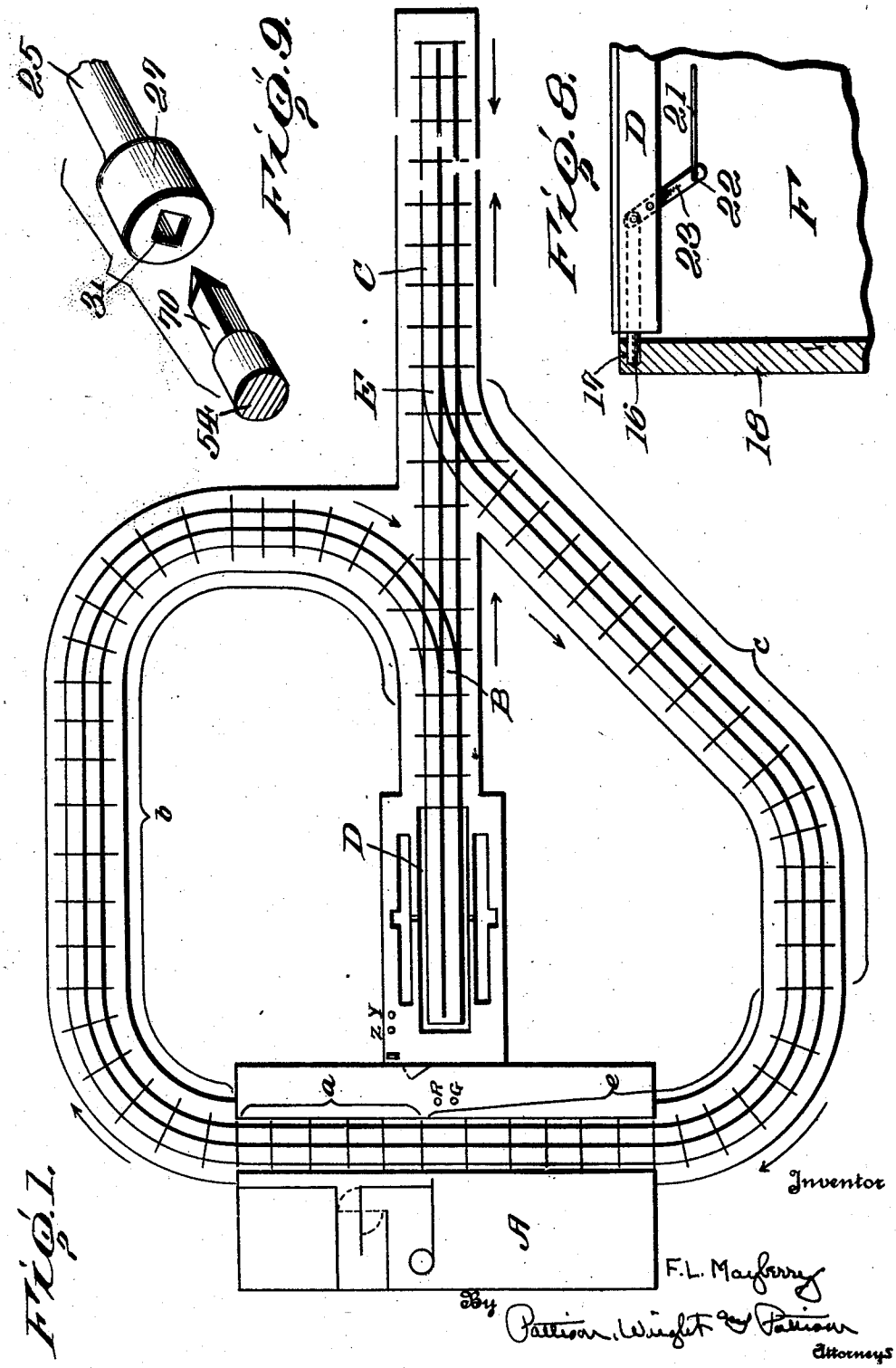
July 21, 1931. F. L. MAYBERRY 1,815,860

AMUSEMENT RIDE

Filed Feb. 19, 1930 3 Sheets-Sheet 1



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