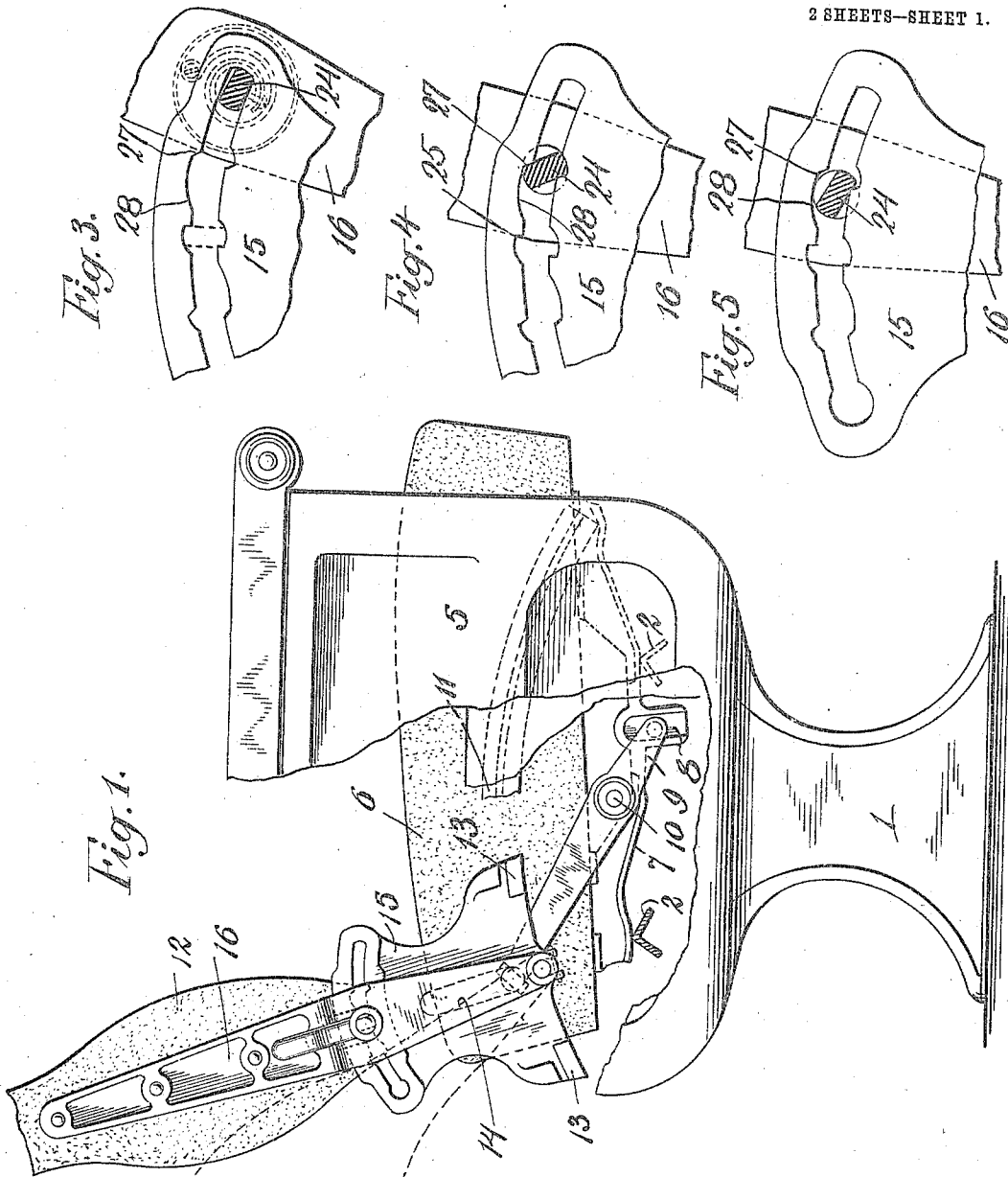


E. G. BUDD.
CAR SEAT.

APPLICATION FILED APR. 4, 1908.

Patented Mar. 1, 1910.
2 SHEETS—SHEET 1.

950,745.



