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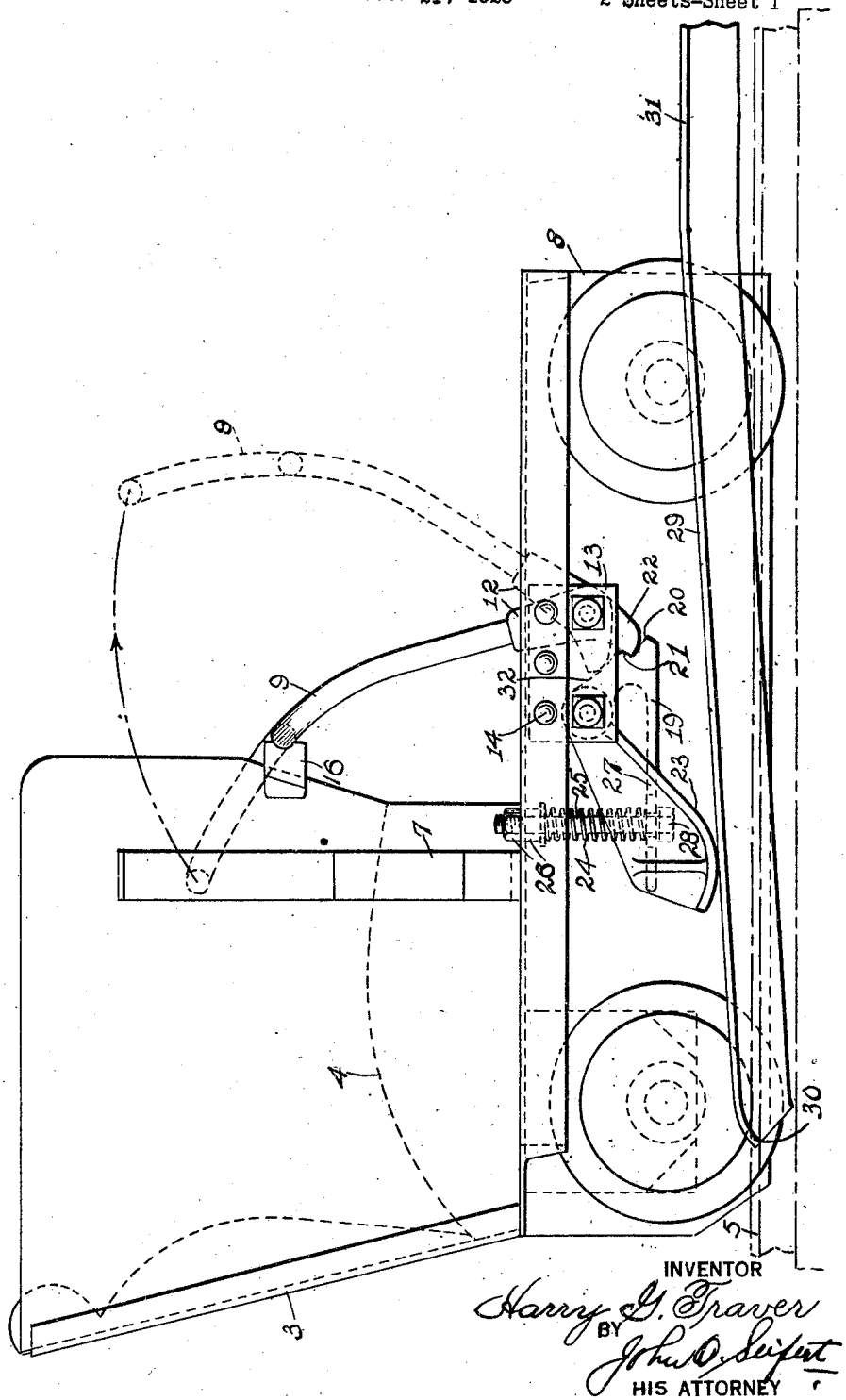
H. G. TRAVER

