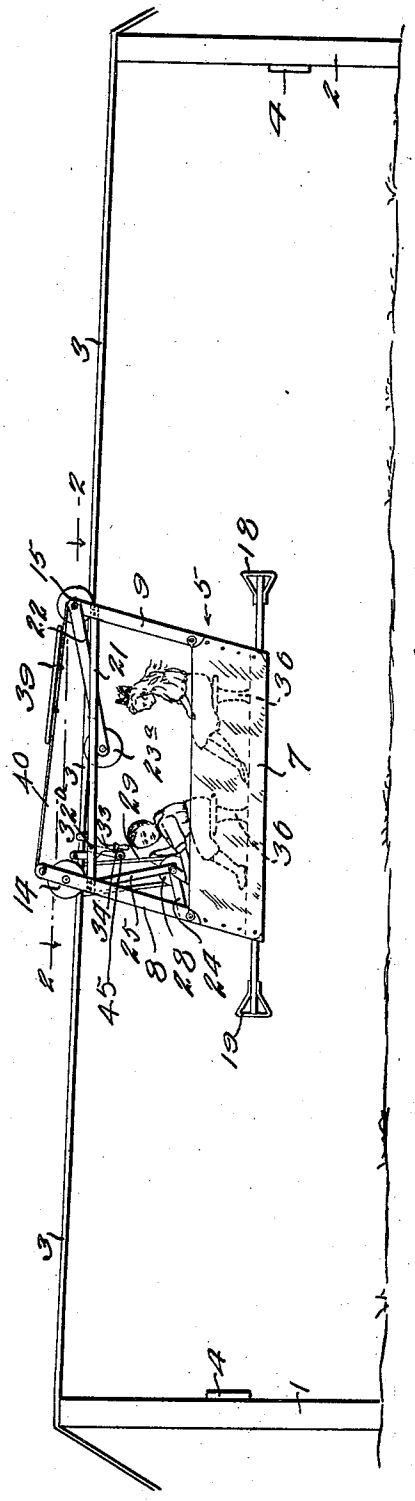


Fig. 1.

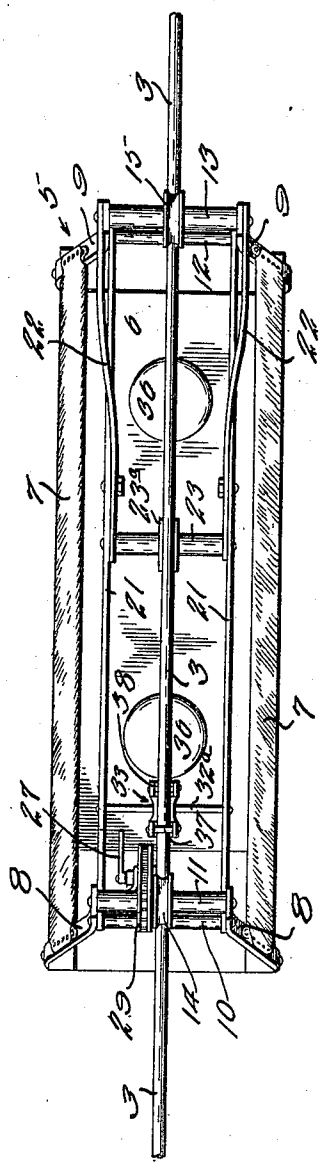


Fig. 2.

