Oct. 19, 1926. 1,603,393

J. T. MALCOLM

AMUSEMENT DEVICE

Filed April 10, 1926

Fig. 4.

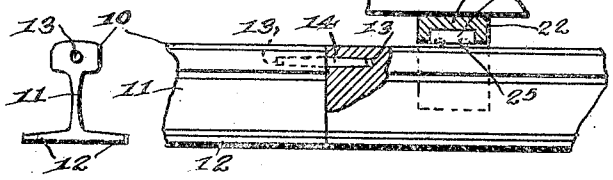


Fig. 5

Fig. 1.

Fig. 3.

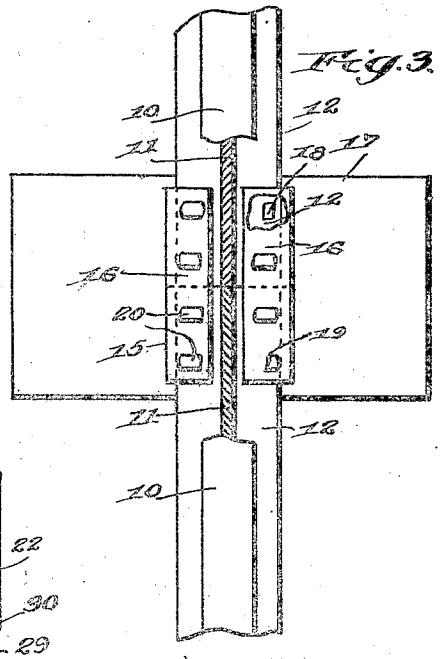
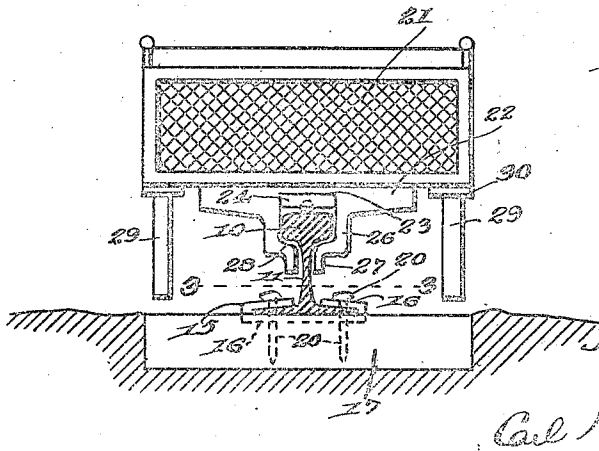


Fig. 2.



INVENTOR

John T. Malcolm

BY

Carl H. Crawford

ATTORNEY

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UNITED STATES PATENT OFFICE.

JOHN T. MALCOLM, OF SPOKANE, WASHINGTON.

AMUSEMENT DEVICE.

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This invention relates to improvements in amusement devices and has to do more particularly with an improved coasting device.

Coasting down hill makes a strong appeal to children and heretofore, could only be enjoyed when a sufficient amount of snow was on the ground to afford a good sliding surface for the sleds.

Now it is an object of my invention to provide a means whereby coasting can be enjoyed irrespective of the amount, or even in the absence of snow.

My invention, in its most improved form, consists of a mono-rail extending down an incline and suitably mounted on a stable foundation, together with a combined car-sled or wheeled car, the car being equipped with novel means for coaction with the rail in such a manner that the car will be held upright and in a suitable position to make riding safe for the occupants thereof.

A further feature of my invention is to provide the car with runners, and if desired, to provide the runners with wheels or rollers, so that in any event, after the car has reached the end of the rail at the bottom of the hill and has run off from and become disconnected from the rail, that the runner means will hold the car upright along the ground.

While I do not wish to confine myself to the use of railroad iron or rails still, it is a feature of my invention to provide such novel means for connecting and hold the rails upright, so that the upper portions of the rails will afford a clear and unobstructed track surface on which the car may run.

My invention has many other features and objects which will be more fully described in connection with the accompanying drawings and which will be more particularly pointed out in and by the appended claims.

In the drawing:—

Fig. 1 is a view in side elevation of a hill equipped with the device of my invention.

Fig. 2 is an enlarged cross sectional view thereof on line 2—2 of Fig. 1.

Fig 3 is a plan sectional view on line 3—3 of Fig. 2.

Fig. 4 is an end view of one rail section showing the manner in which the head thereof is socketed.

Fig. 5 is a side view of two rails in end to end relation showing the manner of holding the heads thereof in alined relation, one section being broken away.

Like characters of reference designate similar parts through the different figures of the drawing.

I have indicated an inclined piece of ground which may be termed a hill, at 1, the top thereof being shown at 2, and the bottom at 3. My improved mono-rail is generally designated at 4, the same being shown as made up of sections 5, 6 and 7, of ordinary railroad rails, the section 5, having an ontake end 8, and section 7 having a releasing end 9. The releasing end 9, may be extended as desired further along the horizontal portion 3, at the bottom of the hill. However, in any event, it is a primary purpose to provide a rail or trackage throughout its length of a fixed cross section so that the car may be readily inserted at the ontake end and will be freely released from end 9.

The section 6, may be termed the inclined or hill section and the section 5, the ontake section, while the section 7, may be termed the releasing section. It will be seen that I bend the rail so that a portion of section 5 will extend horizontally along the top of the hill for a sufficient distance to permit the car to be inserted onto the rail and remain at rest until the occupants have safely entered and before the car is started down hill. It will also be seen that I bend section 7, so that a portion of the latter will extend horizontally along the bottom of the hill.

