

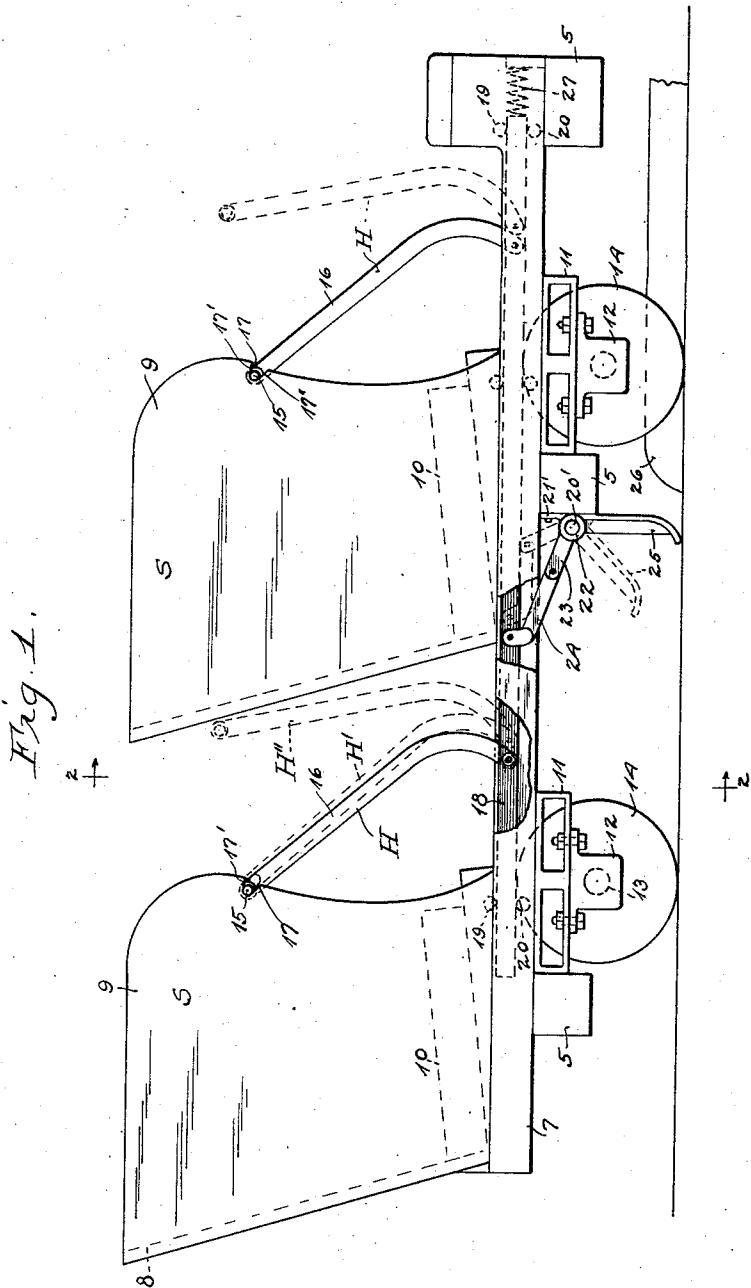
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J. A. MILLER.  
HANDLE BAR MECHANISM FOR PLEASURE RAILWAYS.  
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2 SHEETS—SHEET 1.



