

J. STVERAK.
CAR SEAT.
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984,783.

Patented Feb. 21, 1911.

2 SHEETS-SHEET 1.

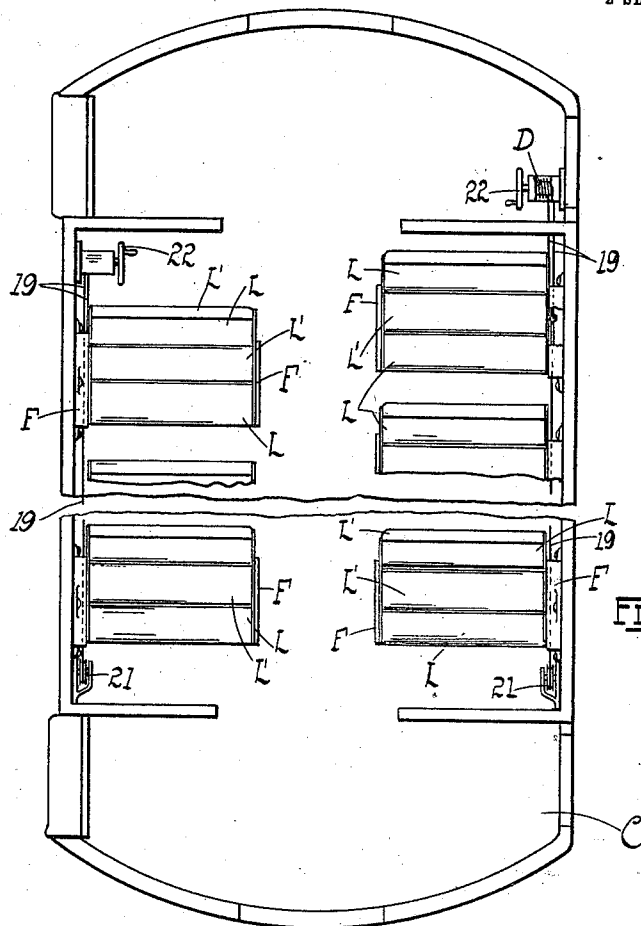


FIG. 1.

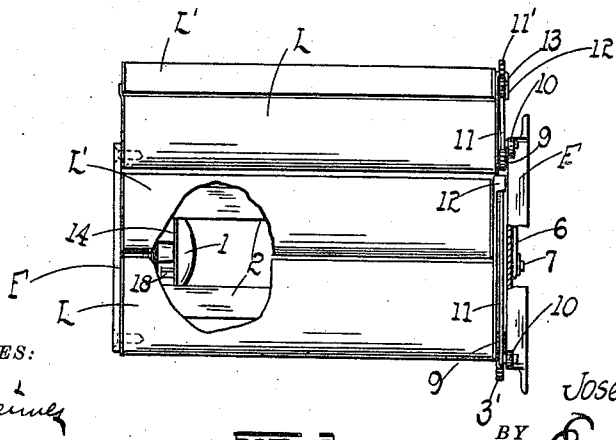


FIG. 2.

WITNESSES:

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INVENTOR.

Joseph Stverak.

