Sept. 1, 1931. C. E. FERREIRA 1,821,429

CHAIR FOR MOTOR BUSSES

Filed Nov. 2, 1926 2 Sheets-Sheet 1

Fig. 1.

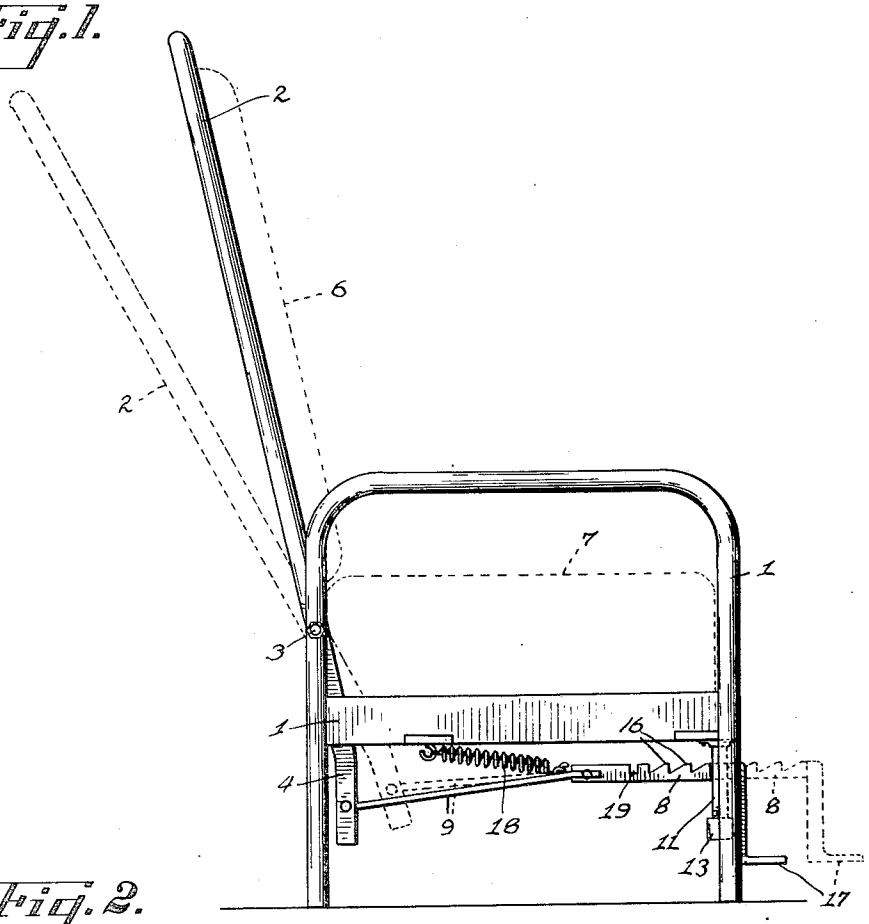
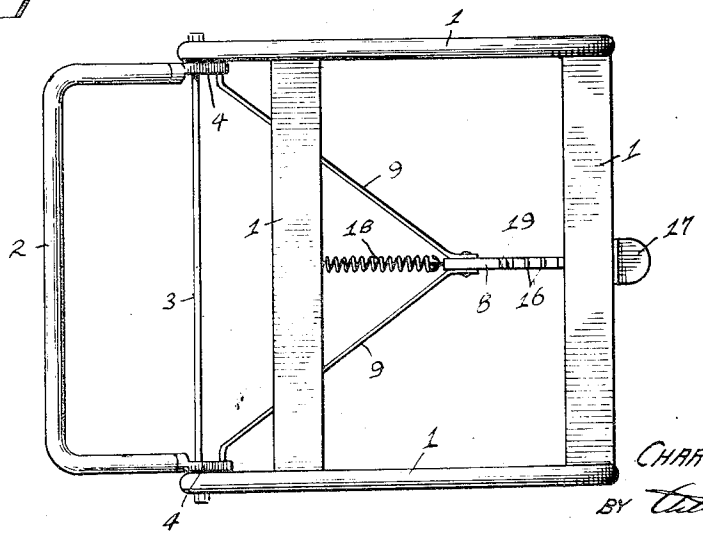


Fig. 2.



INVENTOR
CHARLES E. FERREIRA
BY Arthur A. Sloan
ATTY.

Sept. 1, 1931. C. E. FERREIRA 1,821,429

CHAIR FOR MOTOR BUSSES

Filed Nov. 2, 1926 2 Sheets-Sheet 2

Fig. 3.

