No. 626,831. Patented June 13, 1899.

H. S. HALE.

CAR SEAT.

(Application filed June 11, 1898.)

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

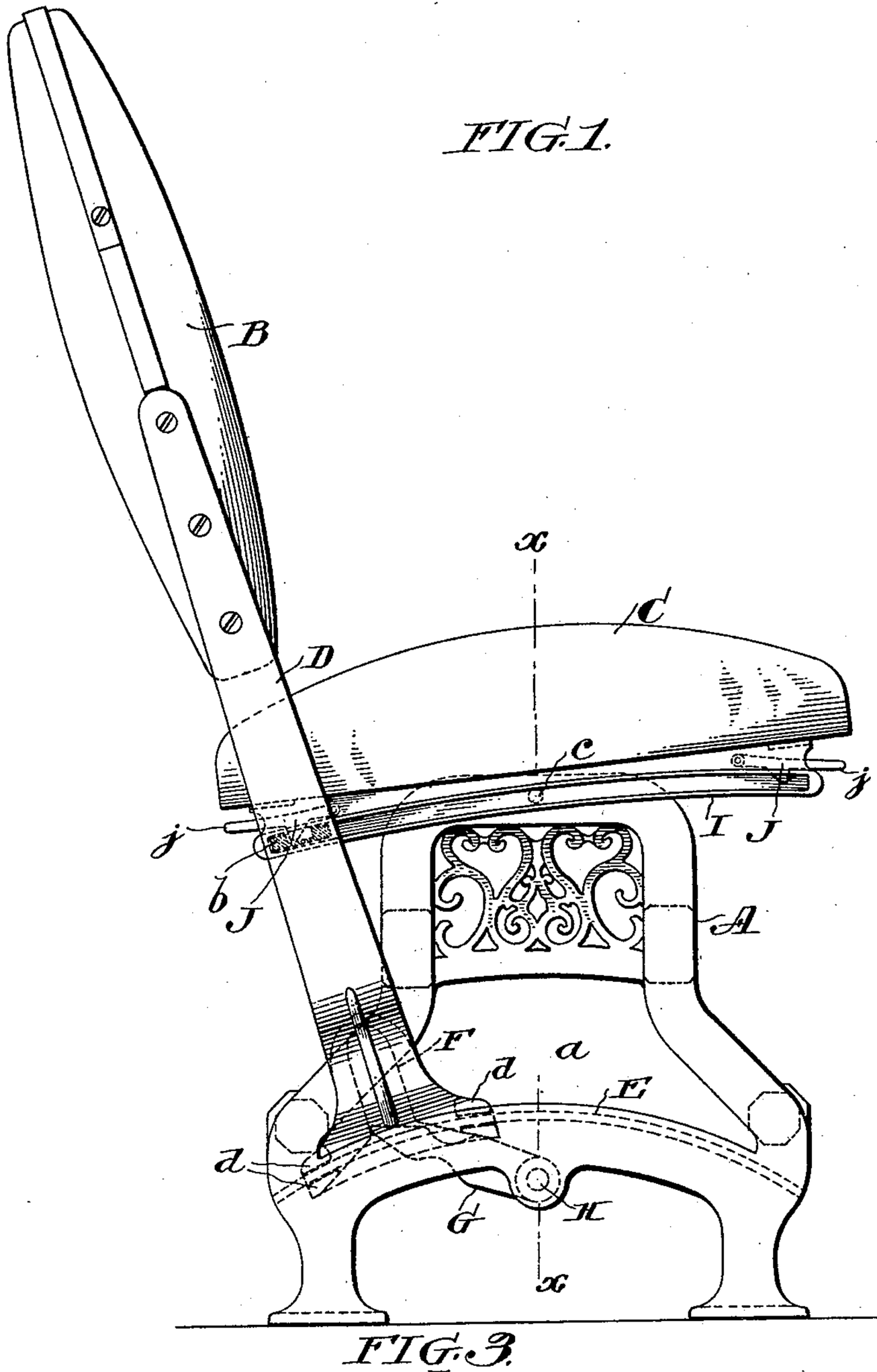


FIG. 3.

