No. 656,188. Patented Aug. 21, 1900.

H. S. HALE.

CAR SEAT.

(Application filed Mar. 20, 1900.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

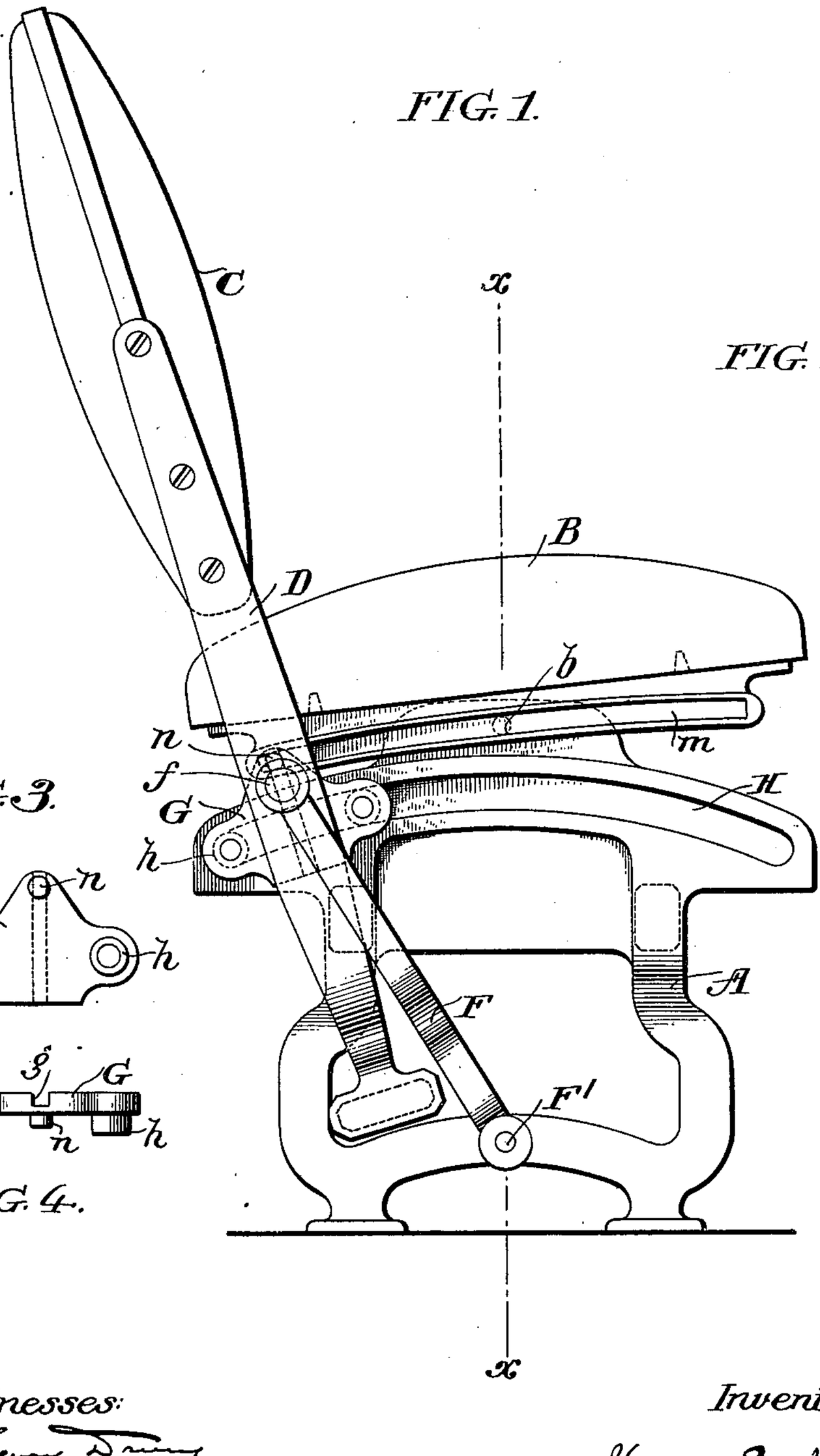

FIG. 2.