CAR FOR AMUSEMENT RIDES

Filed Oct. 21, 1925

2 Sheets-Sheet 1

Fig. 1



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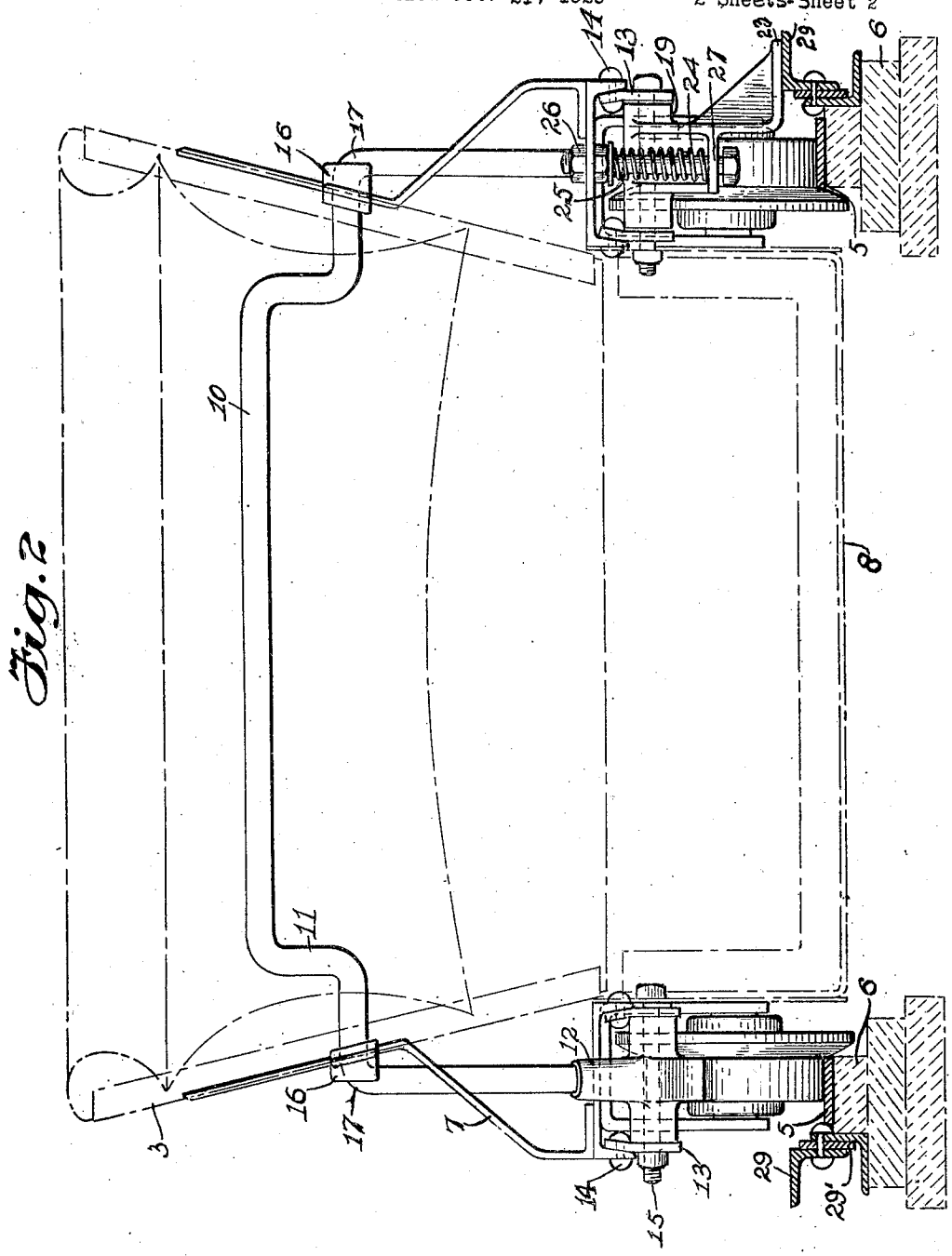

Fig. 2

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UNITED STATES PATENT OFFICE.

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CAR FOR AMUSEMENT RIDES.

Application filed October 21, 1925. Serial No. 63,915.

This invention relates to amusement rides, such as scenic railways and roller coasters, wherein passenger carrying cars are elevated to a point from which they are propelled by gravity; although the invention is applicable to other amusement rides of this character. In rides of this character it is customary to utilize cars without any provision of means to prevent passengers from standing up or attempting to leave the car while it is in motion and a consequent liability of falling out of the cars invariably resulting in serious injury.

It is a primary object of the invention to provide a safety device for cars of this character that will prevent passengers from rising from the car seat while the car is in motion.

Another object of the invention is to provide such a safety device which is automatically releasable and permits passengers to leave and enter the car at a predetermined point along the ride, such as at the loading or unloading station of the ride where the car will come to a stop.