AMUSEMENT RIDE

Filed Feb. 19, 1930 3 Sheets-Sheet 2

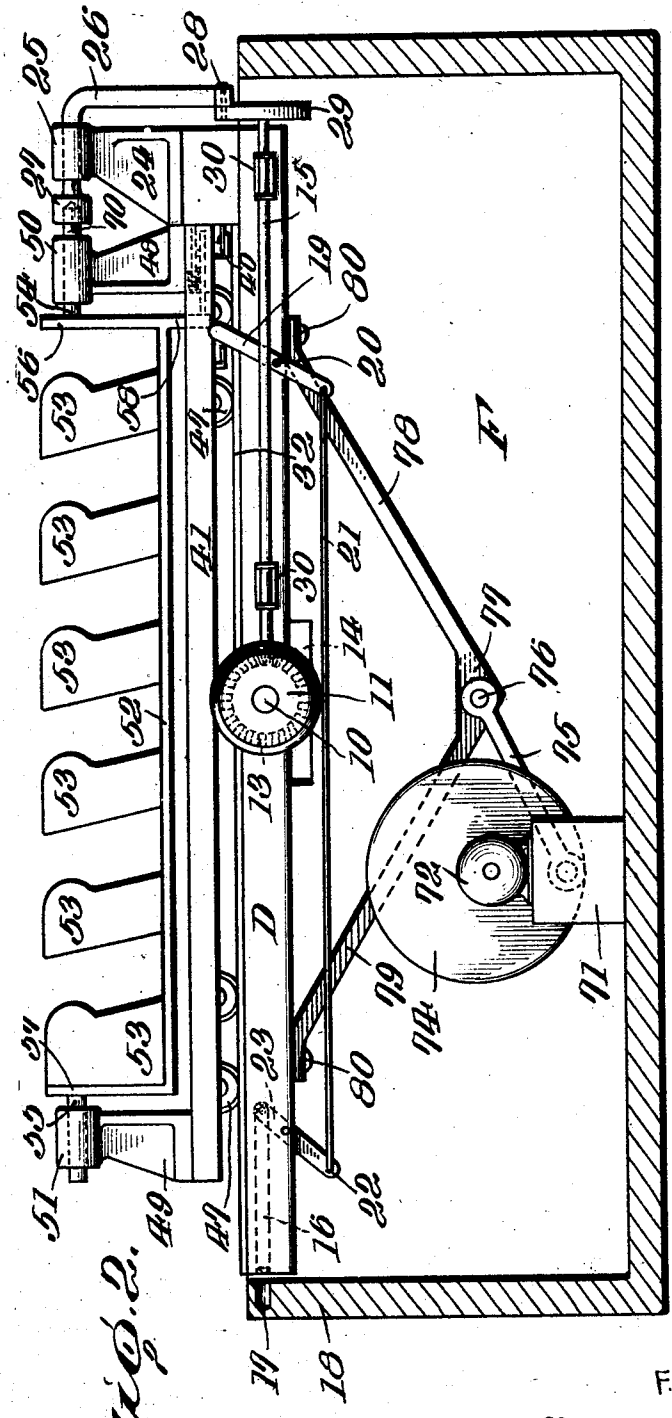

FIG. 2.

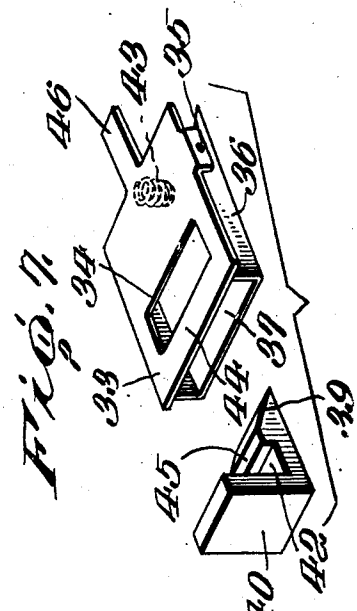

FIG. 4.