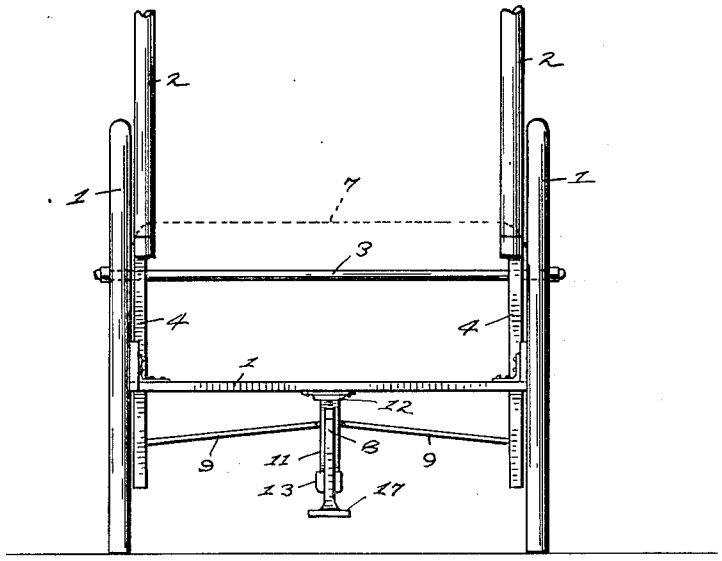


Fig. 4.

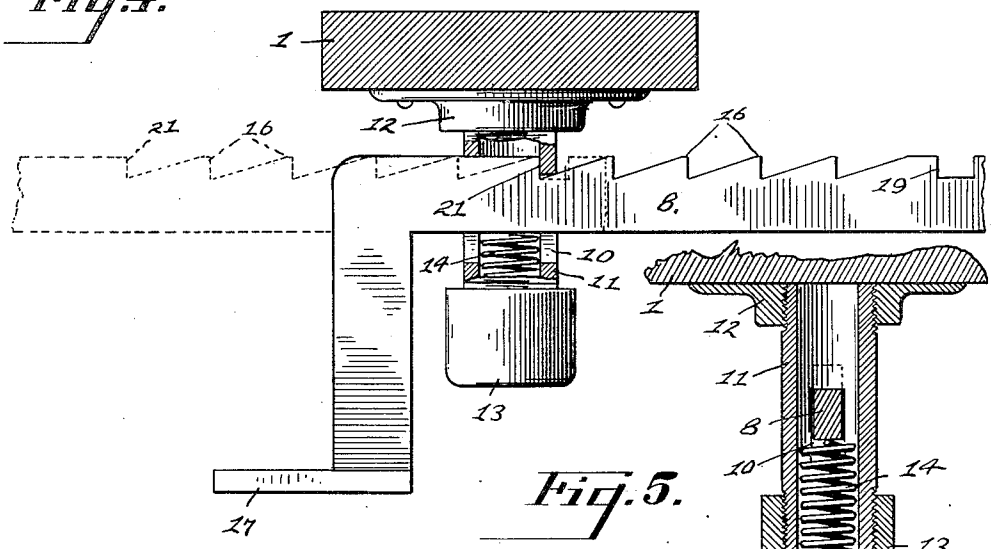


Fig. 5.

INVENTOR
CHARLES E. FERREIRA
BY Arthur L. Lee
ATTY.

Patented Sept. 1, 1931 1,821,429

UNITED STATES PATENT OFFICE

CHARLES E. FERREIRA, OF OAKLAND, CALIFORNIA

CHAIR FOR MOTOR BUSSES

Application filed November 2, 1926. Serial No. 145,805.

My invention relates to improvements in chairs for motor busses, stages and the like, wherein a back portion is movable from a normal upright position to any of a plurality of rearwardly inclined positions to increase the comfort of an occupant.

The present invention is particularly directed to an improved chair for motor busses and stages wherein passengers are required to remain seated for long periods of travel. Motor stages are commonly operated upon long runs and upon schedules providing for long periods of travel at night. Passengers traveling in this manner are afforded no opportunity for rest or sleep other than that obtained in the ordinary seats provided.

The primary object of the present invention is, therefore, to provide an improved seat for use upon such busses or stages to increase the comfort of the passengers and to afford an opportunity for passengers to obtain sleep in a restful position.

Another object is to provide an improved chair wherein the back is movable to any of a plurality of positions relative to the frame whereby the inclination of the back may be adjusted to suit the desires and comfort of any individual occupant.

A further object of the invention is to provide an improved chair wherein the weight of the occupant is caused to tilt the back to a desired position and to normally and automatically hold said back in adjusted position.

Another object is to provide an improved device of the character described, wherein the back will be locked against further tilting from any of a plurality of inclined positions, and in which the back will be automatically returned to normal upright position when released from the weight of an occupant.

A further object is to provide an improved chair wherein the back may be locked in a full reclining position to permit undisturbed rest and which may be easily released and moved to normal position when desired.