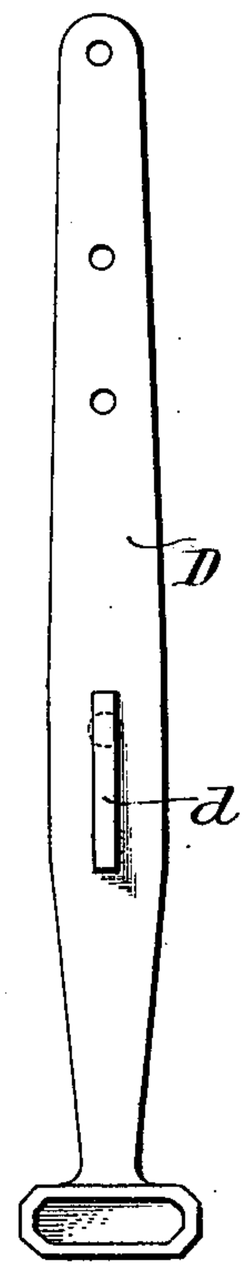

FIG. 3.

FIG. 4.

Witnesses:
Henry Drury
R. M. Kelly.

Inventor:
Henry S. Hale
By his atty
J. R. Thompson

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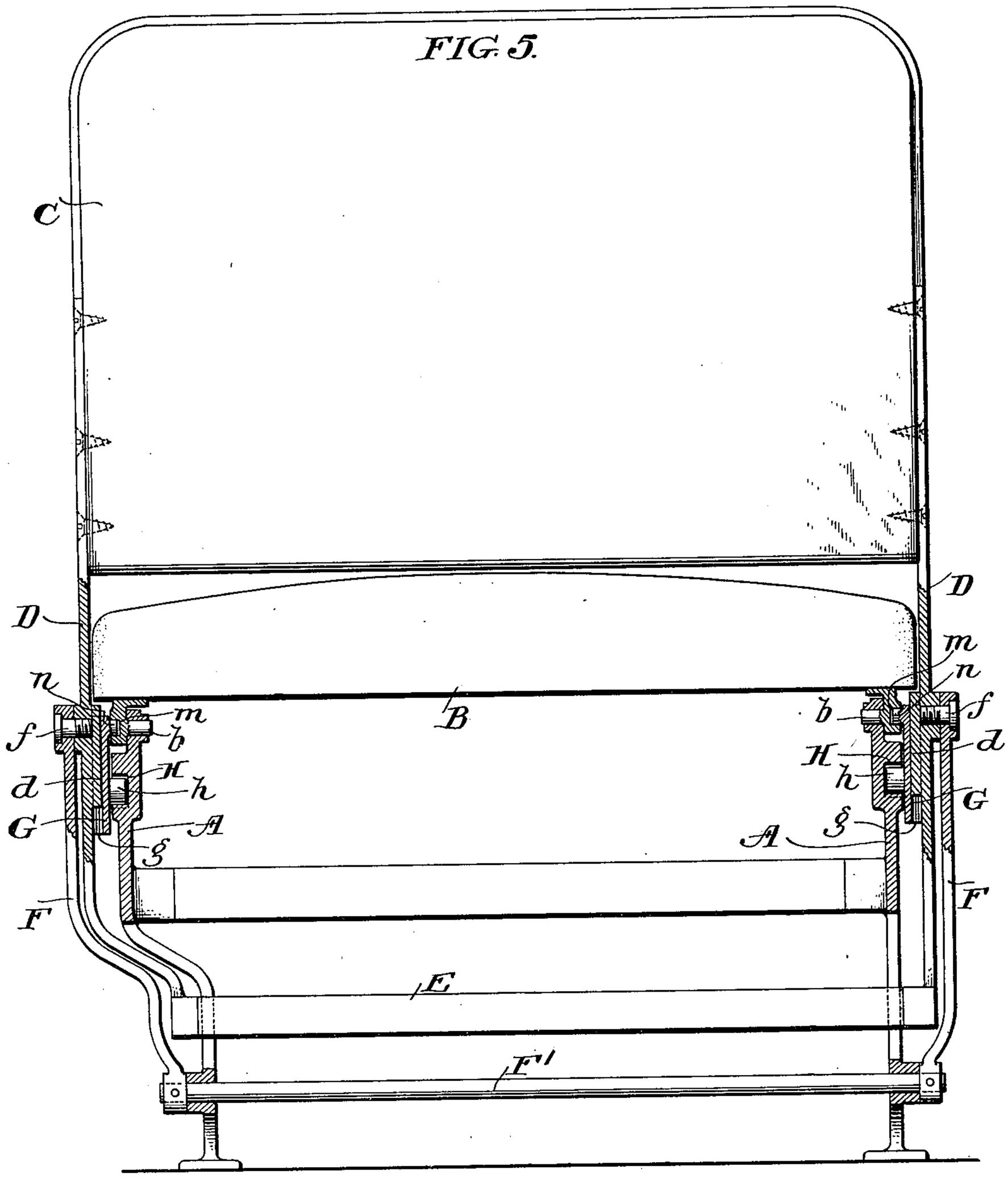
FIG. 5.