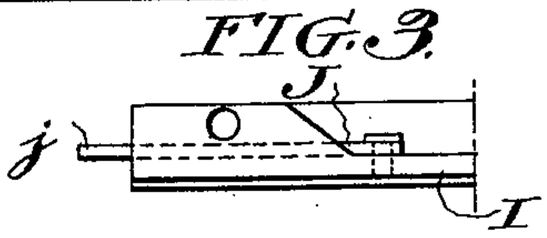
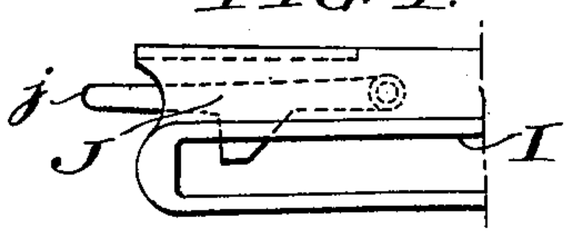


FIG. 4.



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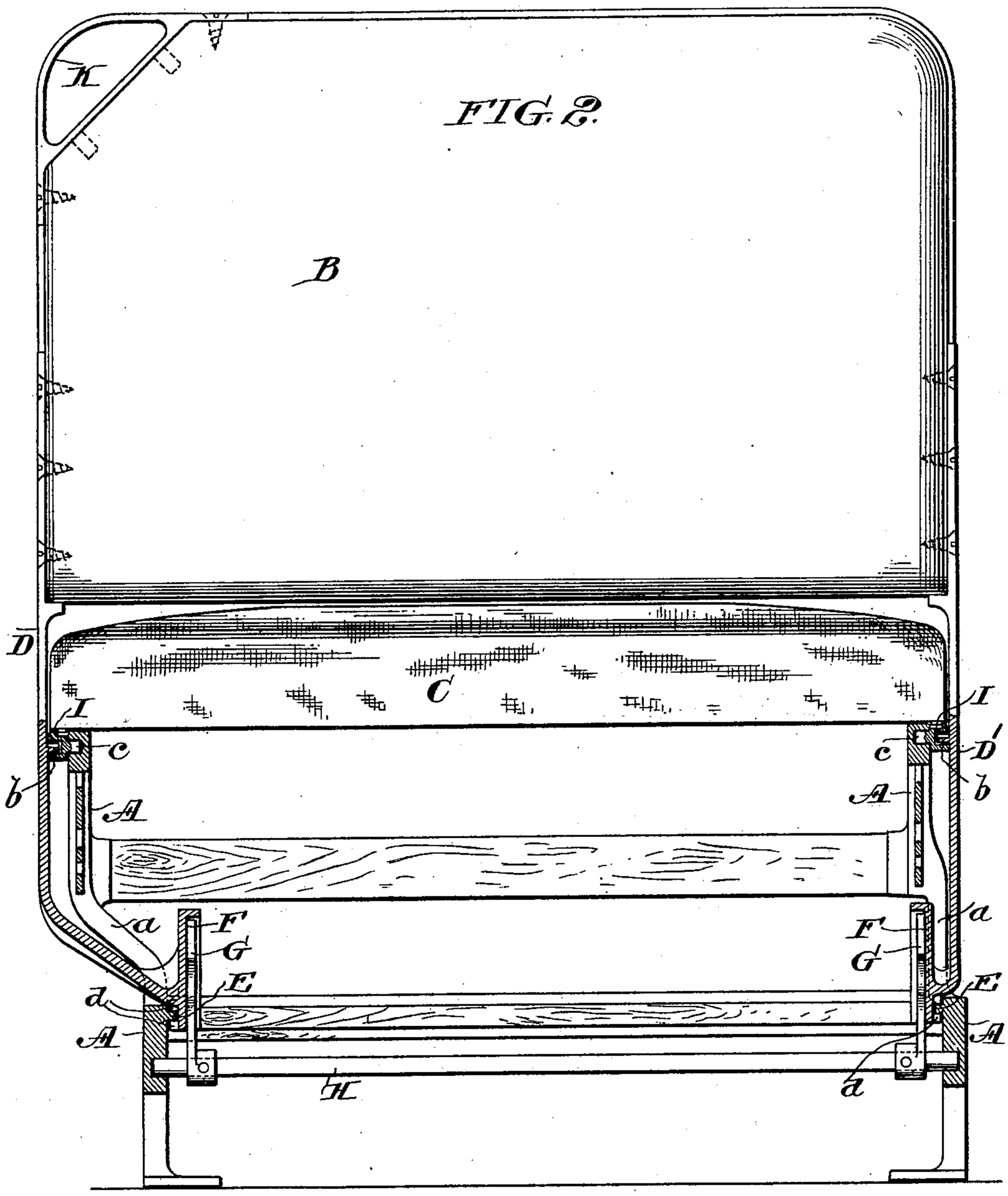
(No Model.) 2 Sheets—Sheet 2.