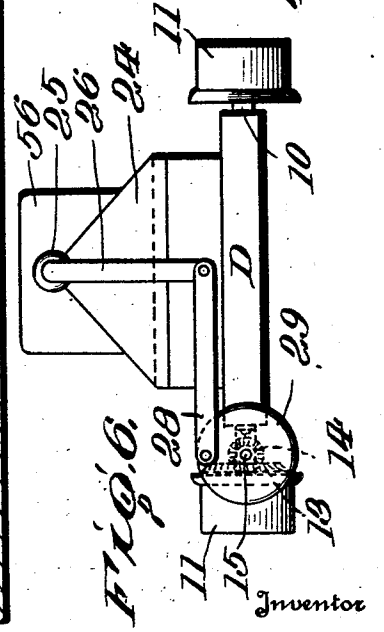

FIG. 6.

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AMUSEMENT RIDE

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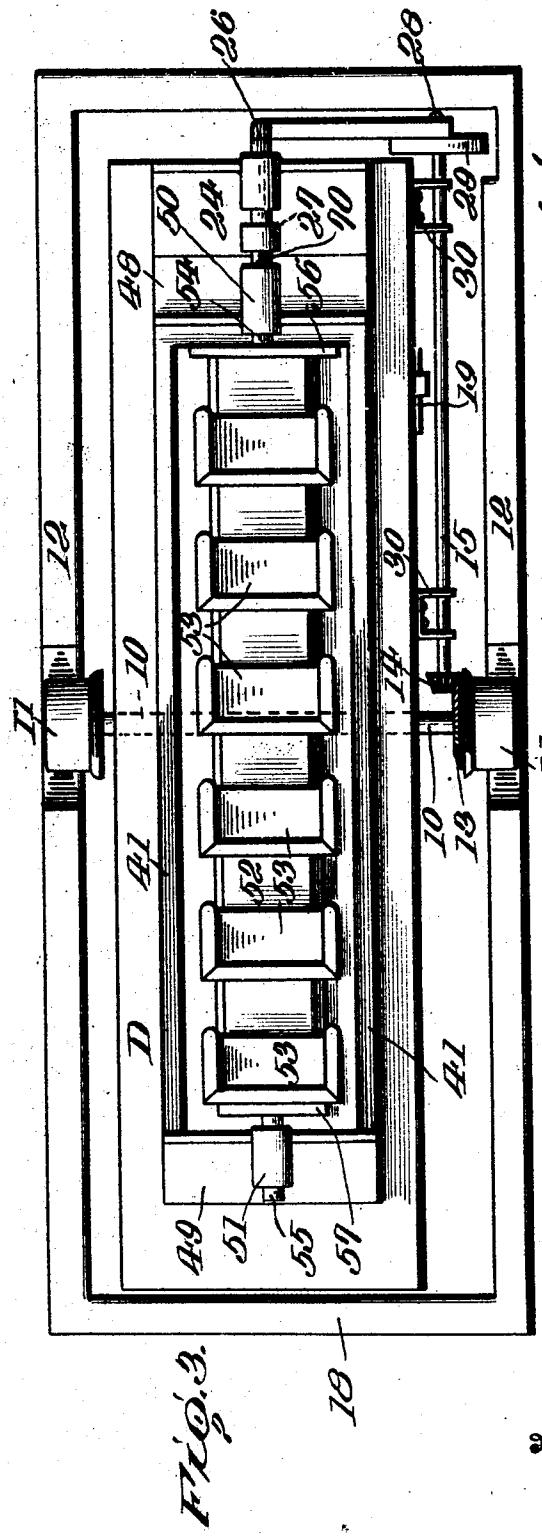

Fig. 3.

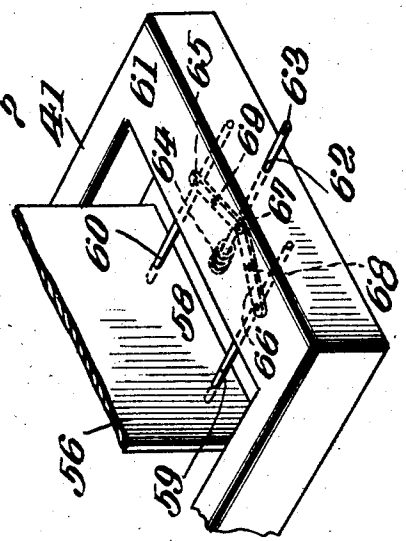

Fig. 5.