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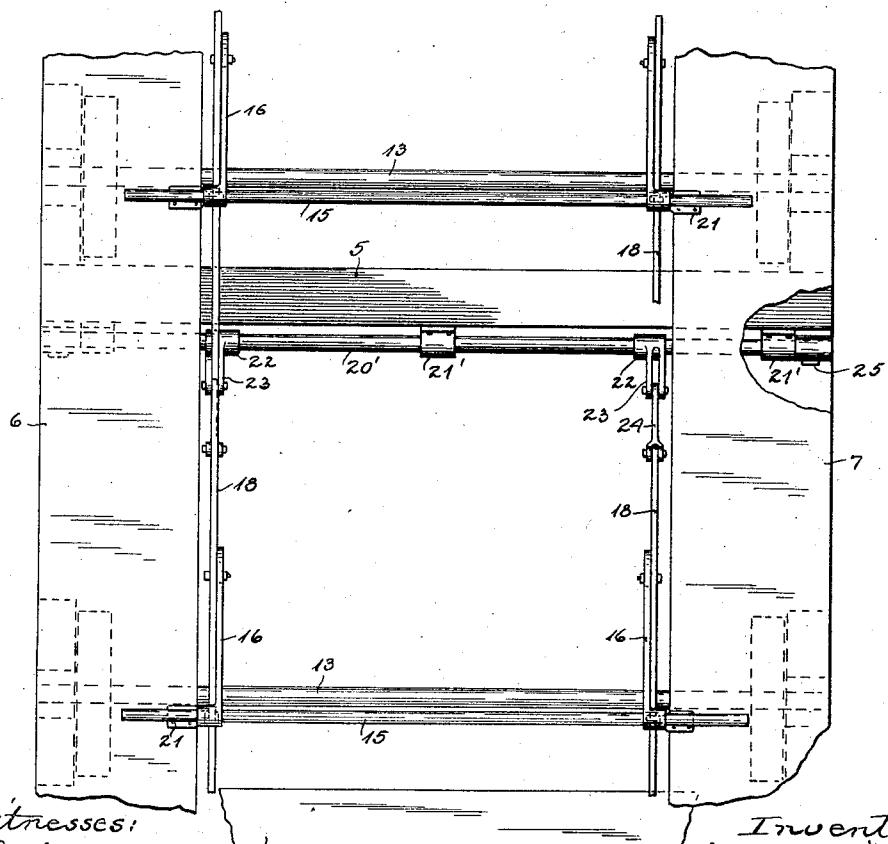
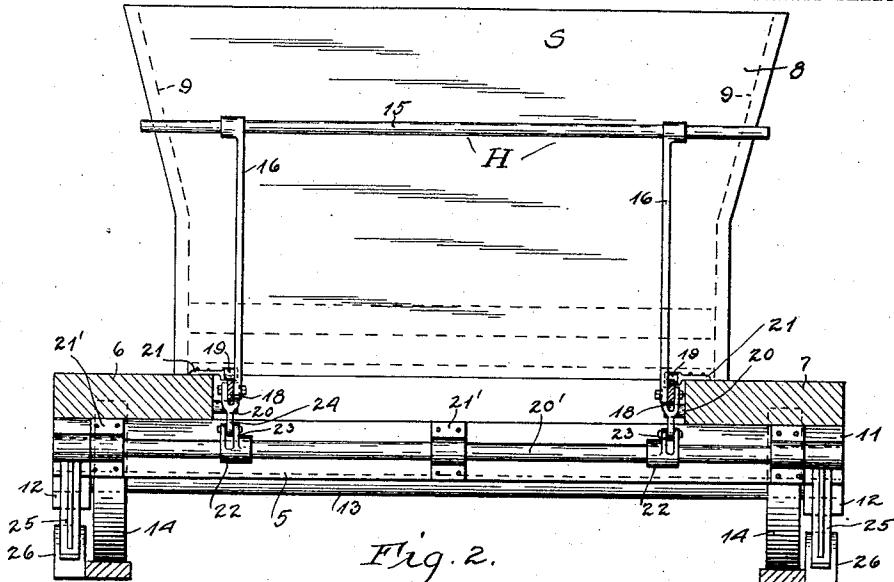
## HANDLE BAR MECHANISM FOR PLEASURE RAILWAYS.

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2 SHEETS—SHEET 2:



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# UNITED STATES PATENT OFFICE.

JOHN A. MILLER, OF CHICAGO, ILLINOIS.

## HANDLE-BAR MECHANISM FOR PLEASURE-RAILWAYS.

1,062,839.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed September 27, 1912. Serial No. 722,631.

To all whom it may concern:

Be it known that I, JOHN A. MILLER, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Handle-Bar Mechanisms for Pleasure-Railways, of which the following is a specification.

My invention relates to handle bar mechanism for pleasure railways and its general object is to provide more simple and reliable construction, arrangement and control.

More in detail, among the important objects of the invention are to provide a construction and arrangement in which handle bar structures may have direct locking engagement at their upper ends with the seat structure so as to eliminate all leverage of the handle bar structures and to put the strain practically all on the seat structure; to provide pockets or notches at the front of the seat structures into which the transverse members of the handle bar structures may engage to be locked to the seat structure, and to provide means for shifting the lower ends 20 of the handle bar structures laterally to carry the upper ends of the structures into locking engagement or to withdraw them therefrom; to provide a common means for effecting simultaneous locking or unlocking 25 of a plurality of handle bar structures; and to provide improved means for automatically locking a common actuating means.