FIG. 2.



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UNITED STATES PATENT OFFICE.

HENRY S. HALE, OF PHILADELPHIA, PENNSYLVANIA.

CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 626,831, dated June 13, 1899.

Application filed June 11, 1898. Serial No. 683,179. (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 one of the objects of my invention to provide a car-seat adapted to occupy a minimum lateral space, so as to afford in narrow cars a seat of sufficient width without restricting the aisle-space. To this end I dispense entirely with the usual arm-rests at the ends of the seat and locate the stationary side frames wholly below the seat-cushion, which extends laterally beyond them, bringing the shifting side arms close up to the ends of the seat-cushion and guiding them at their lower ends upon the side frames below the seat-cushion.

My invention also relates to improvements in the construction for tilting the seat-cushion when the side arms and seat-back are shifted, whereby no lateral space is lost by the employment of such devices, to locking devices for automatically locking the shifting arms in their extreme positions, and to means for operatively connecting the shifting side arms together and transmitting power to the inner arm from the outer arm, to which the force is usually applied.

In the accompanying drawings, Figure 1 is an end elevation of a car-seat embodying my invention. Fig. 2 is a longitudinal vertical sectional view of the same on the line *x x* of Fig. 1 with the shifting side arms moved into an intermediate vertical position. Fig. 3 is a plan view, enlarged, of the locking device for the shifting side arms; and Fig. 4 is a side front elevation of the same.

A A are the stationary side frames.

B is the shifting seat-back, and C is the seat-cushion.

D D′ are the shifting side arms, which carry the seat-back.

The side frames A A are located below the seat-cushion, which projects beyond them at either or both ends, and the shifting side arms D D′ at their lower ends are supported and guided upon curved guides E, located on faces of the side frames. The arms are shown broadened at their ends and provided with lugs *d d*, which engage a curved guiding-rib E. Carried by the ends of the arms are slotted plates F F, which engage fingers G G, carried by a rock-shaft H, extending longitudinally between the side frames A A and journaled therein. As the seat-back is shifted by force applied to one side the power is transmitted through this rock-shaft H to the opposite side arm, so that the two sides of the seat-back move uniformly. As the outer side arm D moves the adjacent finger rises in the slotted plate F and is rocked thereby, rocking the shaft H and the opposite finger G, which correspondingly acts in the slotted plate F of the inner side arm D′ and moves it correspondingly.

To enable a minimum floor-space to be occupied, one or both of the side frames A may be bent outward at the top, as shown in Fig. 2, so that the cushion and seat-back may extend or project beyond the lower portion of the frame A, and in this case the shifting side arm is correspondingly bent at its lower end. In my preferred construction the lower ends of the side arms D D′ extend through apertures *a* in the side frames and are guided upon curved ribs E on the inner faces thereof.

The seat-cushion C is pivoted, as at *c*, to the side frames A A and is provided, preferably on each end, with a transverse guide I, which engages a lug or projection *b*, carried by the side arms, so that as the side arms are shifted the seat-cushion will be rocked and caused to assume the proper inclination. To enable the seat-cushion to be made as wide as possible, while the seat as a whole occupies the least lateral space, these guides I are secured to the base of the seat-cushion frame at its ends, and the side frames A, to which they are pivoted, are located slightly within the ends of the seat-cushion. This enables the shifting side arms to be brought close up to the ends of the cushion, so that no lateral space is lost.

