

No. 610,719.

Patented Sept. 13, 1898.

W. M. NORCROSS.
CAR SEAT.
(Application filed Apr. 7, 1898.)

(No Model.)

Fig. 1.

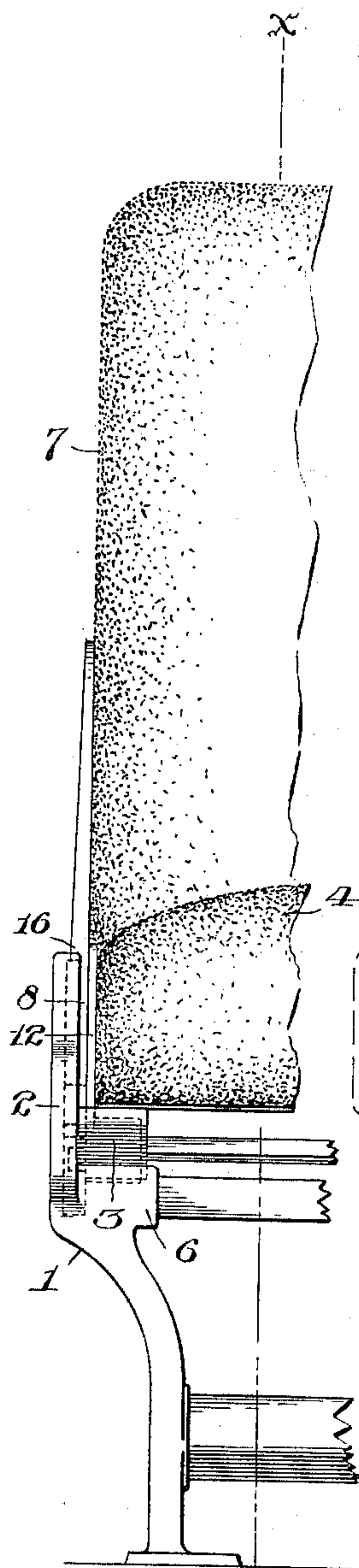


Fig. 2.

