(No Model.) 2 Sheets—Sheet 1.

S. UDSTAD.

CAR SEAT.

No. 596,925. Patented Jan. 4, 1898.

Fig. 1

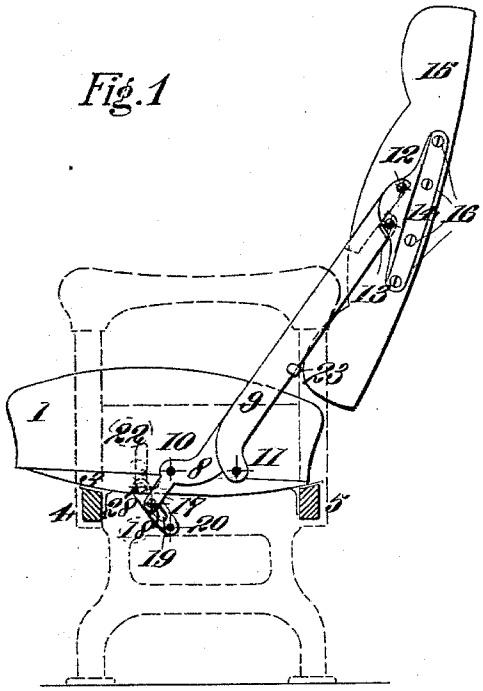


Fig. 2.

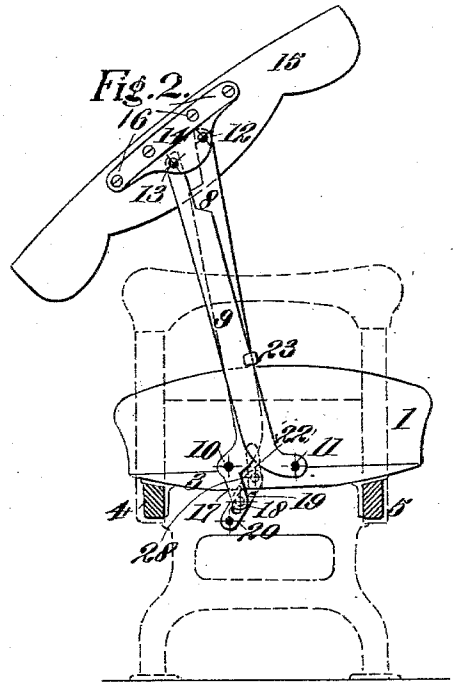
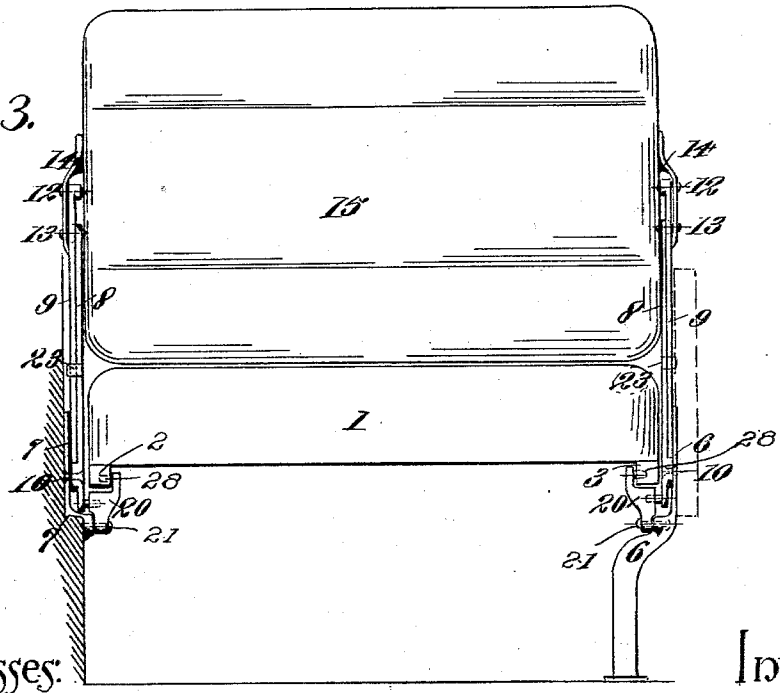


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

S. UDSTAD.

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Fig. 6.