A still further object is to provide an improved construction which may be manufactured economically and which will be simple and efficient in its operation.

I accomplish these and other objects by means of the device disclosed in the drawings forming a part of the present application wherein like characters of reference are used to designate similar parts throughout the specification and drawings and in which,

Fig. 1 is a side elevation of the frame of my improved chair, showing the manner in which the back may be tilted rearwardly.

Fig. 2 is a plan view of the chair frame as shown in Fig. 1.

Fig. 3 is a broken front elevation of the chair frame.

Fig. 4 is a sectional detail, drawn upon a larger scale and showing the manner in which the locking member and ratchet bar operate to lock the back in adjusted position.

Fig. 5 is a sectional detail through the locking member at right angles to the position shown in Fig. 4.

Referring to the drawings, the numeral 1 is used to designate in general the supporting frame of a chair. The chair is preferably constructed from wicker work, though any other material or construction may be substituted if desired. To simplify the drawings, the frame only of the chair is illustrated.

A back 2 is pivotally connected to the frame, said back consisting of a suitable frame pivoted upon a rod 3 extending across the back of the frame and engaging suitable bearing openings formed through cast metal members 4 secured upon the lower ends of the frame. Suitable back and seat cushions 6 and 7, respectively, are mounted upon the back and chair frames, as indicated in dotted lines in Fig. 1 of the drawings.

A ratchet bar 8 is mounted below the chair seat, said bar being connected to the lower ends of the back frame members 4 by means of tie rods 9 pivotally connected between the rearward end of the bar 8 and said members 4. The bar 8 extends through a slot 10 formed through a bar engaging member 11 secured upon the under side of the frame

1, said member preferably consisting of a tubular member threaded into a mounting socket 12 secured upon the under side of the frame. The lower end of the tubular member is closed by a cap 13 arranged to retain a spring 14 compressed against the lower edge of the bar 8 whereby said bar may be held against the upper edge of the slot 10.

The bar 8 is provided with a plurality of forwardly faced locking teeth 16 arranged to engage the inner side of the tube at the top of the slot 10 upon the forward side of the tubular member 11, and thereby prevent forward movement of the bar through the member 11. A pedal 17 is formed upon the forward end of the bar 8 whereby the bar may be depressed against the pressure of the spring 14 and the teeth 16 moved out of locking engagement with the member 11 when desired. A spring 18 is connected between the rearward end of the bar 8 and the back of the chair frame 1, to normally move the bar 8 to its extreme rearward position as indicated in full lines in Figs. 1 and 4 of the drawings; the rearward sides of the teeth 16 being inclined to permit the bar to be moved freely in the rearward direction past the member 11. A square locking notch 19 is formed in the extreme rearward end of the bar 8 to lock the bar against movement in either direction for a purpose hereinafter more fully explained.

In operation, my improved chair is secured within a motor bus or stage, not shown, in any convenient manner. The spring 18 normally holds the bar 8 in its extreme rearward position, which in turn operates through the tie rods 9 to move the back to its normal upright position as shown in full lines in Fig. 1 of the drawings. A shoulder 21 formed upon the forward end of the bar 8 defines the normal position and normally locks the rack and prevents rearward tilting of the seat back 2. When it is desired to tilt the back rearwardly whereby the occupant may lean back into a more comfortable position, the pedal 17 is pressed downwardly to move the shoulder 21 out of engagement with the upper end of the slot 10, thereby permitting the bar 8 to be moved forwardly through the member 11 and the back 2 tilted rearwardly. The back 2 may be stopped at any desired position by releasing the pedal 17, thereby permitting the spring 14 to force the bar upwardly within the member 11 and causing an adjacent tooth 16 to engage the edge of the slot 16 and prevent further rearward movement of the back 2. The seat back is moved rearwardly against the tension of the spring 18 by the weight of the occupant of the chair leaning against said back, and will be held in the rearwardly tilted position so long as the occupant of the chair leans his weight against the back 2. When the occupant leans forward and removes his weight from the back 2, the spring 18 operates to immediately or automatically return the back 2 and the bar 8 to normal position.

When it is desired to tilt the back 2 to a full reclining position to permit the occupant to sleep, the pedal 17 is held depressed until the locking notch 19 is moved into engagement with the upper edge of the slot 10. When in this position, the bar 8, and consequently the seat back 2, is locked against movement in either direction, and the back 2 will remain in full reclining position until released by again depressing the pedal 17. This permits the occupant to rest or sleep in comfort without depending upon his weight to hold the seat back in reclining position and preventing the position from being affected by any motion or jolting of the stage or bus.