WITNESSES:

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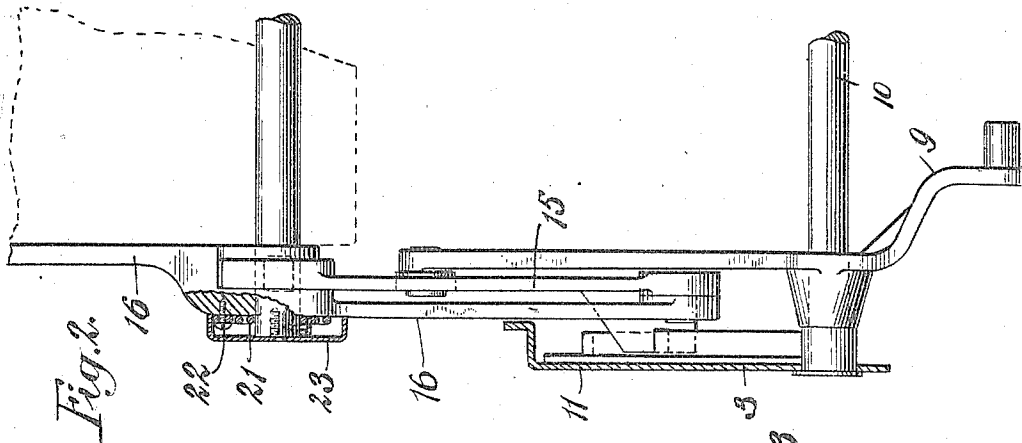
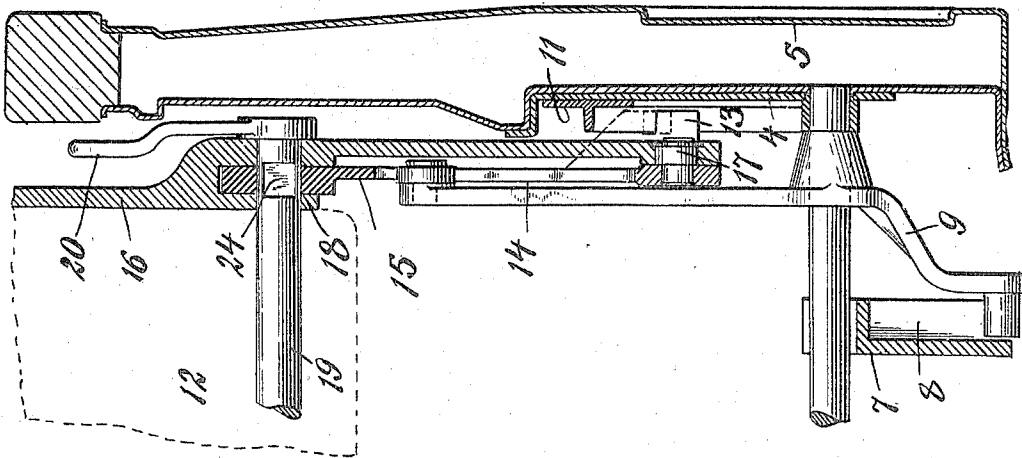
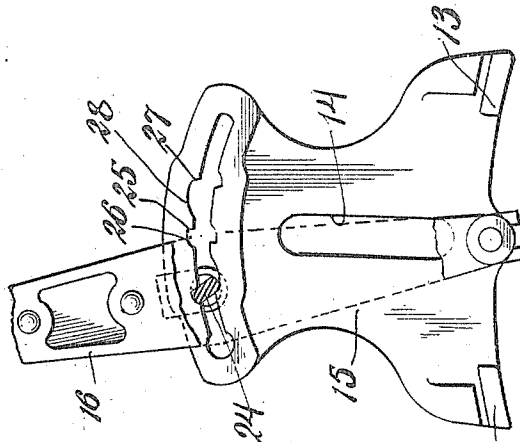


Fig. 6.



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UNITED STATES PATENT OFFICE.

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CAR-SEAT.

950,745.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed April 4, 1908. Serial No. 425,141.

To all whom it may concern:

Be it known that I, EDWARD G. BUDD, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Car-Seats, (Case B,) of which the following is a specification.

This invention relates to reversible seats of the type commonly employed in railway cars and more particularly to such a seat having provision for adjusting the inclination of the back-cushion thereof so as to make the seat most comfortable for the occupant.

A seat constructed in accordance with my invention has the back-cushion thereof carried by two back-supporting arms, the lower ends of which are mounted upon the frame of the seat in such manner as to permit of moving the back-cushion across the seat-cushion from one edge of the latter to the other in order to reverse the facing direction of the seat, and each of these back-supporting arms is formed in two parts which are pivotally connected so that by varying the relative positions of the two parts of each of these arms, the angular disposition of the back-cushion of the seat may be adjusted as desired.