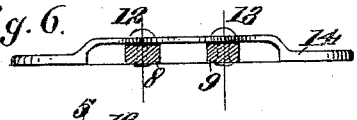


Fig. 4

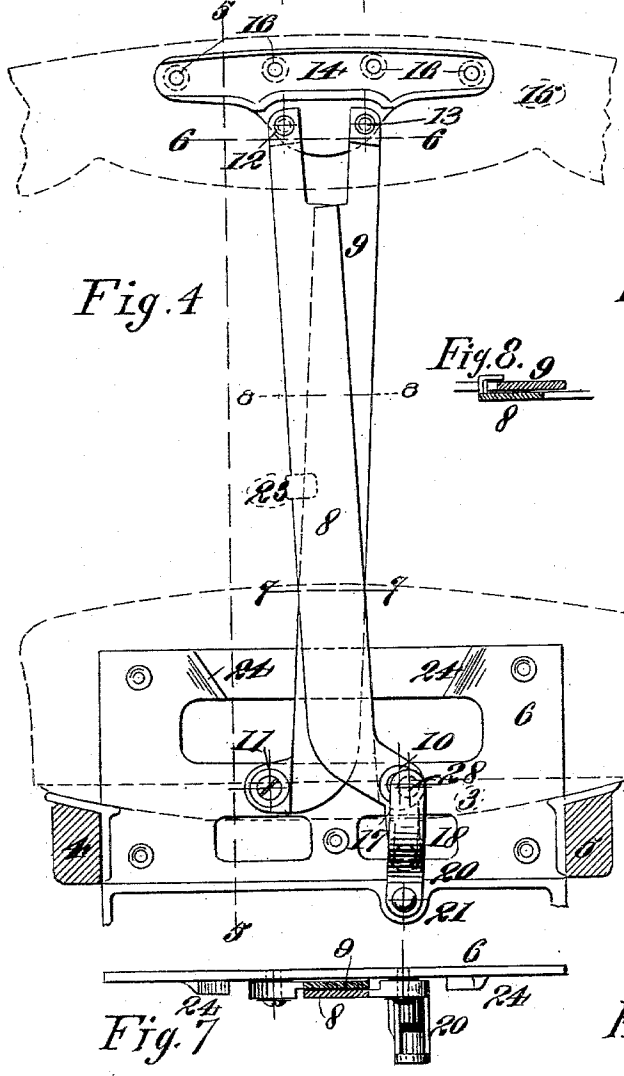


Fig. 8.

Fig. 5

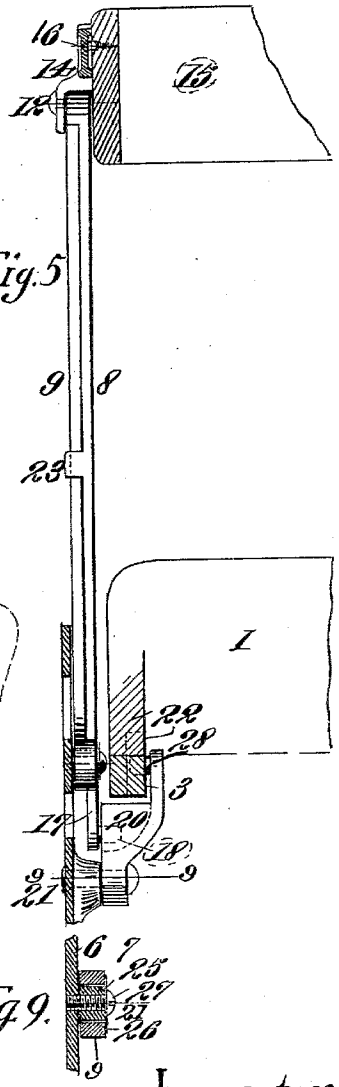


Fig. 7

Fig. 9.

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UNITED STATES PATENT OFFICE.

SIGVALD UDSTAD, OF ST. CHARLES, MISSOURI, ASSIGNOR TO THE ST. CHARLES CAR COMPANY, OF SAME PLACE.

CAR-SEAT.

SPECIFICATION forming part of Letters Patent No. 596,925, dated January 4, 1898.

Application filed June 18, 1897. Serial No. 641,262. (No model.)

To all whom it may concern:

Be it known that I, SIGVALD UDSTAD, a citizen of the United States, and a resident of the city of St. Charles, in the county of St. Charles and State of Missouri, have invented a certain new and useful Improvement 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.

The object of my invention is to provide an improved construction of car-seat which will combine all the requirements for reversing the position of the back and the tilting of the seat, so as to have the front of the seat higher than the back of said seat.

Figure 1 is an elevation of the outer end of my improved car-seat, showing the seat, back, and an arm in one of their normal positions and the rails in transverse section, the end plate or casting and arm-rest being omitted for clearness of illustration, but their position when in place is indicated by dotted lines. Fig. 2 is a similar view showing the seat, back, and an arm thrown slightly beyond the center toward the opposite side to that shown in Fig. 1. Fig. 3 is a front elevation with the parts in the position shown in Fig. 1, the rails and arm-rest being omitted, the position of the arm-rest when in place being indicated by dotted lines. Fig. 4 is a detail inside view of the plate or casting and the shifting devices at one end, showing the rails in transverse section, the arms thrown half-way over, and the seat and back in dotted lines. Fig. 5 is a vertical section taken on the line 5 5, Fig. 4, the rails being omitted. Fig. 6 is a detail transverse section of the upper pivot-plate, taken on the line 6 6, Fig. 4. Fig. 7 is a detail transverse section of the arm, taken on the line 7 7, Fig. 4. Fig. 8 is a detail transverse section of the arm, taken on the line 8 8, Fig. 4. Fig. 9 is a detail section of the pivot of an auxiliary lever, taken on the line 9 9, Fig. 5.