BY

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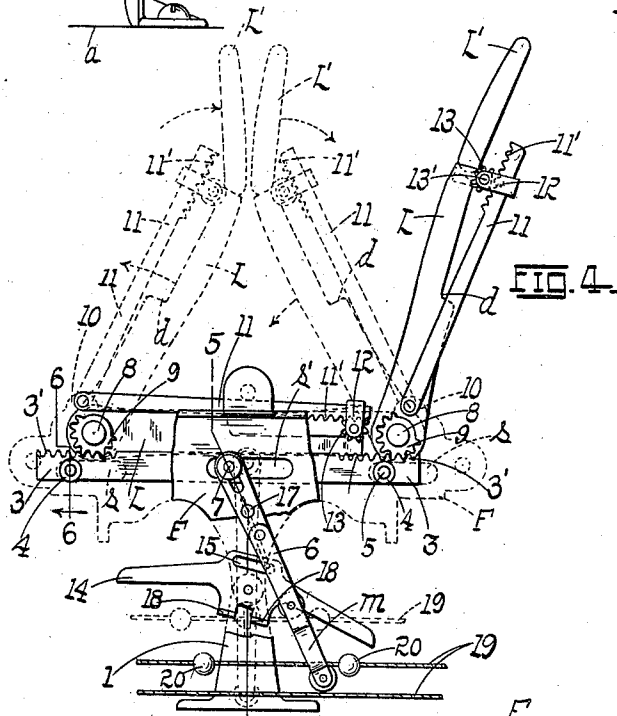
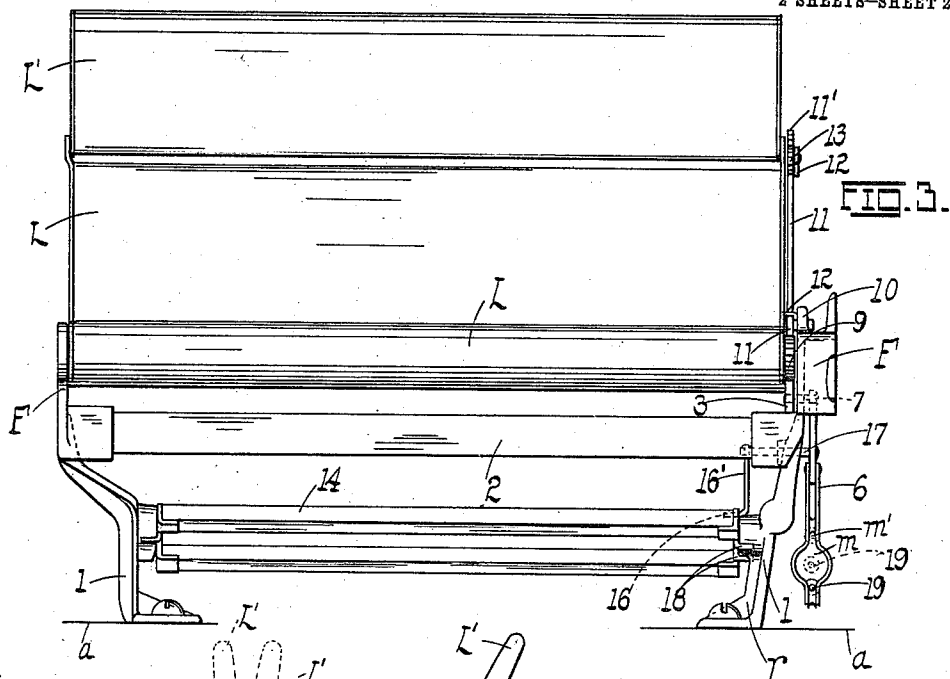
ATTORNEY.

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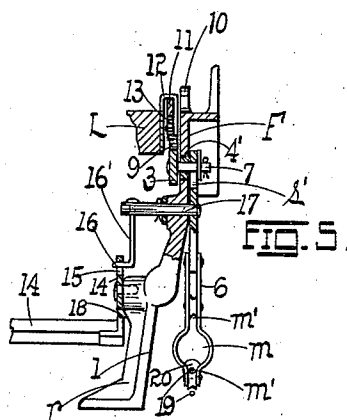
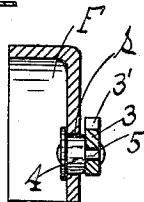
2 SHEETS-SHEET 2.



WITNESSES:

Harry A. Beimer
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FIG. 6.



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UNITED STATES PATENT OFFICE.

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CAR-SEAT.

984,783.

Specification of Letters Patent.

Patented Feb. 21, 1911.

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To all whom it may concern:

Be it known that I, JOSEPH STVERAK, a citizen of the United States, residing at St. Louis, State of Missouri, 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 hereof.

My invention has relation to improvements in reversible car-seats; and it consists in the novel construction of car-seat more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a top plan of a car-body shown conventionally, illustrating the application of my invention; Fig. 2 is a top plan of a seat, with the seat portion partly broken; Fig. 3 is a front elevation of the seat on a larger scale; Fig. 4 is an end elevation, with portions removed and shown dotted to better expose the main operating parts; Fig. 5 is a vertical section on the line 5-5 of Fig. 4 taken through one of the side pedestals; and Fig. 6 is a sectional detail on the line 6-6 of Fig. 4.

The object of my invention is to construct a car-seat provided with a seat portion and a back coöperatively united in such manner that for one position of the parts the portion which serves as a seat may be converted into a back, and the portion serving as a back may be converted into a seat, with each reversal of the seat.

A further object is to provide a foot-rest which is so coupled to the operating parts of the device that it may serve its purpose as such no matter which direction the seat faces.

A further object is to provide a car-seat which may be readily operated, either singly or in series; and one possessing further and other advantages better apparent from a detailed description of the invention which is as follows:—

Referring to the drawings, F represents the side members of a frame provided with legs or supports 1, 1, bolted or screwed to the floor *a* of the car C, as usual, the distance between said members F depending on the width of the seat, said members being connected by the longitudinal front and rear members 2, 2, the length of which is dependent on the size of the seat determined upon. Any mechanical manner of securing the parts may be adopted, such features be-

ing within the skill of the ordinary mechanic. Disposed along the inner face of one of the side members F of the supporting frame (the member which is bolted to the side of the car) is a reciprocating bar 3 provided with upper terminal toothed sections 3', said rack-bar being provided with side anti-friction rollers 4, 4, engaging the longitudinal top and bottom walls of the elongated terminal slots *s, s*, formed in the member F across which slots the spindles 5 of the rollers 4 extend. The bar 3 may be reciprocated in either direction the full extent of the lengths of the slots *s, s*, by means of a reversible lever 6 pivoted to the member F near the top of the leg 1, the end of the short arm of said lever being pivotally and loosely connected to a pin 7 on the rack-bar, traversing a central slot *s'* in the frame member F, the pin being preferably provided with an anti-friction roller 4'. The free end of the long arm of the lever 6 terminates in a loop *m* for a purpose to presently appear.