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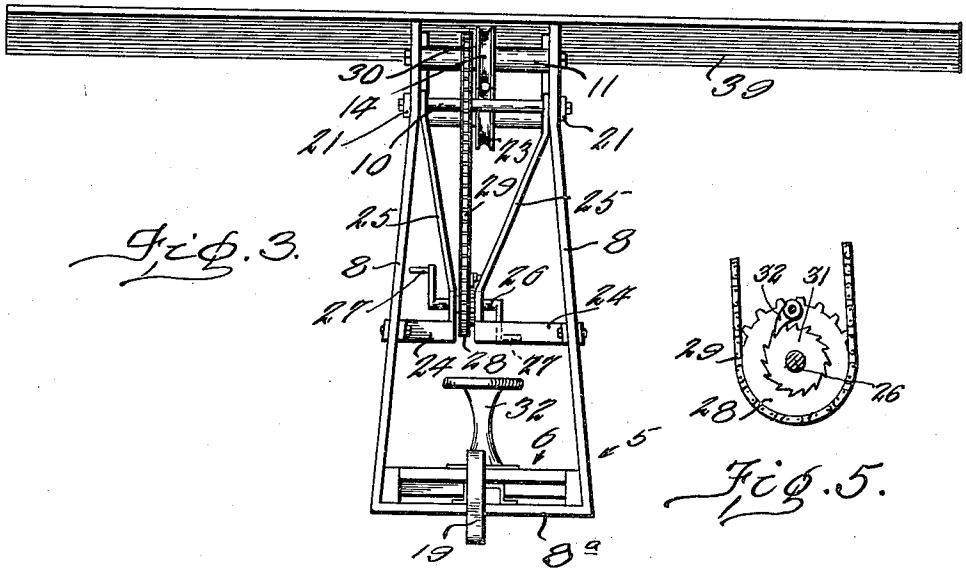
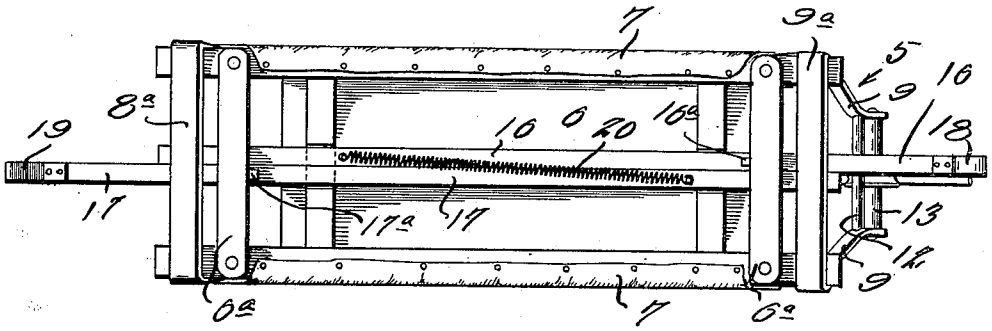


Fig. 3.

Fig. 5.

Fig. 4.



Witness.

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UNITED STATES PATENT OFFICE.

PATRICK MARVIN SWAIM, OF LONOKE, ARKANSAS.

ELEVATED COASTING APPARATUS.

1,392,719. Specification of Letters Patent. Patented Oct. 4, 1921.

Application filed December 21, 1920. Serial No. 432,170.

To all whom it may concern:

Be it known that I, PATRICK MARVIN SWAIM, a citizen of the United States, residing at Lonoke, in the county of Lonoke and State of Arkansas, have invented certain new and useful Improvements in an Elevated Coasting Apparatus, of which the following is a specification.

This invention relates to elevated coasters of the pleasure type and more particularly to playground apparatus of this character.

The object of the invention is to provide an apparatus of this character, the carriage of which is adapted to travel back and forth on a cable mounted between two supports and which is so constructed and mounted that all possibility of its leaving the cable is prevented thus rendering it absolutely safe.

Another object is to provide such an apparatus constructed to be operated by power in one direction and gravity in the other.

Another object is to so construct a carriage suspended from and traveling on a cable and having front and rear supporting sheave wheels so that maximum friction will be produced between the front wheel and the cable to insure reliable gripping of the cable by the wheel.

Another object is to provide a carriage of this character equipped with combined shock absorbers and bumpers adapted to strike fixed objects at the ends of the track and to impart a rebound to the car or carriage causing it to return some distance without the use of power.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and specifically pointed out in the claims.

In the accompanying drawing:

Figure 1 represents a side elevation of this improved apparatus shown in use.

Fig. 2 is a horizontal section taken on the line 2—2 of Fig. 1.

Fig. 3 is a front elevation thereof.

Fig. 4 is a bottom plan view, and

Fig. 5 is a sectional detail.