In an amusement ride of this character the passenger carrying car is arranged with transverse seats, usually one, the safety device comprising a lap rail of U-shape adjustably supported by the car and arranged to extend over the lap of the passengers when adjusted to one position, a latch cooperating with the rail in such position to lock the same against movement in a direction away from the car, and stop means being provided to limit the movement of the rail in a direction toward the seat. The latch is held in its rail locking position by its own weight and under the tension of a spring. At the point of loading and unloading of passengers from the car the track structure upon which the car is propelled is arranged with a cam rail extending in the direction of the movement of the car, the latch being arranged with a cam following shoe which comes into contact with the cam rail thereby moving the latch out of engagement with and releasing the lap rail whereby the rail may be moved forward away from the seat to permit passengers to leave or enter the cars. The cars of amusement rides of this character travel at a high rate of speed and the curves in the track are banked to insure proper traction between the wheels of the car and the track, and should any passenger be standing while rounding one of these curves the passenger will be thrown out with possible serious injury. This safety device prevents the possibility of a passenger assuming a standing position and a resultant accident while the car is in motion is obviated.

In the drawings accompanying and forming a part of this specification I have illustrated an embodiment of the invention in which Figure 1 is a side elevation of a passenger carrying car showing the arrangement of a lap rail and a co-operating latch locking means for retaining said rail in the full line position, and a cam rail carried by the track for contact with a cam following portion carried by the latch to release the latch from the lap rail so that the lap rail may be moved into the dotted line position; and

Figure 2 is an end elevational view looking at the rear of the car shown in dot and dash lines to clearly bring out the invention and co-operating latch locking means being omitted at one side of the car.

In carrying out the embodiment of the invention, there is provided a passenger carrying car 3 arranged with a single transverse seat 4 and supported by wheels to have traction on a track 5 supported in the usual manner upon the structure of the ride, as at 6. The body of the car is provided with enclosing walls forming the back and sides, supported by brackets 7, with the front of the car open and the bottom below the level of the track forming a foot pan, as at 8. A rod 9 of U-shape is arranged as a front enclosure for the car, and herein termed as a lap rail, with a portion of the connecting member 10 bent at right angles to itself, as at 11, for the purpose of fitting into and snugly over the laps of the passengers and holding the passengers in a seated position, is mounted in socket members 12 pivotally supported between the sides of a U-shape bracket 13 fixed to each side of the car frame, as shown at 14, by a bolt 15. To limit the movement of the lap rail over the laps of the passengers a stop 16 is mounted on the side walls of the car for engagement by the end portions 17 of the connecting member 10.

Latch members 19 are pivotally supported

at the rear of the U-shape brackets 13 in substantially the same manner as the socket members 12. Each latch is provided on its front face with a notch 20 having a rounded shoulder 21 for engagement with a nose projection 22 of the rail supporting socket members 12 for locking the lap rail in position to retain the passengers in a seated position and arranged with a rearwardly extending cam shoe 23 on its under portion. A spring 24 is coiled about a bolt 25 rigidly suspended from the car frame by nuts 26, the bolt engaging in a slot in a shelf or ledge 27 extending laterally from the side of the latch 19 the movement of the latch by the spring being limited by the bolt head 28 engaging at the underside of the shelf 27. The spring provides a tensioning force upon the latch against the nose projection 22 to retain the lap rail in passenger securing position.

As there is no possible way for the passengers to leave the car when the lap rail is in position in front of the passengers and the projection 22 and latch 19 are in engagement, means are provided to release the contact between the shoulder 21 and the inner face of the projection 22. For this purpose a cam rail 29 is carried by the track support, as shown at 29', extending in the direction of travel of the car and of gradual slope beginning with a bevel face 30 and ending with a flat surface 31 at the high point parallel with the track. As the car approaches the loading station the cam shoe 23 engages the bevel face 30 and follows the cam rail till it reaches the flat portion 31 after which it drops back to its normal position shown in full lines in Figure 1 by its own weight and the action of the spring 24. The cam shoe by the rise of the cam rail lowers the front end of the latch 19, and the shoulder 21 is moved out of contact with the inner face of the projection 22. Some play is provided for between shoulder and the projection so as to aid the disengagement of the two by having the stop back further than if no play was desired.

The portion of the latch between the shoulder 21 and the pivotal support of the latch is arranged with curved face 32 which co-operates with the rail carriers to limit the forward movement of the lap rail as shown in dotted lines in Figure 1.