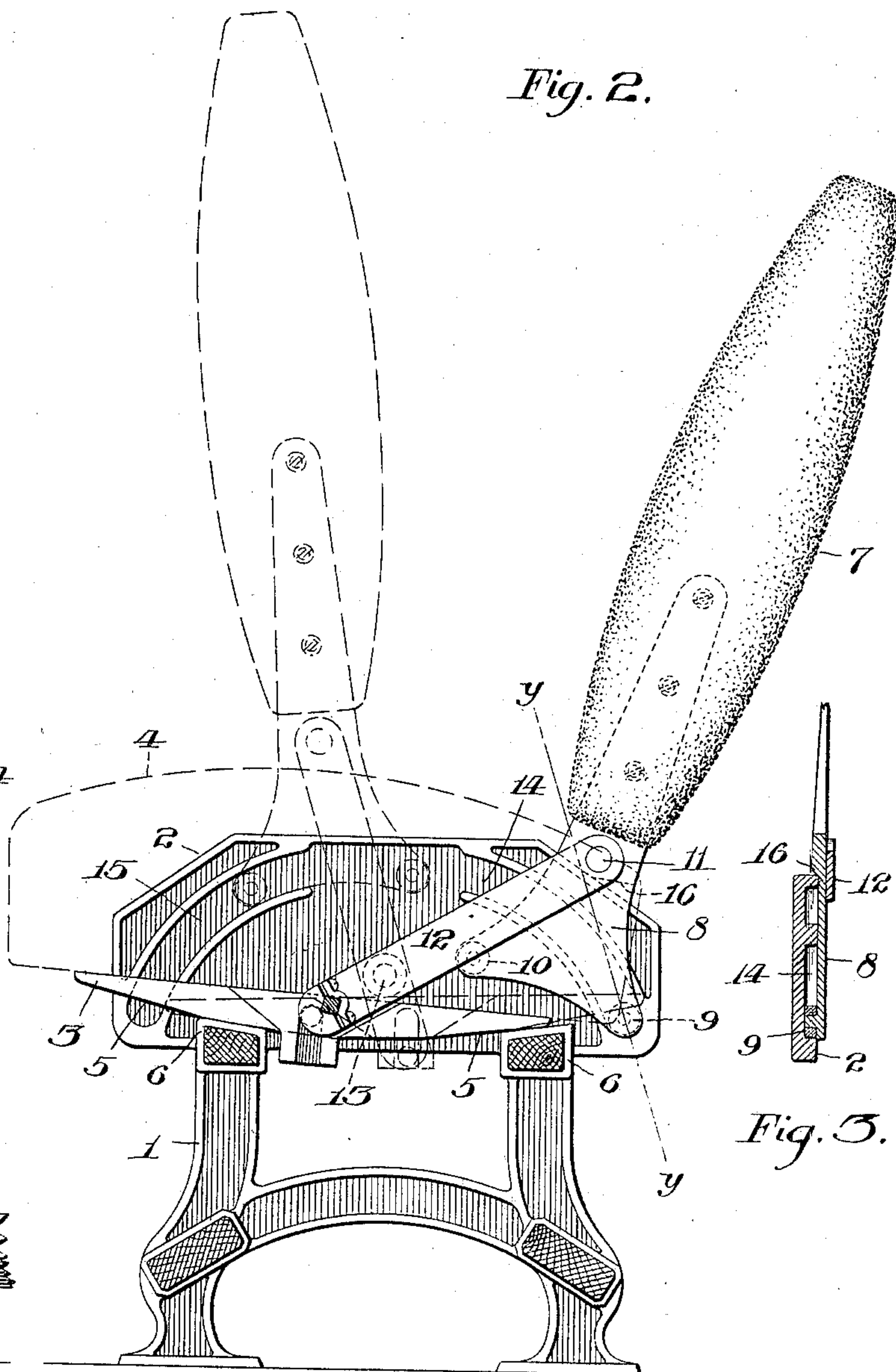
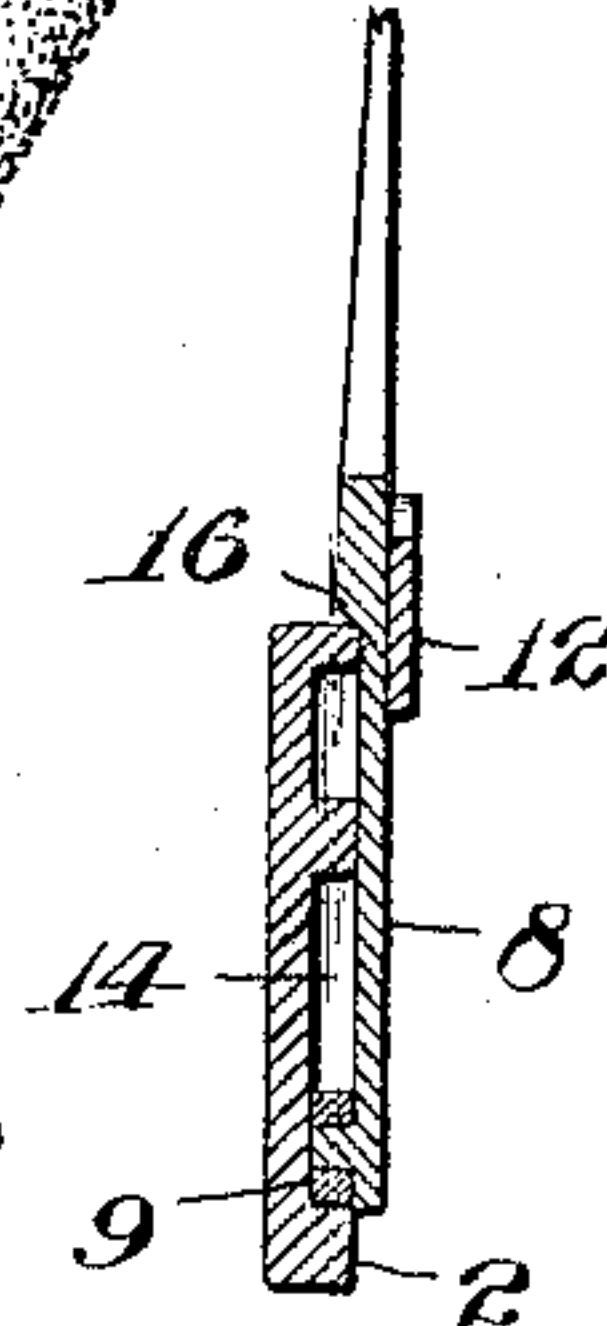