The various features of my invention will be clearly understood by referring to the accompanying drawings which illustrate the construction embodying these various features.

In these drawings Figure 1 is a side elevational view of a pleasure vehicle with my improved handle bar structure mechanism applied thereto; Fig. 2 is a view looking from plane 2—2, Fig. 1; and Fig. 3 is a plan view with the seats removed.

The vehicle body comprises cross beams 5 supporting at their ends the running boards 6 and 7, seat frames S being also supported in any suitable manner, the seat structures shown comprising a back 8, sides 9 and a seat 10. At either side of the vehicle and 45 below the running boards are supported frames or blocks 11 each carrying a journal box 12, opposite journal boxes receiving the ends of axles 13 which support the vehicle wheels 14.

For each seat there is provided a handle bar structure designated as a whole H. As

best shown in Fig. 2, each handle bar structure comprises the top cross bar 15 and the side bars 16, the lower ends of the side bars being bent as shown. At the front edges of 60 the seat structure sides 9 suitable notches or pockets are provided. Such pockets or notches may be provided in separate fittings to be applied to the seat structures or, as shown, notches 17 may be cut directly into 65 the seat structure sides. These notches serve to receive the ends of the handle bar structure cross beam 15. In order that the cross beam 15 may be moved into or out of the notches, the lower end of each handle bar 70 structure is adapted to be shifted laterally and as shown, is pivoted to a horizontal slide bar 18. Each of these slide bars is guided between upper and lower rollers 19 and 20 suitably pivoted from the vehicle top. As 75 best shown in Fig. 2, the lower rollers are pivoted to the inner sides of the running boards and the upper rollers are pivoted on brackets 21 mounted on the running boards. With the arrangement just described, when 80 the bars 18 move horizontally the handle bar structure cross bars 15 will move vertically. The notches 17 are given such direction and shape that when the bars 18 have been moved forwardly the cross bars 15 will have 85 been carried past the outer edge of the upper notch walls 17' but will still rest against the lower walls 17''. This position of the handle bar structure is indicated by the dotted lines at H'. The handle bar structure can now be swung forwardly to position H'' so that passengers can leave the seat and in this position the center of gravity 90 of the structure is in front of its pivot line and the handle bar structure will maintain 95 its outer position and will lie against the back of the next seat structure as shown. After passengers have again entered the car seat, the handle bar structure is pulled toward the seat to bring the cross bar 15 at the 100 entrance of the locking notches and the bars 18 are then moved rearwardly and the cross bar ends carried upwardly into the notches, the upper walls 17' then securely locking the handle bar structure against outward swing 105 and all strain on the handle bar structures will be taken up by the seat structure.

Describing now the improved means for effecting adjustment of the bars 18, a transverse shaft 20' is journaled in suitable bearing blocks 21' secured to one of the cross beams 110 5. Below each bar 18 the shaft 20' carries

a sleeve 22 having arms 23 extending therefrom between whose ends a link 24 is pivoted at its inner end, the outer end of the link being bifurcated to receive the corresponding bar 18 to which it is pivoted as clearly indicated. Extending from either end of the shaft 20' is a trip lever 25 by means of which the shaft 20' may readily be turned to effect adjustment of the bars 18. It is of course readily understood that any number of handle bar structures could be pivoted to the bars 18 and controlled simultaneously upon actuation of shaft 20'. When these handle bar structures are in locking engagement with their respective notches the trip levers 25 extend downwardly and abut against the cross beam 5 from which the shaft is supported and the pivot centers of arms 23 and links 24 are below the plane passing through the center of shaft 20' and the pivots of links 24 and bars 18 so that the bars 18 are automatically locked against outward movement and the handle bar structures held in their locking notches. It will therefore be impossible for occupants of a car to release the handle bar structure by pushing forwardly against the lower ends thereof. If it is desired to open the handle bar structure, an attendant may swing either trip lever upwardly to cause the bars 18 to be shifted forwardly whereupon the handle bar structures can be swung into open position. Release of the handle bar structures could also be accomplished automatically by the provision of a suitable tripping rail 26 provided adjacent the track to be engaged at the proper time by the tripping levers 25. Such tripping release is usually provided at the unloading platform so that the handle bar structures will be automatically unlocked as the car comes to a stop. After the cars have been reloaded, the handle bar structures are swung by the attendants or the occupants against the lower walls of the locking notches and the attendant then swings the trip levers 25 downwardly to effect rearward shift of the bars 18 and raising of the cross bars 15 into the notches. Another procedure could be to further raise the trip levers before downward swing thereof so that the bars 18 would be shifted forwardly further and the center of gravity of the handle bar structures shifted forwardly and these structures caused to fall by gravity against the seat structures. Downward movement of the trip levers would shift the bars 18 rearwardly and the handle bar structures would be raised into locking engagement with the seat structures.