I will next describe the manner in which I modify and employ an ordinary railway rail to serve the purpose of this invention.

In Fig. 4, I have shown one end of a rail as having a head 10, a web 11, and a base 12, the latter as usual consisting of flanges extending in opposite directions from their juncture with the web 11. In each juncturing end of each rail, and in the head 10 thereof, I form in any suitable way an alining pin socket 13, preferably tapering toward the ends, as shown in Fig. 5. As the rails are brought into end to end relation, an alining pin 14, tapering toward its ends, is inserted, as shown, and preferably fits snugly in the sockets of the rails. This construction, as will now readily appear, not only maintains the heads of abutting rails in alined relation, but it does not present any obstruction at the exterior portions of the heads, leaving the latter free for sliding engagement of the shoes of the car. This alining means at the heads

of the rails, is of particular importance to my invention because it relieves the connecting means at the bases of the rails from the strain and high efficiency that would otherwise be required, as will later appear.

I will next describe the improved means for anchoring the rails to a base or tie, and for securely holding the rails in close end to end relation.

In Figs. 2 and 3, I have shown a rail chair 15, having a bottom 16, and overhanging flanges 16. A tie, or other suitable foundation is indicated at 17, and is suitably fixed in tamped earth to securely hold the same. Holes 18, are formed in the rail base 12, adapted to register with corresponding holes or spike openings 19, in the flanges and bottom of the rail chair. The arrangement is preferably such that at each end juncture of the rail sections a tie is disposed that supports each rail end, as clearly shown. Spikes 20 are driven through the flanges and bottom of the chair 15 and through openings in the base 12, so that when the parts are secured as shown in Figs. 2 and 3, the rails are not only held upright and supported, but they are firmly connected in close end to end relation. Any suitable provision may be made for contraction and expansion of the rails which, in the aggregate, will not be great, in view of the relatively short length of the track. Reliance can be placed on contraction and expansion moving the ties, for such compensation as may be necessary.

I will next refer to my improved car and the manner in which the same coacts with the foregoing mono-rail structure.

The car is shown generally at 21, and may be of any suitable design adapted to be occupied by small children. On the bottom of the car is fixed, as shown, a pair of shoes which I will generally indicate at 22, and which are alike in construction and operation. Any number of shoes may be provided. In the bight 23, of the shoe, is suitably anchored an anti-friction ball or roller housing 24, having balls or rollers 25, adapted to engage the top face of the heads of the rail, although this is not essential to my invention. I may lubricate the rail and not depend any anti-friction means. These shoes have side portions 26, adapted to engage the sides of the rail heads, and also end portions 27, extending downwardly and adapted for engagement with the webs 11, of the rails. I also shoulder the shoe sides, as indicated at 28, to engage the bottom of the heads 10, to prevent the car from jumping off from or out of running engagement with the rail. The construction is such that ample clearance is provided for free sliding movement of the shoes on the rail.

It is a feature of my invention to release the car when the latter reaches the end 9, of the mono-rail. The momentum acquired by the car in descending a hill will, in most events, cause the car to travel beyond the end 9, unless the latter is unduly extended.

However, in any event, it is a feature of my invention to provide means for supporting and stabilizing the car after it has left the rail, and for the performance of this function, I have shown the car provided with runners 29, which may be fixed to the car at 30. These runners do not depend low enough to engage the ground while the car is descending the hill, but just as soon as the car leaves the end 9, of the rail, it will drop onto its runners as a supporting means and thus the car may run as far as its momentum or the condition of the ground will carry it. If the car is to be used for coasting, in summer, when there is no snow, rollers may be provided on the bottoms of the runners.

It will be seen that I not only avoid the cost and upkeep of an elevated structure in order to obtain the proper incline, but by mounting my trackage directly upon the hillside I can safely operate the cars at a far greater speed owing to the fact that the cars are never at an elevation above the ground in excess of the height or thickness of the trackage. Thus, I can select hillsides of a very steep incline.

It is believed that the device of my invention will be fully understood from the foregoing description, and while I have herein shown and described one specific form of my invention, I do not wish to be limited thereto except for such limitations as the claims may import.

I claim:—

1. A gravity amusement device adapted to be built upon a hill, comprising, trackage composed of a single rail having a hill section anchored directly upon the side of the hill and said rail having an ontake section bent to extend over and onto the top of the hill and said rail having a releasing section bent to extend along and close to the surface of the bottom of the hill whereby the trackage will be closed to the ground throughout its length, and a coaster car having means for engaging said rail to stabilize said car in its coasting movement downwardly along said rail.

2. A gravity amusement device adapted to be built upon a hill, comprising, trackage shaped to substantially conform to the inclined contour of a hill-side and mounted directly thereon, whereby the trackage will be close to the ground throughout its length, said trackage having an ontake section near the top of the hill and a releasing section near the bottom of the hill, and a coaster car having shoe means engaging top and lateral portions of said trackage to hold the car thereon and said shoe means being in-

sertable lengthwise onto said ontake section and releasable endwise off from said releasing section, thereby freeing the car for travel beyond said trackage.

3 A gravity amusement device, comprising, a single rail anchored closely upon the side of a hill and extending from the top to the bottom of said hill and having a releasing end near the bottom of the hill, a car having means for engagement with said rail for coasting movement of said car downwardly along said rail, and said car having supporting means free from engagement with the ground when said car is coasting down said rail and adapted to engage the ground and stabilize said car after the latter has passed off from the releasing end of the said rail.

In testimony that I claim the foregoing as my own, I hereby affix my signature.

JOHN T. MALCOLM.