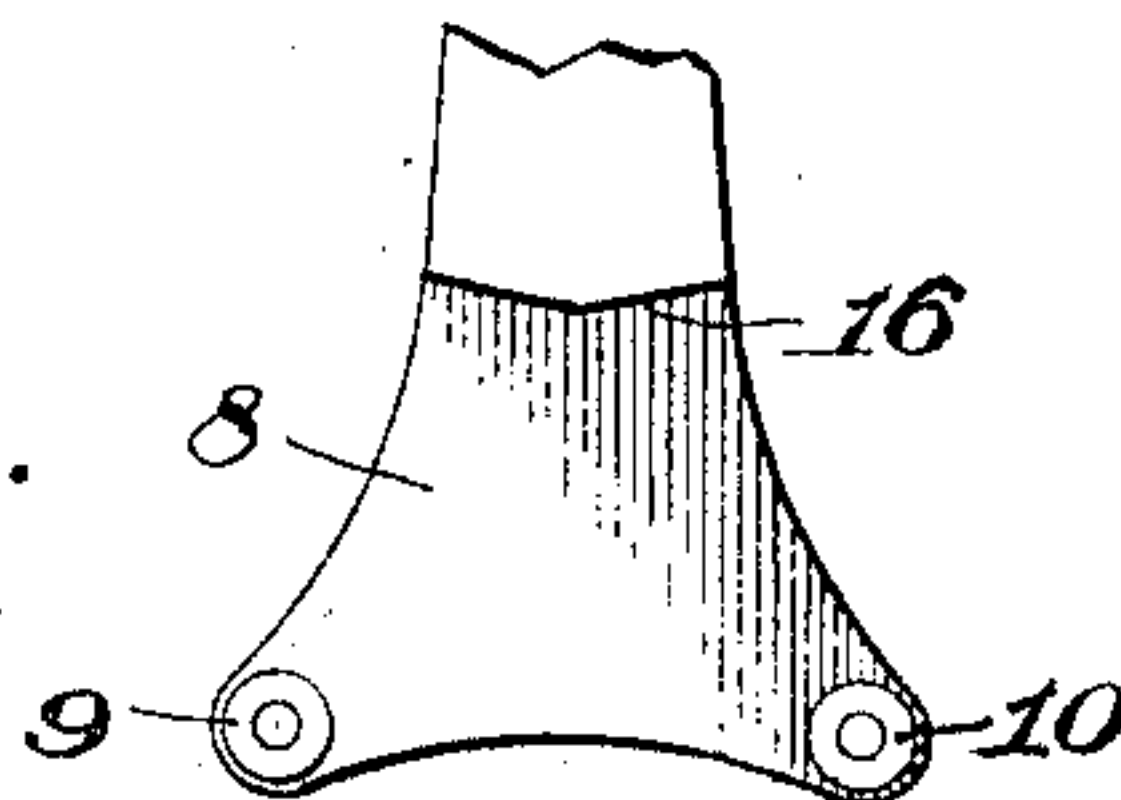
Fig. 3.