Witnesses:
Henry Drury
R. M. Kelly.

Inventor:
Henry S. Hale
By his atty
[illegible]

UNITED STATES PATENT OFFICE.

HENRY S. HALE, OF PHILADELPHIA, PENNSYLVANIA.

CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 656,188, dated August 21, 1900.

Application filed March 20, 1900. Serial No. 9,362. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. HALE, of the city and county of Philadelphia, in the State of Pennsylvania, have invented an Improvement in Car-Seats, of which the following is a specification.

My invention relates to car-seats; and it consists of the improvements which are fully set forth in the following specification and are shown in the accompanying drawings.

It is the object of my invention to provide a simple, efficient, and easily-operated mechanism for shifting the seat-back of a car-seat.

One of the chief difficulties that has been met in car-seats employing shifting seat-backs carried by shifting side arms is in enabling the lower edge of the seat-back while being shifted to clear the surface of the seat-cushion without lowering the seat-cushion or unduly elevating the seat-back above the cushion when the seat-back is in its extreme positions. The best results would be obtained by rocking the side arms on a short radius through a large angular arc; but the effect of this would be to increase the angular inclination of the side arms and seat-back to an impractical extent. To obtain the same advantages without this objection, I connect the shifting side arms with pivoted links having the desired short radius and large angular arc, but control the angular inclination of the side arms by independent means.

My invention also relates to the combination, with seat-back-shifting mechanism of this character, of means for tilting the seat-cushion when the side arms and seat-back are shifted, and also to the combination, with such shifting mechanism, of a foot-rest carried by extensions of the side arms and moving therewith.

In the accompanying drawings, Figure 1 is a side elevation of a car-seat embodying my invention. Fig. 2 is a rear elevation of one of the side arms. Fig. 3 is a similar view of one of the transverse slides. Fig. 4 is a top view of the same; and Fig. 5 is a transverse vertical sectional view on the line *x x* of Fig. 1, supposing the side arms and seat-back to be moved into a central or half-shifted position.

A A are the stationary side frames.

B is the seat-cushion, and C is the shifting seat-back, carried by the shifting side arms D D. The seat-back C is carried by the upper ends of the side arms D D, and the lower ends of the side arms, which extend below the seat-cushion, are free from the side frames and may be connected together by a transverse bar E, which constitutes a shifting foot-rest.

F F are links pivoted at one end, as at *f*, to the shifting side arms and at the other end to the floor or stationary side frames. As shown, they are pivoted to the side frames and are connected by a rod F′, so that they will move in unison.

G G are slides movable transversely in guides H H in the stationary side frames and connected with the shifting side arms by a longitudinal sliding connection which, as shown, consists of longitudinal feathers *d* on the side arms engaging corresponding grooves *g* in the slides G. To enable the slides G to move freely in the guides H, they may be provided with rollers *h h*, as shown.