J J are locking-dogs pivoted one at each end of one of the guides I and adapted to lie in front of the lug *b* on the side arm and lock the side arm and seat-back in their extreme positions against accidental movement. These

dogs are lifted by the lug as it passes them and fall by gravity into locking position after the lug has passed. They may be lifted by hand to unlock the seat and permit it to be moved, and for this purpose they are shown provided with finger-pieces or projections *j*.

The seat-back B is provided with a handle K to support passengers standing in the aisle. This is preferably formed by cutting away the seat-back at one corner and attaching thereto the handle, which thus forms a substantial continuation of the seat-back frame.

It will be seen that by omitting the arm-rests at the end and locating the side frames wholly below the seat-cushion, with the shifting arms guided at the lower ends on the side frames I am enabled to bring the shifting side arms close up to the ends of the seat-cushion, thereby avoiding the loss of lateral space.

The details of construction 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 with the side frames located wholly below the seat-cushion and transverse guides carried thereby, of shifting side arms located close to the ends of the seat-cushion on the outside of said side frames and having their lower ends guided and supported by the transverse guides of said side frames, and movable bodily thereon.

2. In a car-seat, the combination with the side frames, provided with transverse guides on their inner faces, of shifting side arms located on the outside of said side frames, but having their lower ends extended on the inner side thereof and guided by said transverse guides.

3. In a car-seat, the combination with the side frames located wholly below the seat-cushion and provided with transverse guides, of shifting side arms located close to the ends of the seat-cushion on the outside of said side frames and having their lower ends supported and guided by the transverse guides of the side frames and movable bodily thereon, and power-transmitting connections between said lower ends.

4. In a car-seat, the combination of the side frames provided with transverse guides, the seat-cushion supported by said side frames, guides carried by the base of said seat-cushion at its ends and located outside of said side frames, and shifting side arms supported and guided by the transverse guides of the side frames and movable bodily thereon and engaging the guides carried by the seat-cushion.

5. In a car-seat, the combination of the side frames provided with transverse guides, the seat-cushion supported thereby, guides carried by the base of said seat-cushion at its ends and located outside of said side frames, shifting side arms supported by the guides of the side frames and movable bodily thereon and engaging the guides carried by the seat-cushion, and an automatic lock located at the ends of one of the guides of the seat-cushion adapted to engage and lock the shifting side arm at its extreme positions.

6. In a car-seat, the combination of the side frames provided with transverse guides, the seat-cushion supported thereby, guides carried by the base of said seat-cushion at its ends and located outside of said side frames, shifting side arms supported and guided by the guides of the side frames and movable bodily thereon and engaging the guides carried by the seat-cushion, an automatic lock located at the ends of one of the guides of the seat-cushion adapted to engage and lock the shifting side arm at its extreme positions, and a finger-piece or projection by which the lock may be operated by hand to unlock said shifting side arm and permit it to be moved.

7. In a car-seat, the combination of the seat-cushion, the side frames supporting said seat-cushion and located wholly below it with the seat-cushion extending beyond said side frames at either or both ends and provided with transverse guides, the shifting side arms having their upper portions extending above the seat-cushion and their lower ends extended close to the side frames and guided by the transverse guides thereon and movable bodily thereon, and a seat-back carried by the shifting side arms.

8. In a car-seat, the combination with the side frames provided with transverse guides on their inner faces, of shifting side arms located on the outside of said side frames but having their lower ends extended on the inner side thereof and guided by said transverse guides, a rock-shaft journaled in said side frames, and projections carried thereby and engaging the side arms on the inner side of the side frames.

9. In a car-seat, the combination of the outer side frame located below the seat-cushion and having its lower portion arranged considerably inward relatively to the outer end of the seat-cushion, the outer movable side arm carrying the seat-back extending downward on the outside of said outer side frame and extended inwardly at its lower portion and movably supported by the lower inwardly-arranged portion of the side frame, and suitable supporting means at the inner end of the car-seat for sustaining the seat and the back during their movement.

In testimony of which invention I hereunto set my hand.

HENRY S. HALE.

Witnesses:
JOHN B. KILBURN,
H. G. BARNES.