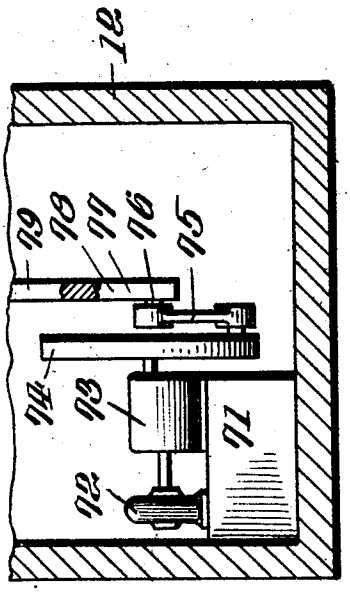

Fig. 4.

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UNITED STATES PATENT OFFICE

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AMUSEMENT RIDE

Application filed February 19, 1930. Serial No. 429,685.

This invention relates to improvements in amusement rides or to what might be described as an amusement railway for amusement parks.

The primary object of the invention is the provision of an improved amusement ride or amusement railway.

A further object of the invention is the provision of an amusement ride in which the car is put through a series of movements to produce the effect of riding on a coaster such as is commonly found in amusement parks.

A still further object of the invention is the provision of a novel form of amusement railway and the control for the cars operating thereon.

A still further object of the invention is the provision of a novel construction or a manner for putting a car or the like through a series of movements to produce the effect of riding on a coaster.

Other novel features of construction of the railway, the car, the control of the car in its movements over the railway, the mechanism for putting the car through a series of movements to produce the effect of riding on a coaster, and improved results of the invention will appear more particularly and specifically in the following description taken in conjunction with the accompanying drawings.

In the drawings:

Figure 1 is a top plan view illustrating the layout of an amusement railway in which are incorporated the features of my invention.

Fig. 2 is a view in side elevation of the railway car on the platform ready to be put through the series of movements to which it is subjected, the pit over which the platform is mounted being shown in vertical section.

Fig. 3 is a top plan view of the car in the position shown in Figure 2.

Fig. 4 is a transverse sectional view through the pit showing, in full line, a portion of the platform operating mechanism.

Fig. 5 is a detailed perspective view of the locking mechanism between the car frame and the car base.

Fig. 6 is an end view showing the bumper mounted upon the platform and a mechanism for rocking the car frame in a transverse direction.

Fig. 7 is an enlarged detailed perspective view of the construction used for coupling the car to the bumper.

Fig. 8 is a detailed view in side elevation illustrating the locking connection between the platform and the pit.

Fig. 9 is an enlarged perspective view showing the connecting means between the pivotal support of the car and the mechanism for rocking the car in a transverse direction.

Referring now particularly to Figure 1 of the drawings wherein a plan view of the complete lay-out is illustrated, it will be seen that there is provided a large platform A and the car when it is to be loaded is positioned on the track at the point designated *a*.

After the car has been loaded an operator, who will be known as the front operator, depresses the button marked R thereby energizing the track section designated as *a* and holds this button depressed until the car reaches the adjacent track section designated at *b*.

Each of the cars is propelled by an electric motor suitably built into the trucks of the car and current is delivered to the motor by a trolley or shoe running on a third or central rail such as is commonly the practice in electric railway systems.

That section of the track designated by *b* is energized at all times so that when the car reaches this section of the track the front operator releases the button R and the car continues over the energized track section *b* and through the switch B where it enters a straight section of track designated as C.

This straight section of track is controlled by an operator who is positioned adjacent the switches Y and Z and this operator energizes the straight section of track C to bring the car forwardly on to the platform D where the car is put through a series of movements which will be hereinafter fully described.

After the car has been put through the movements a desired length of time the oper-

ator adjacent the platform energizes the straight track section C to reverse the car down this section through and beyond the switch E.

The operator then brings the car forward until it hits that section where the track designated as *c* the third rail of which is at all times energized and the car goes forwardly and without attention until it reaches the end of this section.

The final section of the track is designated as *e* and is controlled by the front operator through the push button or switch G and when the car reaches this section of the track it is brought up to the unloading section of the platform by this operator, and after the car is unloaded the operator brings the car again up to a loading position on that section of the track designated at *a*.