The car is stopped before the cam shoe has passed the high portion 31 of the cam rail so that the lap rail can be moved forward to dotted line position in Figure 1 to permit the passengers to leave or enter the car. Beyond the stopping station the cam rail slopes in a downward direction to meet the track in the same manner as it begins its upward rise so that the lap rail can be moved back adjacent the seat either before the starting of the car or just after it has started, as the movement of the cam shoe back to its normal position is gradual.

Having thus described my invention I claim:

1. In a passenger carrying car arranged with a seat for amusement rides, a lap rail pivotally supported by the car comprising a U-shaped bar having a part of the connecting member bent to extend between the sides and into the interior of the car to snugly fit over the lap of the passenger and the portions of the connecting member at opposite ends of said extended part adapted to engage stops on the sides of the car to limit the movement of the rail toward the car seat, and means to releasably retain the rail in said latter position.

2. In amusement rides, the combination of a passenger carrying car arranged with a seat and a track, a lap rail pivotally supported by the car arranged to be positioned in front of passengers seated in the car, a stop carried by the car body to limit the movement of the rail in a direction toward the car seat and retain a passenger seated in the car, spring actuated latches pivotally carried by the car arranged with a cam shoe, the ends of the rails at the point of connection with the car being arranged for engagement with the latches to lock the rail in passenger retaining position, and means carried by the track for contact with the cam shoe of the latches to release the latches from the lap rail.

3. In an amusement ride, the combination of a passenger carrying car arranged with a seat and a track, a lap rail adjustably carried by the car for engagement in front of and adjacent to the seat, a latch to retain the lap rail in said position, said latch being arranged with an integral cam following portion, and a cam rail carried by the track structure for engagement by the cam following portion of the latch to release the latch from the lap rail for the purpose specified.

4. In passenger carrying cars for amusement rides arranged with a seat, a lap rail pivotally supported at one end by the car arranged to be positioned in front of passengers seated in the car, a stop carried by the car for engagement with the rail intermediate the ends thereof to limit the movement thereof toward the seat, a latch pivotally supported by the car in the rear of the rail support for engagement with the end of the rail, and a spring for urging the latch into locking engagement with the rail end for releasably securing the rail in position in front of the passengers.

5. In amusement rides, the combination of a passenger carrying car arranged with a seat and a track, a lap rail of U-shape form pivotally supported at the ends by the car having an extended portion, a latch

pivotally supported by the car arranged with a notch in the front face for engagement with the extended portion, and a cam following portion at the rear thereof and a cam rail carried by the track for engagement with the cam following portion of the latch to release the same from the lap rail to permit the lap rail to be moved forward.

6. In a passenger carrying car for amusement rides, a rail of U-shape form pivotally supported at its ends at opposite sides of the car body, stops at the sides of the car for engagement by the rail intermediate the ends thereof for limiting the movement of the rail toward a seat in the car; a latch pivotally supported by the car having a notch in the front face thereof for engagement with an end of the rail, a shelf extending from the side thereof, a spring confined between the car and the latch shelf for insuring contact between the latch notch and the end of the rail and locking the rail in position over the seat of the car.

7. In a passenger carrying car arranged with a seat for an amusement ride, a rail of U-shape form pivotally supported in brackets mounted on the sides of the car with the ends projecting beyond said brackets, a stop mounted on the sides of the seat in position for engagement by the rail, a latch pivotally supported by the rail supporting bracket having a notch in the front face thereof and a cam following portion in the rear, the weight of the cam following portion positioning the notch for engagement by the projecting rail end for releasably securing the rail in position over the seat.

8. In a passenger carrying car arranged with a seat for amusement rides, a lap rail of U-shape pivotally supported at the ends thereof by brackets mounted on the sides of the car with the ends projecting beyond the brackets, a latch eccentrically supported by a rail bracket having a notch in the front face thereof and a cam following portion in the rear thereof for over-balancing the notched end for positioning the same for engagement by the end of the lap rail for releasably securing the lap rail in position over the seat.

9. In amusement rides, the combination of a passenger carrying car arranged with a seat and a track, a lap rail of U-shape pivotally supported at the ends thereof by brackets mounted on the sides of the car with the ends projecting beyond the brackets, a latch eccentrically mounted on the rail brackets having a notch in the front face thereof and a cam following portion in the rear thereof for over-balancing the notched end and moving it in position for engagement by an end of the lap rail for securing the lap rail in position over the seat, and a cam rail carried by the track for engagement by the cam following portion of the latch to release the latch from the lap rail and permit the said rail to be moved forward of the seat.

In testimony whereof he affixed his signature.

HARRY G. TRAVER.