Similar reference-numbers indicate corresponding parts in the various figures of the drawings.

1 is the seat, which has attached to the lower side of the ends thereof two curved runners 2 and 3, which rest upon the rails 4 and 5, the said rails being fastened to the plate or end casting 6 on the outer or aisle end of the car-seat and to the plate or casting 7 on the inner or wall end thereof. The arms which support the back are each constructed with two flat levers 8 and 9, which are laid or supported side by side and which move in parallel planes about the lower pivots 10 and 11, the said lower pivots being at the outer or aisle end secured to the plate or casting 6 and at the inner or wall end to the plate or casting 7. Their upper ends, which support the back, are fulcrumed by upper pivots 12 and 13, respectively, which upper pivots are carried on a pivot-plate 14.

15 is the back of the car-seat, and a plate 14 is fastened to each side of this back 15 by means of ordinary wood-screws 16. Each arm-lever 8 has at its lower end a projection 17, extending below the lower pivot 10, and on the end of which is placed a pin 18, which is adapted to fit into a groove 19 of an auxiliary lever 20. Each auxiliary lever 20 is fulcrumed by a pivot 21 to a plate or casting. The auxiliary levers 20 each have at their upper end a pin 28, which works in a slot 22. The slots are located in the curved runners. It will be observed that the action produced by swinging the arm-levers upon the auxiliary levers 20 is that of a toggle and that their swinging either to the right or the left by means of the pins 28, riding in the slots 22 of the curved runners, will have the effect of swinging the said seat 1 either backward or forward.

The arm-levers 8 and 9 of each arm are so constructed that at their ends they are considerably thicker than at their central portions. The effect of this is to put their pivotal points about on a line with each other and yet leave their central surfaces free to shear against each other without interference. This accomplishes what is practically one smooth and even surface of the two arm-levers and avoids any danger of tearing clothing or catching one's hands when operating the car-seat.

In reversing the car-seat the back 15 thereof only is handled. The two arm-levers 8 and 9, composing the arms to the said back, cross each other and move until they strike and rest against projections 24 on the plates

or castings, and in this position the contour-lines of the two levers are uniform throughout, (see Fig. 1,) and they appear to the eye as single braces. The movement of the arm-levers in reversing these arms is shown in Figs. 2 and 4.

The arm-levers 8 when in motion move the short auxiliary levers 20 by means of the projections 17, and these, by means of the pins working in the slots 22 in the runners, force the seat 1 away from the back, while the said runners, being curved on their bottom surfaces, bring the seat upward in front, tilting the same to a comfortable position. (See Figs. 1 and 2.)

The construction of the pivots 21 is shown in detail in Fig. 9. The side plates or castings each have at these pivotal points a projection 25 of convenient size, onto which the arm-levers are fitted and adapted to move smoothly.

A washer 26 is used with a machine-screw 27 for securing the same in position.

23 is a hook or clamp fastened to one of the arm-levers, as 8, and which extend around the other arm-lever, as 9, for the purpose of keeping the same rigid and preventing buckling or separation thereof. The two ends of the car-seat are practically the same, excepting that in Fig. 3 I have shown one of the ends thereof as being attached to the car-wall, as it is adapted for use on railway-cars. The advantage of this construction is that it affords room for the steam-heating pipes underneath. The ends, however, may be constructed identical for use upon ordinary street-cars.

The especial advantage in my form of constructing the arm-levers is that no open spaces are exposed for catching clothing or fingers and that by means of the hook or clamp 23 they are kept rigidly bound to each other and are practically one arm. Each arm-lever 8, which pivots at 10 and which is provided with a projection 17, acts as a toggle, and each auxiliary lever having a pin 28, that rides in a slot 22 on the seat end, carries with it, by the motion which swings the back, the said seat to the comfortable position already described.

I am aware that prior to my invention devices for reversing the backs of car-seats and of moving the seats themselves have been made. I therefore do not claim such a construction broadly; but

What I do claim, and desire to secure by Letters Patent, is—

1. A car-seat comprising a seat, a back, crossed arm-levers pivoted at one end to the said back and at the other end to a stationary frame, a projection on one of said arm-levers, an auxiliary lever pivoted to said stationary frame, a toggle-pivot between said projection and said frame, and a pin carried on said auxiliary lever; said pin being adapted to ride in a slot in the seat and to move the same; substantially as described.

2. A car-seat comprising a seat having slots and curved runners, a back, stationary frames, supporting-rails for the runners, pairs of crossed arm-levers pivoted to the frames and to the back, the auxiliary levers having grooves and pivoted to the frames, pins connecting the auxiliary levers with the slots in the seat, and projections on one arm-lever of each pair of arm-levers having pins working in the grooves of the auxiliary levers; substantially as described.

St. Charles, Missouri, June 15, 1897.

SIGVALD UDSTAD.

In presence of—
C. W. PROSSER,
EDWIN F. HUNCKER.