After the rear operator is through putting a car through the desired movements on the platform D he signals or otherwise notifies the front operator who starts another car forwardly so that the amusement device is continuously in operation when desired.

From the foregoing it will be seen that an amusement railway and an amusement ride is provided which can be controlled and handled by two operators.

Coming now to a description of the platform D it will be seen that this platform is pivotally supported over a pit F upon a transverse shaft 10 which terminates in suitable bearings or housings 11 in the side walls 12 of the pit. At one end a beveled gear 13 surrounds the shaft 10 but through suitable connection to the housing 11 of the pit walls 12 is held against rotation so that it merely acts as a race-way for the spur gear 14 mounted on the end of the shaft 15. The purpose of these spur and worm gears will be later described.

As the platform is pivotally supported transverse its length it is necessary to provide means for locking it into a horizontal position and this means comprises a pin 16 mounted in one end of the platform which is adapted to be moved outwardly into engagement with the opening 17 in the end wall 18 of the pit. The locking of the platform in a horizontal position is a manual operation performed by the rear operator through the instrumentality of the lever 19 which is pivotally mounted as at 20 and has its lower end connected through a horizontal rearwardly extending shaft or bar 21 to the lower end 22 of the pivotally mounted arm 23, the upper end of which is secured to the inner end of the sliding pin 16.

It will therefore be understood that prior to bringing the car forwardly on to the platform the rear operator has locked the platform in a horizontal position through proper movement of the lever 19.

At one end, which might be termed as the front end, the platform is provided with a bumper 24 upon the top of which is carried a bearing 25 through which extends the L-shaped crank arm 26 one end of which carries a socket 27 while its other and lower end is pivotally connected eccentrically as at 28 to a gear or disc 29 which is mounted upon the end of the shaft 15 heretofore referred to. This shaft 15 is rotatably supported in suitable bearings or guides 30 which extend outwardly from the vertical edge of the platform D.

From the construction thus far described it will be seen that as the shaft 15 is oscillated the shaft 26 and its socket 27 will also be oscillated.

In Figure 9 an enlarged showing of the socket 27 is had where it will be seen that the socket is provided with an internal squared opening 31.

At a point just above the tracks 32 which run lengthwise of the platform the bumper 24 is provided with a coupling housing or catch which comprises an upper member or plate 33 having therein an opening 34. This plate 33 adjacent one end is pivotally attached as at 35 to the lower housing portion 36 which housing is of a U-shape in cross section configuration and has an open end 37 to permit the passage of the tapered end 39 of the coupling 40 carried by the front end of the base 41 of the car. This coupling 40 at a point in back of its tapered end 39 is provided with a transverse depressed portion 42. As the tapered end of the coupling enters the opening 37 of the housing the plate 33 is lifted upon its pivotal support against the tension of a coil spring 43 and when the transverse depression 42 of the coupling is positioned beneath the opening 34 of the plate the spring 43 forces the plate downwardly so that the portion 44 of the plate lies within the depression 42 of the coupling and the elevated portion 45 of the tapered end of the coupling extends upwardly through the opening 34 of the plate thus securely coupling the car to the bumper 24 of the platform.

It will be readily apparent that the coupling connection can be readily and quickly broken by depressing upon the outwardly extending end portion 46 of the plate 33 which is provided for this purpose.

The uncoupling of the car and bumper is a manual operation performed by the rear operator after the car has been put through the desired movements upon the platform.

The car comprises a main base portion 41 which carries suitable trucks (not shown) which in turn carry the wheels 47 to permit the car to run over the track lay-out. Incidentally the electric motor for propelling the car is not shown as any well known motor drive can be utilized.

At each end of the car, base 41 is provided with upwardly extending bearing supports

48 and 49 carrying at their upper ends the elongated housings and bearings 50 and 51. A frame 52 carrying a plurality of transversely extending seats 53 is pivotally supported above this base upon suitable pin or shaft extensions 54 and 55 which have their one ends connected to the vertical portions 56 and 57 of the frame while their other ends extend through the elongated bearings housings 50 and 51.