While I have illustrated and described only the preferred construction of my improved chair, the device is, of course, subject to modification in numerous ways without departing from the spirit of the invention. I, therefore, do not wish to restrict myself to the specific form and construction illustrated and described, but desire to avail myself of all modifications which may fall within the scope of the appended claims.

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

1. A chair for motor busses and the like comprising a frame; a back pivotally connected to the frame; a ratchet bar connected to the back and arranged to be moved thereby, said bar having a plurality of locking teeth; a member mounted upon the frame and slotted to slidably receive the bar; means for holding the bar in engagement with said member whereby a tooth of the bar will operate to lock the back against rearward tilting; means including a foot pad fixed on the outer end of said bar in front of the seat, for moving the bar within the member to disengage said tooth whereby the back may be tilted rearwardly to a desired reclining position by the weight of an occupant of the chair; and means for normally and automatically returning the back to normal upright position when the weight of the occupant is removed from the back.

2. A chair for motor busses and the like comprising a frame; a back pivotally connected to the frame; a ratchet bar connected to the back and arranged to be moved thereby, said bar being provided with a plurality of forwardly faced locking teeth; a member mounted upon the frame and slotted to slidably engage the bar, an edge of said member being arranged to form locking engagement with the teeth of

the bar; means for normally holding the bar in locking engagement with the member; a pedal formed upon the forward end of the bar whereby the bar may be moved to disengage the locking edge of the member and thereby permit the back to be tilted rearwardly to a desired reclining position.

3. A chair for motor busses and the like comprising a frame; a back pivotally connected to the frame; a ratchet bar connected to the back and arranged to be moved thereby, said bar being provided with a plurality of forwardly faced locking teeth; a member mounted upon the frame and slotted to slidably engage the bar, an edge of said member being arranged to form locking engagement with the teeth of the bar; means for normally holding the bar in locking engagement with the member; a pedal formed upon the forward end of the bar whereby the bar may be moved to disengage the lock-edge of the member and thereby permit the back to be tilted rearwardly to a desired reclining position; and means for locking the bar against movement in either direction when the back is in full reclined position.

4. A chair for motor busses and the like comprising a frame; a back pivotally connected to the frame; a ratchet bar connected to the back and arranged to be moved thereby, said bar being provided with a plurality of forwardly faced locking teeth; a member mounted upon the frame and slotted to slidably engage the bar, an edge of said member being arranged to form locking engagement with the teeth of the bar; means for normally holding the bar in locking engagement with the member; a pedal formed upon the forward end of the bar whereby the bar may be moved to disengage the locking edge of the member and thereby permit the back to be tilted rearwardly to a desired reclining position; and means for normally and automatically returning the back and ratchet bar to normal position.

5. An adjustable chair including a seat frame; a back frame pivoted onto the seat frame, a fixed pawl depending from the seat frame adjacent the front end thereof; a toothed bar to engage the pawl and movable longitudinally of the seat; means normally holding the bar engaged with the pawl; swivel means connecting the bar with the back frame, and a foot pad fixed on the outer end of the bar in front of the seat.

6. An adjustable chair including a seat frame; a back frame including spaced side members pivoted intermediate their ends onto the seat frame and projecting therebelow; a fixed pawl depending from the seat frame in front of the back frame; and located substantially centrally of the width of the chair; a longitudinal toothed bar to engage the pawl; means normally holding the bar engaged with the pawl; means for depressing the bar clear of the pawl at will; and rigid members fixed onto the sides of the bar to the rear of the pawl and extending thence to pivotal connections with the back frame members at the lower ends thereof.

7. A structure as in claim 6 with a spring connected to the rear end of the bar and extending thence rearwardly in longitudinal alinement therewith to a connection with the seat frame.

8. An adjustable chair including a seat frame; a back frame pivoted onto the seat frame; a fixed pawl depending from the seat frame adjacent the front end thereof; a longitudinal ratchet-toothed bar to engage the pawl; means connecting the bar with the back frame; means normally maintaining the bar engaged with the pawl; means for disengaging the bar from the pawl at will; and a spring acting to raise the back frame to a substantially vertical position, the positioning of the ratchet teeth on the bar being such as to cause said bar to automatically move rearwardly with the action of the spring unless said spring is counteracted by a pressure in the opposite direction.

9. A chair for motor busses and the like comprising a frame, a back pivotally mounted upon the frame, a ratchet bar connected to the back and arranged to be moved thereby, said bar having a foot pad fixed on the outer end thereof in front of the seat, a fixed pawl depending from the frame, means for normally holding the bar engaged with the pawl, means for moving the bar out of engagement with the pawl to permit the back to be tilted rearwardly to a desired reclining position by the weight of an occupant of the chair, and means for normally and automatically returning the back to normal position when the weight of the occupant is removed from the back.

In witness whereof I hereunto set my signature.

CHARLES E. FERREIRA.