My invention involves the provision of an improved form of locking mechanism by means of which the two parts of each of the back-supporting levers may be locked together to hold the back-cushion stationarily in position or disconnected so as to permit relative movement thereof in order to vary the inclination of the back-cushion. This improved form of locking mechanism is automatic in its operation in that certain variations of the inclination of the back may be effected without manipulating the locking mechanism at all, as by merely pressing upon the back-cushion itself, the locking mechanism operating automatically when the desired position of the back-cushion has been reached, to hold the latter in that position.

The preferred embodiment of my invention is illustrated in the accompanying drawings in which—

Figure 1 is an elevation of the end of the seat, broken away and sectioned in part, Fig. 2 is a front view of a portion of the

seat, broken away and sectioned in part, and Figs. 3, 4, 5 and 6 are detail views illustrating various positions of the parts of the locking mechanism.

Referring to these drawings, the seat is supported at the aisle-end on a pedestal 1 on the upper end of which are secured two connecting rails 2, the opposite ends of these rails being secured to a plate 3 which is mounted upon the wall of the car or upon a pedestal similar to the pedestal 1 and lying between two adjacent seats. A plate 4 similar to the plate 3 is fastened to the ends of the rails 2 at the aisle-end of the seat and to this plate is secured a seat-end 5. The seat-cushion 6 is supported at either end upon a rocker 7 having inclined surfaces on the bottom thereof bearing upon the rails 2. Each of the rockers 7 has a vertically disposed slot 8 formed therein adapted to receive a stud upon the lower end of a lever 9 which is secured upon a rod 10 having its ends mounted for rotation in bearing-pieces carried by the plates 3 and 4. Secured to each of the plates 3 and 4 is a rail 11 having an integral web extending horizontally therefrom and curved in the direction of its length so as to form an arc-shaped supporting and guiding rail for the arms or levers carrying the back-cushion 12. These back-supporting levers are secured to opposite edges of the back-cushion 12 and extend downwardly therefrom and at their lower ends are provided with bifurcated lugs 13 spaced apart as shown in Fig. 1 and straddling the arc-shaped web on the rail 11. In each of the back-supporting levers is a vertically disposed slot 14 into which extends a stud or roller mounted upon the upper end of the lever 9.

It will be seen that by this construction the facing direction of the seat may be reversed as desired by pushing the back-cushion 12 from one edge of the seat cushion to the other, the lugs 13 on the back-supporting levers coacting with the web of the rails 11 to support the back-cushion in this movement; also, in this movement of the back-cushion the seat-cushion will be moved in the direction opposite to that in which the back-cushion is moved by means of the levers 9 which coact at one end with the slots 14, and at the other end with the rockers 7, and in the movement of the seat-

cushion its forward edge will be raised above its rearward edge, due to the inclined surfaces on the bottom of the rockers 7.

In order to permit of adjustment of the angular inclination of the back-cushion when the latter is in either of its operative positions, each of the back-supporting levers consists of two parts which are pivotally connected and a locking device is provided between the two parts of each of these levers. The two parts of the back-supporting levers are indicated by the numerals 15 and 16. The part 16 is secured to the edge of the back-cushion and extends downwardly therefrom, its lower end being pivotally connected by means of the stud 17 to the part 15 of the lever. Each of the parts 16 of the back-supporting levers has an offset therein near its center so that the lower portion of this part is displaced laterally from the upper portion and at this off-set, a web 18 is extended downwardly a short distance in the plane of the upper portion of the part 16, as shown in Fig. 2. In the webs 18 and the portions of the parts 16 of the two back-supporting levers opposite those webs are formed aligned openings adapted to receive and pivotally support a rod 19 to one end of which is secured an operating handle 20. To the other end of this rod is secured one end of a spiral spring 21, the opposite end of which is fixed to the part 16 as shown at 22 and a casing 23 is secured over this spring.