WITNESSES:

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Fig. 4.



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CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 610,719, dated September 13, 1898.

Application filed April 7, 1898. Serial No. 676,736. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. NORCROSS, a citizen of the United States, residing in the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Car-Seats, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

This invention has relation to reversible car-seats of that general class wherein provision is had for the shifting of the back-section from side to side of the seat-section and for the simultaneous tipping or inclining of the latter.

The object of the invention is to provide a simple, durable, and effective construction wherein the back shall be rigidly and firmly supported at an appropriate angle or incline in respect to the seat and in its adjustment or movement from side to side of the seat shall swing positively and uniformly in a path above and clear of the arched seat-cushion and this without the use of long depending radius or striker arms.

To this end the invention, as generally stated, consists in the combination, with the frame and the back, of a swinging arm or lever at each end of the frame pivotally connected to a depending arm on the adjacent end of the back, the lower end of said arm being provided with cam-engaging portions constructed and arranged to coact with appropriate camways on the end of the frame.

The invention also comprises novel features of construction and organization of parts, which will be hereinafter described and claimed.

In the drawings, Figure 1 is a front elevation of one end of my improved car-seat. Fig. 2 is a vertical section thereof, as on the line *xx* of Fig. 1, the seat-cushion being indicated in dotted lines and the operation of the back-section being likewise indicated. Fig. 3 is a transverse section, as on the line *yy* of Fig. 2. Fig. 4 is a detail of the depending back-arm.

The numeral 1 designates an end frame for the support of the outer end of the seat, the inner end thereof being usually supported on the side wall of the car. This frame may be

of any appropriate construction and configuration, and, if desired, one may be arranged at each end of the seat. On the end frame and on the opposite supporting part (whether it be a wall or frame) are formed or secured transverse members 2, on which are mounted the usual rockers 3, that sustain the seat-section 4, such rockers comprising slides with oppositely beveled or inclined portions 5, that bear upon the fixed casings or supports 6 on the frame, whereby when the rockers are slid to and fro they, together with the seat-section, are correspondingly tilted or inclined. The rockers are actuated by and during the adjustment of the back-section 7, as below explained. This section is provided at each end with a depending arm 8, which lies adjacent to the inner side of the frame member and is provided with two studs or projections 9 10, located at points preferably, though not essentially, equidistant from a central line drawn through the end of the back and the arm. The arm is pivotally connected at the central portion thereof, at a fixed point below the back-section, as at 11, to the upper end of a lever 12, that is fulcrumed centrally of the frame member, as at 13, so that as the lever is swung on its pivot the back will be bodily lifted and carried thereby from side to side of the seat.

Formed on the inner side of the frame member are two reverse camways 14 15, with which the studs on the arm are adapted alternately to coact as the back is swung from side to side, and thereby positively guide and steady the back in its adjustment, the lower edge of the back being elevated by the lever sufficiently to clear the arched cushion of the seat. The camways are open at their upper ends and closed at their lower ends, as shown.

When the back is in the position represented by the full lines in Fig. 2, the right-hand stud 9 is engaged with the lower or closed end of the camway 14, while the other stud, 10, lies below the latter, the position of the cam-engaged stud in respect to the pivotal connection of the arm with the lever being vertical, or nearly so, so as to support the back rigidly and firmly at the proper degree of inclination.