This apparatus includes supports 1 and 2 spaced longitudinally any desired distance apart and which may be trees, posts or other structures and have secured thereto a cable 3 as shown clearly in Fig. 1 said cable being of any desired type having sufficient strength to support the carriage 5 which is designed to travel thereon. These supports 1 and 2 are equipped with stops 4 for a purpose hereinafter to be described.

The carriage 5 which is adapted to be suspended from and to travel on cable 3 has a body 6 which may be of any desired construction and is here shown equipped with canvas side members 7 secured to a frame which includes rearwardly inclined pairs of standards 8 and 9 positioned at the opposite ends of the carriage 5. As shown these standards are each composed of a strip of heavy metal which extends transversely around the carriage one at the front and one at the rear, the front standards 8 having a cross bar 8^a extending under the bottom of the carriage while standards 9 have a similar cross bar 9^a arranged across the bottom at the rear thereof. The two standards 8 converge toward their upper ends and are connected by vertically spaced rods or axles 10 and 11 between which the cable 3 is designed to pass, a driving pulley or sheave 14 being mounted on axle 11 and engaging said cable. The upper ends of the rear standards 9 are similarly connected by axles 12 and 13 the upper axle 13 carrying a sheave wheel 15 between the perimeter of which and rod 12 the cable 3 passes. The perimeters of wheels 14 and 15 are spaced from the rods or shafts 10 and 12, respectively, a sufficient distance to permit the wheels to turn without engaging said rods and the cable 3 on which said wheels travel to escape the rods, said rods being arranged below the cable operate to prevent all possibility of the carriage leaving the cable. The upper ends of the pairs of standards 8 and 9 are connected by side bars 21 which are here shown connected at their ends to said standards by the rods 10 and 12 which extend through the standards and through these side bars and are secured by nuts or other suitable fasteners.

Obliquely disposed brace rods 22 connect the upper ends of the standards 9 with the side bars 21 being secured to said standards by the axle 13 which extends at its ends through the standards and braces and are secured by nuts. The braces 22 are secured near their free ends to the side bars 21 and have mounted in the terminals thereof a shaft or axle 23 which carries a sheave wheel 23^a positioned below the cable 3 with its perimeter supporting the cable intermediate

the wheels 14 and 15. This wheel 23ª is designed to bear against the underside of the cable 3 so that the car will climb the cable when slack and also to assist the car in climbing an incline. For instance if a cable is stretched between two posts three or four hundred yards apart it will naturally sag somewhat in the middle, but by the use of this friction wheel 23ª the car will climb without the carrying wheels 14 and 15 slipping. The oblique arrangement of the hangers or standards 8 and 9 causes the weight of the car to be borne mainly by the front wheel 14 and thus operates to increase the frictional engagement between the front wheel 14 and cable 3 to facilitate the movement of the car over the cable.

Two longitudinally slidable bars 16 and 17 are mounted on the lower face of the body 6 of the carriage as is shown clearly in Fig. 4. These bars are arranged in close proximity to each other and one projects at one end beyond one end of the car and the other at the opposite end said projecting ends being equipped with bumper heads 18 and 19 which may be of any desired construction. A coiled spring 20 is connected at opposite ends to what may be termed the inner ends of the bars 16 and 17 and operates as a shock absorber and also to project and cushion the bumper heads 18 and 19 so that when one of these heads forcibly engages one of the stops 4 carried by the supports 1 and 2 the bar on which said head is mounted will be moved inwardly against the tension of said spring and will cause a rebound of the car operating to return it in a direction opposite to that in which it was traveling when it struck the stop. The lower faces of the bars 16 and 17 are provided near their outer ends with depending stops 16ª and 17ª, respectively, which are designed to engage cross bars 6ª and 6ᵇ on the bottom of the car for limiting the projecting movement of the bumper bars.

A pair of brackets 24 are secured to the standards 8 at the front of the car and extend inwardly and are connected with depending bars or brackets 25 to form a support for a sprocket drive wheel 28. This sprocket wheel 28 is mounted on a shaft 26 journaled in said bracket and having crank handles 27 conveniently positioned for operation by a passenger in the car. A sprocket chain 29 connects the wheel 28 with a similar sprocket wheel 30 fixed to the axle 11 so that when the wheel 28 is rotated it will operate to drive the sheave wheel 14 and propel the car forward toward post 1 which is shown taller than post 2 for a purpose to be described. It is of course understood that a reverse movement of the wheel 28 will propel the car to travel in the opposite direction.