The upper portion of the part 15 of each of the back-supporting levers is formed on the arc of a circle about the stud 17 as a center and this upper portion lies between the web 18 and the body-portion of the part 16 of that lever, the part 15 being provided with a slot through which one end of the rod 19 extends. At the points on rod 19 corresponding to the parts 15 of the back-supporting levers, the rod is slotted on opposite sides thereof as shown at 24, Fig. 2, so that at these points the cross-sectional shape of the rod is that shown in section in Figs. 3 to 6. The slot above mentioned as being formed in the upper portion of each of the parts 15 of the back-supporting levers is of a width substantially equal to the width of the rod 19 at the slotted portions 24 and is curved on the arc of a circle about the stud 17 as a center. At the center of this slot the opposite walls thereof are notched as shown in Figs. 3 to 6, one wall of each of these notches being straight as shown at 25 and the other curved as shown at 26 and the straight walls of the two notches being on opposite sides of those notches and being radially disposed with respect to the curve of the slot. Between these central notches and the end of the slot, the opposite walls of the slot are notched as shown, each of the notches having a straight wall 27 and a

curved wall 28, the straight walls being on opposite sides of the two notches and being at somewhat of an angle to a radius of the curve of the slot at that point; also, the curved wall of one notch is considerably longer than that of the other notch as shown. Between the central notches and the other end of the slot, the opposite walls of the slot are provided with notches similar to those adjacent to the other end of the slot except that the notch having the longer curved wall is in the lower wall of the slot and the notch having the shorter curved wall is in the upper wall of the slot. At one end of the slot the latter is enlarged to form a circular portion through which the end of rod 19 may be passed in assembling the parts; as similar castings are used for the parts 15 of the two back-supporting arms and these castings face in opposite directions, these enlarged circular portions will be at opposite ends of the two slots in the assembled structure, so that rod 19 will always be held against free turning movement under the influence of spring 21 such as would exhaust the tension of the spring.

The normal positions of the parts are those shown in Fig. 1, the rod 19 being in the position indicated by the dotted lines in Fig. 3. When in this position rod 19, which is carried by the parts 16 of the back-supporting levers, coacts with the walls of the slots in the parts 15 of those levers to preclude relative movement of the parts 15 and 16, thus holding the back-cushion 12 rigidly in position. The back-cushion may then be moved across the seat-cushion in the manner above described to reverse the facing direction of the seat whenever such reversal is desired. If, when the back-cushion is in one of its operative positions, it is desired to vary the inclination thereof, the rod 19 is turned by means of handle 20 against the tension of the spring 21 to carry the rod out of the notches 25—26 and the back-cushion is then turned about the studs 17 as desired, the handle 20 being released when the back-cushion is in the desired position. If the back-cushion has been moved to the position shown by the dotted lines in Fig. 1, the rod 19 will be at the ends of the slots in the parts 15 and further turning movement of the back-cushion will be prevented. If handle 20 were released immediately after rod 19 passes beyond the notches 25—26, turning movement of rod 19 under the influence of spring 21 would be precluded by the coaction of the flattened walls of the rod with the walls of the slots in the parts 15, but when the continued movement of the back-cushion carried rod 19 along in the slots until it reached the notches 27—28, then spring 21 would turn rod 19 so as to cause it to assume the position indicated in Figs. 130

4 and 6, and the back would be held in that position. It will thus be seen that movement of the back cushion from the normal position, illustrated in full lines in Fig. 1, to a position indicated by the dotted lines or to a position midway between those two positions, may be readily effected by merely turning handle 20 and then moving the back-cushion about the studs 17 as pivots. In moving the back-cushion from the position shown in dotted lines in Fig. 1, or from the intermediate position above referred to, back to the normal position shown in full lines in Fig. 1, manipulation of handle 20 is unnecessary as the locking mechanism operates automatically to permit such movement. Thus, with the back in the position illustrated in dotted lines in Fig. 1 and the rod 19 in the position illustrated in Fig. 3, if it is desired to move the back to the normal position, it is only necessary to press upon the rear face of the back-cushion 12, the back-cushion being thus turned about the stud 17 and the rod 19 sliding in the slots in the parts 15 of the back-supporting levers. In this movement, when rod 19 reaches the notches 27—28, it will be turned by spring 21 to automatically assume the position illustrated in Fig. 4 and when in this position it will hold the back-cushion against movement back to the reclining position illustrated in dotted lines in Fig. 1 unless handle 20 is manipulated for this purpose. If the turning movement of the back-cushion be continued rod 19 will be turned against the tension of spring 21 in the manner illustrated in Fig. 5 and will slide along in the slots in the parts 15 until it reaches the notches 25—26, at which time the rod will be turned by spring 21 to lock the two parts of the back-supporting levers against relative movement.