As will be seen by reference to Figure 5 of the drawings, the car base 41 is a hollow frame thereby permitting the front vertical portion 56 of the car frame to have a downwardly extending portion 58 between the side members of the frame. To prevent the rocking or rolling of the car frame upon its pivotal supports 2 elongated shafts 59 and 60 have their one ends passing through the downwardly extending portion 58 of the front vertical car frame portion 56 while their opposite ends extend into the transverse front car base portion 61. Also positioned in this car base portion 61 there is an elongated shaft or rod 63 positioned intermediate the shafts or rods 59 and 60. One end of this shaft 63 extends outwardly beyond the base portion 61 and is normally held in that extended position by reason of the fact that its inner end engages a coil spring 64 which has a tendency to normally exert an outward pressure upon this shaft 63.

This spring 64 also normally tends to hold the rods 59 and 60 in engagement with the downwardly extending portion 58 of the car frame because the rods 59 and 60 are connected to the rod 63 by links 65 and 66 which have pivotal connection at 67 with the bar 63 at a point in front of the coil spring and are furthermore pivotally mounted intermediate their lengths at the points 68 and 69. Thus it will be seen that an outward movement of the rod or shaft 63 causes an inward movement of the rods or shafts 59 and 60.

The locking connection of the rods 59 and 60 with the portion 58 of the car frame is automatically broken when the car runs upon the platform and abuts the bumper 24 for the reason that the bumper 24 drives the rod or shaft 63 rearwardly against the tension of the coil spring 64 and this moves the rods 59 and 60 forwardly out of engagement with the car frame portion 58. Consequently when the car runs upon the platform an automatic coupling connection is made between the car and the bumper and at the same time the locking function and connection of the rods 59 and 60 with the car frame is automatically broken.

By reference to Figure 9 of the drawings it will be seen that the pivot pin 54 which passes through the front bearing housings 50 of the car base has an elongated squared end 70 which enters the squared opening 31 of the socket 27 thus providing a driving connection between this pin or stub shaft 54 and the oscillating crank arm 26.

The driving mechanism for rocking the platform upon its transverse pivotal supporting shaft 10, after the locking connection with the pin 16 has been broken, is quite simple in construction.

Suitably positioned in the bottom of the pit F upon concrete or other base member 71 is an electric motor 72 which through a reduction gear drive contained in the gear box 73 rotates a fly or pitman wheel 74 to which is eccentrically connected a connecting rod 75 which has its other end pivotally connected as at 76 to the apex 77 of the frame member having extending arms 78 and 79 the ends of which are fastened at 80 to points adjacent the opposite ends of the bottom of the platform D.

Thus it will be seen that when the rear operator brings the car forward on to the platform it is automatically coupled to the bumper and a driving connection is automatically made between the frame supporting pin 54 and the oscillating shaft 26. Furthermore the locking connection of the rods 59 and 60 with the car frame is automatically broken.

It therefore only remains for the rear operator to manually move the lever 19 to release the pin 16 from the opening 17 in the pit before putting the car through the desired movements.

The rear operator now turns a switch to start the motor 72 and it will be obvious that when this motor is going the platform carrying the car is rocked upon its transverse pivotal supporting shaft 10 and that the spur gear 14 will use the fixed gear 13 as a race-way so that the rocking movement of the platform will oscillate the shaft 15 and through its connections also oscillate the shaft 26 thereby oscillating or rocking the car frame 52 upon its pivotal supporting pins 54 and 55.

The passengers of the car will as a consequence be given the sensation or effect of riding on a coaster and this sensation or effect can be increased if desired by putting a tunnel or the like over the platform so that the movements given to the car will be in complete darkness so that the passengers will as a consequence receive a greater sensation from the car movements.

After the car has been put through its movements for a desired length of time the platform is returned to a horizontal position and locked by the operator who also depresses the member 46 to release the coupling connection between the car and the bumper.

The rear operator can now direct the car rearwardly down the straight stretch of tracks C and cause its return to the unloading platform in a manner heretofore described.

Having thus described my invention what I claim and desire to secure by Letters Patent is:

1. An amusement device comprising, a movably mounted platform, passenger carrying means movable onto and off of said platform, and means to simultaneously and independently rock the platform and the passenger carrying means.

2. An amusement device comprising a movably mounted platform, passenger carrying means movable onto and off of said platform and adapted to be pivotally mounted on said platform, means to rock the platform, and means to rock the passenger carrying means at right angles to the rocking motion of the platform.