If desired, spring or equivalent mechanism could be applied for resisting unlocking movement of the bars 18. As shown, compression springs 27 are provided between the vehicle body and the front ends of the

bars 18. These springs by acting on the bars 18 will tend to hold the tripping levers 25 downwardly. When the car reaches the unloading station, the trip levers will engage with the tripping shoes and the handle bar structures will be released. When the car is again loaded and the handle bar structures swung against the seats, the tripping levers will leave the tripping shoes immediately after the car has been started and the springs will shift the bars 18 rearwardly and will effect locking of the handle bar structures and the trip levers will be moved to their downward position to be ready for their next engagement with the tripping shoes.

The handle bar mechanism above described is extremely simple yet very efficient. Each handle bar structure being securely anchored at its lower end adjacent the car body and being securely anchored at its upper end to its seat structure, maximum efficiency is obtained, there being no chance for leverage and consequent bending of the handle bar structures and the entire weight and strain of the occupants against the handle bar structure is taken up by the seat structure. Very small force acting through a very short distance is sufficient to powerfully move the handle bar structures into locking position and the pivot arrangement of the actuating mechanism links is such that the entire outfit will be automatically securely locked and no amount of pressure on the lower ends of the handle bar structures by the car occupants can effect unlocking.

I do not of course desire to be limited to the precise construction and arrangement shown and described as the features of the invention could be embodied in other structures and arrangements.

I claim the following:

1. In a pleasure railway vehicle, the combination of a vehicle body and a seat structure thereon, a handle bar structure supported at its lower end on the vehicle body in front of the seat structure, a notch at the front of said seat structure near the top thereof, and means for shifting the lower end of said handle bar structure toward or away from said seat structure to cause vertical movement of the upper end of said handle bar structure and engagement thereof in said notch to become locked to the seat structure.

2. In a pleasure railway vehicle, the combination of a vehicle body and a seat structure thereon, a handle bar structure comprising a cross rod and side bars extending downwardly therefrom, means pivotally supporting the lower ends of said side bars, said supporting means being horizontally shiftable toward and away from the seat structure thereby to effect movement of the

handle bar structure to raise and lower the cross rod thereof, and a locking notch on said seat structure for receiving said cross rod upon such vertical movement thereof to lock said cross rod to the seat structure.

3. In a pleasure railway vehicle, the combination of a vehicle body and a seat structure thereon, a handle bar frame comprising an upper cross rod and side bars, bars shiftable longitudinally on said vehicle body, said handle frame side bars being pivoted at their lower ends to said shiftable bars, said side bars being inclined toward said seat structure so that movement of the shiftable bars toward and away from said seat structure will cause respectively upward and downward movement of the cross rod, and notches provided on said seat structure for receiving said cross rod upon vertical movement thereof to lock said rod rigidly to the seat structure.

4. In a pleasure railway vehicle, the combination of a vehicle body and a seat structure thereon, a handle bar structure in front of the seat structure, bars longitudinally shiftable on said vehicle body to which said handle bar structure is pivoted at its lower end, said handle bar structure being adapted to be swung in inclined position in front of the seat structure, and locking means on said seat structure coöperating with said handle bar structure upon shifting of said bars to rigidly lock the handle bar structure to the seat structure.

5. In a pleasure railway vehicle, the combination of a vehicle body and a seat structure thereon, a handle bar structure comprising a top cross rod and side rods extending downwardly therefrom, said side bars being supported at the lower ends on the vehicle body and being adapted to be swung to inclined position with the cross rod resting against the front of the seat structure, notches cut in said seat structure, and means for shifting the lower ends of said side bars toward said seat structure to thereby effect raising of said cross rod and engagement of said cross rod in said notches to be securely locked thereby to the seat structure.