Having described my invention, what I claim as new therein and desire to secure by Letters Patent of the United States, is:

1. In a reversible seat, the combination of a frame, a seat-cushion, a back-cushion, a back-supporting arm to which the back-cushion is secured mounted on said frame and movable bodily upon the frame to reverse the facing direction of the seat, said back-supporting arm being formed in two parts which are pivotally mounted and moved together in fixed angular relation in reversing the facing direction of the seat, and a locking mechanism for holding the parts of said arm in any one of a plurality of different angular positions, said mechanism being arranged to move automatically to permit the movement of said parts from one angular position to another and to lock said parts in a new position, substantially as set forth.

2. In a reversible seat, the combination of two side-frames, an arc-shaped rail upon

each of said side-frames, a seat-cushion mounted upon the side-frames, a back-cushion, back-supporting arms to which the back-cushion is secured having grooves therein in which said arc-shaped rails are received, said arms being formed in two parts which are pivotally connected and being adapted to slide upon said rails with the parts thereof in fixed angular relation to reverse the facing direction of the seat, and a movable member mounted upon one of the parts of each of said arms and coacting with notches in the other part of each of said arms, said member being adapted to be moved out of said notches by the movement of said back-cushion about the pivotal connection of said parts, substantially as set forth.

3. In a reversible seat, the combination of a frame, a seat-cushion, a back-cushion, a back-supporting arm to which the back-cushion is secured mounted upon said frame and movable bodily upon the frame to reverse the facing direction of the seat, said back-supporting arm being formed in two parts which are pivotally connected and movable together in fixed angular relation in reversing the facing direction of the seat, and a member movably mounted upon one of the parts of said arms, the other of said parts having a slot therein into which said member extends and notches in the wall of said slot with which said member coacts to lock the parts of said arm in fixed angular relation, substantially as set forth.

4. In a reversible seat, the combination of a frame, an arc-shaped rail thereon, a seat-cushion, a back-cushion, a back-supporting arm to which the back-cushion is secured having a groove therein to receive said rail and movable upon the rail to reverse the facing direction of the seat, said back-supporting arm being formed in two parts which are pivotally connected and movable together in fixed angular relation in reversing the facing direction of the seat, and a member movably mounted upon one of the parts of said arm, the other of said parts having a slot therein into which said member extends and notches in the wall of said slot with which said member coacts to lock the parts of said arm in fixed angular relation, substantially as set forth.

5. In a reversible seat, the combination of a frame, a seat-cushion mounted thereon, a back-cushion, arms supporting the back-cushion on the frame and movable to carry the back-cushion from one edge of the seat-cushion to the other, each of said arms being formed in two parts which are pivotally connected and one part of each arm having a slot therein the walls of which are provided with notches, and a rod rotatable in openings in the other parts of said arms, said rod entering said slots and coacting

with said notches to hold the parts of said arms against relative movement, substantially as described.

6. In a reversible seat, the combination of
 5 a frame, a seat-cushion mounted thereon, a back-cushion, arms supporting the back-cushion on the frame and movable to carry the back-cushion from one edge of the seat-cushion to the other, each of said arms being
 10 formed in two parts which are pivotally connected and one part of each arm having a slot therein the walls of which are provided with notches, a rod rotatable in openings in the other parts of said arms, said
 15 rod entering said slots and coacting with said notches to hold the parts of said arms against relative movement, and a spring acting on said rod to turn the same, substantially as described.

20 7. In a reversible seat, the combination of a frame, a seat-cushion mounted thereon, a back-cushion, arms supporting the back-

cushion on the frame and movable to carry the back-cushion from one edge of the seat-cushion to the other, each of said arms being
 25 formed in two parts which are pivotally connected and one part of each arm having a slot therein the walls of which are provided with notches, a rod rotatable in openings in the other parts of said arms, said rod
 30 entering said slots and coacting with said notches to preclude relative movement of said parts in one direction and permit such movement of said parts in the opposite direction, a spring acting on said rod to turn
 35 the same and a handle secured to said rod, substantially as described.

This specification signed and witnessed this 24 day of January, 1908.

EDWARD G. BUDD.

Witnesses:

P. T. TUCKER,
 R. M. FRIES.