3. An amusement ride device comprising, a pivotally mounted platform, a car adapted to be run onto said platform and retained thereupon, the seats of said car pivotally mounted in respect to the car base, means to rock the platform, and means to rock the car seats at right angles to the rocking motion of the platform.

4. An amusement ride device comprising, a pivotally mounted platform, a car adapted to be run onto said platform and retained thereupon, said car being provided with seats pivotally mounted in respect to the car base, means for normally locking said car seats against movement upon their pivotal supports, means to rock said platform, means to rock said car seats, one of the pivotal supports for the car seats adapted for driving connection with the car seat rocking means, and means for automatically releasing when the car is run upon the platform, the car seat locking device, to permit the movement of the car seats.

5. An amusement ride device comprising a pivotally mounted platform, means to rock said platform upon its pivotal mounting and means to lock said platform against movement, said platform provided at one end with a bumper, a car adapted to be run onto said platform and be retained thereon in engagement with said bumper, said car provided with pivotally mounted seats, means carried by said platform bumper for rocking the car seats upon their pivotal supports, one of the pivotal supports of said car seats adapted to automatically operatively engage the rocking means carried by the platform bumper, means normally locking the car seats against movement upon their pivotal supports, and means for automatically releasing said car seat locking means upon the engagement of the car with the bumper platform, for the purpose described.

6. An amusement ride device comprising, a platform having a transversely extending pivotal support, means to rock said platform upon said pivotal support in a see-saw manner, said platform provided with a stop, a car adapted to be run onto said platform into abutment with stop and be retained there, said car provided with seats pivotally supported in respect to the car base, means to rock the platform, means driven by the rocking of the platform for rocking the car seats upon their pivotal supports, one of the pivotal supports of the car seats making automatic driving connection with said car seat rocking means when he car is abutting the platform stop, means normally holding said car seats against movement upon their pivotal supports, and said car seat locking means being actuated into an unlocked position upon the abutment of the car with the stop carried by the platform.

7. An amusement device comprising a pit, a platform pivotally mounted above said pit, means in said pit connected with said platform for rocking it in a see-saw manner, a bumper forming a stop mounted at one end of said platform and provided with a coupling housing, a car carrying a coupling member adapted to be run onto said platform into abutment with said platform stop and be retained in that position through engagement of the coupling member of the car with the coupling housing carried by the stop, said car having a base at the opposite ends of which are upwardly extending bearing supports, a car frame carrying seats positioned above said base intermediate said upwardly extending bearing supports and provided with shafts rotatably engaging said bearing supports and rotatably supporting the seat frame in respect to the car base, means to lock said seat frame against movement upon its pivotal supports, means extending forwardly of the car base for engagement with the platform stop to automatically release the seat locking mechanism to permit movement of the seat frame upon its pivotal supports, a mechanism driven through the rocking movement of the platform for rocking the car seat frame, and one of the pivotal supporting shafts of the car seat frame extending outwardly beyond its supporting bearing and making automatic driving connection with the seat rocking mechanism when the car is run upon the platform into abutting relation with the platform stop, for the purpose described.

8. An amusement device comprising a system of rails and a car therefor, a pivotally mounted platform in said rail system carrying a portion of the rails thereof, means for driving said car over said rail system and onto said platform, means to lock said car on said platform, means to rock said platform in a see-saw manner upon its pivotal support, the said car provided with seats pivotally mounted in respect to the car base, means to rock the seats of said car at right angles to the rocking motion of the platform simultaneously with the rocking movement of the

platform, and means to drive said car from said platform over the remaining rails of the system, for the purpose described.

9. An amusement device comprising a system of rails and a car therefor, said car having passenger carrying means pivotally mounted thereon, a moveable platform carrying a portion of the rails of the system, and means to independently rock said platform and the passenger carrying means of the car when the car is on the platform, for the purpose described.

10. An amusement device comprising a system of rails and a car therefor, a moveably mounted platform carrying rails forming a part of said system, means to rock said platform when the car is thereon, seats forming a part of said car and movably supported on the car, and means to rock the seats at right angles to the rocking motion of the platform, for the purpose described.

In testimony whereof I hereunto affix my signature.

FRED L. MAYBERRY.