When the seat-back C is shifted, the side arms D D swing with the links F F from one side of the seat-frame to the other and the slides G G are moved transversely from one end of the guides H H to the other. As the movement of the arms D D is controlled by the links F F, there will be a longitudinal movement of the arms D D with reference to the slides, and this is permitted by the slot-and-feather connection *d g*. Thus while the slides G G act to support and steady the side arms D D and to control their angular positions the actual movements of the arms are controlled wholly by the links F F. While being shifted the side arms and seat-back move in the arc described by the links F F, and the links act to lift the seat-back so that it will pass over the cushion. Thus the advantages of the movement with a short radius and through a large angular arc are obtained without the disadvantage of unduly increasing the angular position of the seat-back—*e. g.*, as would be the case if the side arms were continuations of the links F F.

To enable the seat-cushion B to be tilted when the seat-back and side arms are shifted, I employ suitable connections between the tilting seat-cushion and the shifting mechanism.

In the construction shown the seat-cushion

is centrally pivoted to the side frames, as at *b b*, and carries transverse guideways *m*, which receive projections *n* on the slides G.

The details of construction shown may be varied without departing from the invention.

What I claim as new, and desire to secure by Letters Patent, is as follows:

1. In a car-seat, the combination of stationary side frames, shifting side arms carrying the seat-back, rocking links pivoted at one end to said side arms and at the other end held in bearings supported against vertical movement, and transversely-movable frames guided in the side frames and carried by the side arms with provision for longitudinal movement of said side arms with reference thereto.

2. In a car-seat, the combination of stationary side frames, the seat-cushion, shifting side arms carrying the seat-back, and having their lower ends extended below the seat-cushion, a transverse foot-rest carried by the lower ends of said side arms and movable bodily therewith, rocking links pivoted at one end to said side arms and at the other end held in bearings supported against vertical movement, and transversely-movable frames guided in the side frames and carried by the side arms with provision for longitudinal movement of said side arms with reference thereto.

3. In a car-seat, the combination of stationary side frames, shifting side arms carrying the seat-back, rocking links pivoted at one end to said side arms and at the other end to relatively-fixed bearings, a connection between said links whereby they are moved in unison, and transversely-movable frames guided in the side frames and carried by the side arms with provision for longitudinal movement of said side arms with reference thereto.

4. In a car-seat, the combination of the stationary side frames having transverse guides, slides movable transversely in said guides, shifting side arms carrying the seat-back and connected with said slides with freedom of longitudinal movement with reference thereto, and rocking links pivotally connected at one end with said side arms and held at the other end against vertical movement.

5. In a car-seat, the combination of the stationary side frames having transverse guides, slides movable transversely in said guides, shifting side arms carrying the seat-back and connected with said slides by means of a longitudinal groove and feather to permit said arms to move longitudinally with reference to said slides, and rocking links pivotally connected at one end with said side arms and at the other end with relatively-fixed bearings.

6. In a car-seat, the combination of the stationary side frames having transverse guides, slides movable transversely in said guides, shifting side arms carrying the seat-back and connected with said slides with freedom of longitudinal movement with reference thereto, rocking links pivotally connected at one end with said side arms and at the other end with relatively-fixed bearings, a tilting seat-cushion and operative connections between said seat-cushion and slides to tilt it when the slides are shifted.

7. In a car-seat, the combination of the stationary side frames having transverse guides, slides movable transversely in said guides, shifting side arms carrying the seat-back and connected with said slides with freedom of longitudinal movement with reference thereto, rocking links pivotally connected at one end with said side arms and the other end with relatively-fixed bearings, a tilting seat-cushion, and provided with transverse guides, and projections carried by the slides and engaging said guides of the seat-cushion to tilt said seat-cushion when the slides are shifted.

In testimony of which invention I have hereunto set my hand.

HENRY S. HALE.

Witnesses:
GEO. H. RAPSON,
ALBERT KORNBAU, Jr.