In the operation of shifting the back to the opposite side of the seat the stud 9 travels

upwardly in the camway and gradually brings the back to a vertical position as it approaches the center of the seat. The distance between the studs is such that the forward or leading stud 10 passes into the opposite camway as the back reaches the central position, and hence the arm spans the opening or space between the camways. As the movement of the back is continued the leading stud is guided in the left-hand camway 15 in a manner to gradually tilt the back as it approaches the other side of the seat, the rearward stud, as the arm is inclined, being disengaged from the camway 14 and directed below the reverse camway. When the back reaches the limit of its adjustment, the left-hand stud bears against the lower end of the camway 15, and thus in conjunction with the lever maintains the back firmly in place. On the outer side of the arm are formed oppositely-inclined shoulders 16, which abut against the opposing inclined edges of the frame member, and thereby aid in effectually supporting the back in its positions of adjustment. It will be seen that as the back is swung from side to side of the seat the cam-engaging studs are deflected in intersecting paths intermediate the camways.

If desired, the studs may be fixed projections with or without rollers. In the present instance rollers are provided.

The lower arm of the lever is provided with a stud 17, which engages a vertical slot or socket 18 in the adjacent rocker, so that as the lever is swung back and forth the rocker will be reciprocated to effect the requisite adjustment and inclination of the seat.

I preferably construct the lower arm of the lever in two parts, between which is clamped a rod or bar 19, that couples the levers on the respective sides of the frame and insures their concerted operation. The lower part 12^a is preferably a cap detachably held in place by screws or the like, whereby the parts may be readily disconnected as occasion may require. It is to this part that the connection with the rocker is made.

I claim—

1. In a car-seat, the combination, with the frame and the back, of a depending arm on said back, a lever pivoted to said frame and having a fixed pivotal connection with said arm, and a cam connection between said frame and arm, whereby as the back is swung upon the lever from side to side of the seat, said back is guided and adjusted in respect to the seat by said pivotal and cam connections.

2. In a car-seat, the combination with the frame provided with lateral camways, of a seat-back, an arm thereon provided with two cam-engaging portions adapted to coact alternately with said ways and travel in intersecting paths intermediate the latter, and a lever pivoted to said frame and having a fixed pivotal connection with said arm.

3. In a car-seat, the combination with the frame provided with lateral camways, of a seat-back, a depending arm thereon provided with two studs adapted to coact alternately with said ways, and a lever fulcrumed centrally to said frame and pivotally connected at its upper end to said arm at a fixed point below the back-section and above the studs.

4. In a car-seat, the combination with the frame provided with two reverse camways open at their upper ends and closed at their lower ends, of a seat-back, a depending arm thereon provided with studs adapted to coact with said camways, and a lever pivoted to said frame and having a fixed pivotal connection with said arm.

5. In a car-seat, the combination with the frame provided with two reverse camways open at their upper ends and closed at their lower ends, of a seat-back, a depending arm thereon provided with studs adapted to coact with said camways and provided also with shoulders adapted to abut against the frame, and a lever pivoted to said frame and having a fixed pivotal connection with said arm.

6. In a car-seat, the combination with the frame, the back, the rocker, and its cooperating parts, of a depending arm on said back, a lever pivoted to said frame and having a fixed pivotal connection with said arm, a cam connection between said frame and arm, whereby as the back is swung upon the lever from side to side of the seat said back is guided and adjusted in respect to the seat, and a connection between said lever and the rocker.

7. In a car-seat, the combination, with the frame, the back, the rocker, and its cooperating parts, of a depending arm on said back, a lever pivoted to said frame and having a fixed pivotal connection with said arm, a cam connection between said frame and arm, whereby as the back is swung upon the lever from side to side of the seat, said back is guided and adjusted in respect to the seat, a connecting-bar on the lower end of said lever, a detachable cap or section to hold said bar in place, and a connection between said cap or section and the rocker.

8. In a car-seat, the combination with the frame provided with two reverse camways open at their upper ends and closed at their lower ends, of a seat-back, a depending arm thereon provided with studs adapted to coact with said camways, a lever pivoted to said frame and having a fixed pivotal connection with said arm, the rocker, its supports, the seat on said rocker, and a connection between said lever and rocker.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

WILLIAM M. NORCROSS.

Witnesses:

ANDREW V. GROUPE,
JOHN R. NOLAN.