A ratchet 31 is fixed to shaft 26 and engaged by a pawl 32 to release the crank handles 27 when the car travels in a direction opposite to that in which it has been propelled by the turning of said handles so that when coasting, the handles will remain inoperative and will not strike the operator.

As above stated the post 1 is preferably made higher than post 2 so that the carriage 5 may be propelled toward said post 1 by turning of the crank handles 27 and then allowed to coast back to post 2. This arrangement allows gravity to furnish at least 50 per cent. of the power for operating the apparatus and when a spring bumper or shock absorber at the end of the car strikes one of the stops 4 a rebound will be produced which will start the car toward the high end of the cable and cause it to travel quite a distance without using the cranks. While manually operated propelling means are here shown obviously power operated means may be substituted.

A brake 33 is mounted, as shown at the front of the car on the cable 3, it being fulcrumed by a shaft 32ª passing through and connecting the side bars 21 and has a handle 34 depending into convenient position for operation by a passenger seated at the front of the car, a plurality of seats 36 being here shown to accommodate the passengers. These seats 36 may be made revoluble or reversible so that the passengers may change their position to face the direction in which the car is traveling. As shown this brake 33 has a roller 37 positioned to engage the upper face of the cable 3 and another roller 38 arranged to engage the lower face so that when the brake is tilted the cable will be gripped and the car locked thereon and stopped or the speed of the car may be slackened by lightly applying the brake.

An idler 45 is preferably employed in connection with chain 29 to take up slack in the chain when said chain is propelling the driving sheave 14, and when the car is coasting down the cable pressing the idler against the chain will cause it to operate as a brake to check its speed or stop the car.

A transversely arranged awning 39 is mounted to slide longitudinally on top of the car, wires 40 being here shown for supporting and forming tracks for said awning. This awning projects at opposite ends on opposite sides of the car and is adjustable longitudinally to position it where desired to operate as a protection against the sun for the passengers in the car, friction operating to hold said awning in adjusted position.

It is of course understood that ball bearings are to be used whenever found desirable, and that the car body may be made of any desired material and in any desired configuration.

While this apparatus is shown operable by hand power it is of course understood that it may be motor driven if desired.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification, but it will be understood that any modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

What is claimed is:

1. The combination with an overhead cable; of a car having sheave wheels mounted to travel thereon, and combined bracing and guarding means arranged below said wheels and between which and said wheels the cable is threaded thus rendering it impossible for the car to jump the track, said means being normally out of contact with said cable.

2. The combination with an overhead cable; of a car having sheave wheels mounted to travel thereon, means for propelling the car on said cable, stops arranged in the path of the car, and longitudinally movable shock absorbing and rebound producing bars carried by the car and adapted to engage said stops and start the car on its return trip.

3. The combination with an overhead cable; of a car having sheave wheels mounted to travel thereon, means for propelling the car on said cable, stops arranged in the path of the car, longitudinally slidable bars carried by said car, one projecting beyond one end and the other beyond the other end of the car and equipped on their projecting ends with bumpers, and a coiled spring connected to the inner ends of the bars, said bumpers being adapted to engage said stops.

4. The combination with an overhead cable; of a car having sheave wheels mounted to travel thereon, and another sheave wheel on which said cable rests between the wheels which travel thereon, a brake to engage said cable to control the speed of the car, and vertically spaced rods extended laterally on opposite sides of said wheels and between which said cable is located for preventing the car from leaving the cable.

5. The combination with an overhead cable; of a car having sheave wheels mounted to travel thereon, and a sun protector mounted for longitudinal adjustment on said car and extending transversely thereof.

6. The combination with an overhead cable; of a car having upstanding front and rear supports inclined obliquely toward the rear sheave wheels carried by said supports and traveling on said cable whereby the weight of the car forces the front sheave wheel to frictionally engage said cable to insure a reliable gripping thereof.

In testimony whereof, I affix my signature hereto.

PATRICK MARVIN SWAIM.