6. In a pleasure railway vehicle, the combination of a vehicle body and a plurality of seat structures thereon, a handle bar frame for each seat structure, bars longitudinally shiftable on said vehicle to which the lower ends of said handle bar frames are pivoted, each seat structure having notches at its front disposed in the path of the upper end of the associated handle bar frame and means for shifting said bars to effect simultaneous vertical movement of the upper ends of said handle bar frames and engagement thereof in said notches to be thereby rigidly locked to the seat structures.

7. In a pleasure railway vehicle, the combination of a vehicle body and a seat struc-

ture thereon, a handle bar structure comprising an upper cross rod and side bars extending downwardly therefrom, supporting members longitudinally shiftable on said vehicle and to which the lower ends of said side bars are pivoted, locking notches provided at the front of said seat structure in the path of said cross rod, lateral movement of the lower ends of said side bars by said supporting members causing vertical movement of said cross rod and engagement thereof in said notches to be rigidly locked to said seat structure, a cross shaft journaled on said vehicle, means for rotating said shaft, and connecting links between said shaft and said side bar supporting members for effecting longitudinal shift of said members upon rotation of said shaft.

8. In a pleasure railway vehicle, the combination of a vehicle body and a seat structure thereon, a handle bar structure comprising a top cross member and downwardly extending side members, bars shiftable longitudinally on said vehicle and to which said side members are pivoted at their lower ends to be shifted toward or away from said seat structure to thereby effect vertical movement of the cross member, notches provided at the front of said seat structure for receiving said handle bar structure cross member and upon vertical movement thereof to lock said member rigidly to the seat structure, a shaft journaled on said vehicle, arms extending from said shaft, links pivoting to said arms and to said bars whereby said bars will be shifted upon rotation of said shaft, and actuating levers extending from said shaft.

9. In a pleasure railway vehicle, the combination of a vehicle body and a seat structure thereon, a handle bar structure comprising a cross member and downwardly extending side members, bars longitudinally reciprocable on said vehicle body, said handle bar side members being pivoted to said bars a distance in front of said seat structure whereby shifting of said bars toward said seat structure will effect upward movement of said cross members, notches provided in the front of said seat structure for receiving the cross member upon such upward movement thereof and for locking same rigidly to the said structure, a shaft journaled on said vehicle body, arms extending from said shaft, links pivoting to said arms and to said bars, and tripping levers extending from said shaft and adapted to be engaged from the exterior of the vehicle to cause rotation of said shaft and shifting of said bars away from the seat structure to cause release of the handle bar structures from the seat structures.

10. In a pleasure railway vehicle, the combination with a vehicle body and a seat structure thereon, of a handle bar structure sup-

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ported on the body in front of said seat structure and adapted for engagement at its top with the seat structure, means for shifting the lower end of said handle bar structure toward the seat structure to effect vertical movement of its upper end, and means on the seat structure for engaging with the upper end of said handle bar structure upon such vertical movement and to lock the handle bar structure to the seat structure.

11. In a pleasure railway vehicle, the combination of a body part and a frame thereon, a handle bar structure supported at its lower end on the vehicle body and adapted to swing into inclined position in front of the seat frame, means for effecting bodily shifting of said handle bar structure toward perpendicular, and detents for receiving the handle bar structure when thus shifted to lock said structure to the seat frame.

12. In a pleasure railway vehicle, the combination with a vehicle body and a seat structure thereon, of a handle bar structure supported at its lower end on the vehicle body, actuating means for shifting the lower end of said handle bar structure toward the seat frame whereby the upper end of said handle bar structure is moved vertically, means for locking the upper end of said

handle bar structure to the seat frame upon said vertical movement, said actuating mechanism being self-locking to prevent movement of the handle bar structure away from the seat frame.

13. In a pleasure railway vehicle, the combination with the vehicle body and a seat structure thereon, a handle bar structure in front of the seat structure and pivoted at its lower end to the vehicle body, said handle bar structure being adapted to assume an inclined position, detent mechanism on said seat structure, actuating mechanism for effecting shift of the handle bar structure toward perpendicular to carry the upper end of said structure into locking engagement with said detent mechanism, said actuating mechanism being self-locking when moved to thus shift the handle bar structure, means tending to hold said actuating mechanism in such self-locked position, and means for releasing said actuating mechanism.

In witness whereof, I hereunto subscribe my name this 25th day of September, A. D., 1912.

JOHN A. MILLER.

Witnesses:

JOYCE M. LUTZ,  
C. J. SCHMIDT.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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