Hinged between the opposite ends of the terminal or side members F of the seat-supporting frame are leaves L, L, the bases of the studs 8 about which the leaves oscillate being provided on the side adjacent the rack-bar 3, with pinions 9, the teeth of which extend only for a part of the periphery of the pinion (a full set of teeth not being necessary since the pinion never makes a complete rotation). These pinions are engaged by the toothed ends 3' of the rack-bar 3; and when reciprocation is imparted to the latter, an oscillation will necessarily be imparted to the leaves L, L. With a movement of the rack-bar 3 in one direction, a simultaneous oscillation will accordingly be imparted to both leaves L, L, in the same direction; and if we assume that at the beginning of the movement referred to, one of the leaves was resting between the sides F, F, to serve as a seat, and the opposite leaf was elevated to serve as a back, it follows that the leaf which served as the seat will, (with a movement of the rack-bar 3 in proper direction) be oscillated upward and outward to serve as a back, and the leaf which served as the back will fold or oscillate downward to now serve as the seat. With a movement of the rack-bar 3 in the opposite direction, a reverse oscillation of the leaves will of course take place, one of the leaves always serving as a seat and the other

as a back. It is desirable however, that a leaf in serving as a back shall unfold sufficiently to afford the necessary support for the heads of the occupants of the seat (the present seat being intended for two occupants), and that in closing to subserve its purpose as a seat, it shall fold well within the compass of the width of the frame F, 2, 2, F. This is accomplished as follows:—

10 Hinged along the outer edge of each leaf is an extension L' which for the inwardly folded or seat position of the leaf L will fold against the main leaf L, the latter being formed with an offset indicated by the

15 depth of the shoulder δ , the member L' folding against the shoulder and thereby leaving the surface of the seat for the occupant substantially level. This offset and shoulder δ will naturally be in the rear

20 when the leaf serves as a back and head support, (Fig. 4) or on top of the leaf when serving as a seat (Fig. 2).

Hinged to a lug 10 on one of the members F at a point above the hinge axis of each

25 leaf L is a link 11, the free end of which passes loosely through a guide-strap 12 at the adjacent end of the free edge of the leaf (the edge at which the extension L' is hinged), the edge of the link facing the leaf

30 being provided with a rack or toothed terminal 11' which meshes with a pinion 13 carried by a stud 13' supported by the strap, the pinion being confined between the sides of said strap and protected by it. The stud

35 13' is disposed on the hinge-axis of the extension L' so that a rotation of the pinion 13 will impart an oscillation to the said extension. Since the leaf L and the link 11 oscillate from different axes or centers (that

40 of the link 11 being eccentric to the axis of the leaf L), it follows that with an oscillation of the leaf, the link 11 will be oscillated with it, but since the link swings about a different center, the free end of the link will

45 play through the strap over the pinion 13 in a direction depending on the direction of oscillation of the leaf L. When the latter is folded downward the link will be drawn out from the front of the strap and thus

50 rotate the pinion 13 in proper direction to fold the extension L' against the leaf L proper (right hand dotted position Fig. 4). When the leaf is unfolded or oscillated outward and upward, the link will be forced

55 outward through the rear of the strap and thereby rotate the pinion 13 in proper direction to unfold the extension L', thus extending the height of the back to afford support for both the back and head of the occupant (left hand dotted position Fig. 4). This operation results no matter in what

60 direction we may reciprocate the rack-bar 3 controlled by the reversing lever 6.

Pivoted to oscillate about a central longitudinal axis between the legs 1, 1, is a

frame 14 constituting a foot-rest for the occupant of the seat behind, one end of which is traversed by the terminal deflected end or finger 16 of an arm 16' rigidly secured to the pivotal pin 17 of the lever 6. 70

With each oscillation of the lever the finger 16 is forced to the rear end of the slot 15, thereby holding what for the time being constitutes the rear edge of the frame 14 close to the floor, permitting such rear edge 75 to serve as a rest for the feet of the passenger occupying the seat behind. Thus the reversing lever 6 not only reverses the seat, but it reverses the foot rest or frame 14. The oscillations of the foot rest 14 are 80 arrested by the stops 18, 18, coming alternately in contact with the rib r of the adjacent pedestal or foot 1.

The entire series of levers 6 for a row of seats may be actuated in unison by an end- 85 less rope or cable 19 provided at proper points with balls or knots 20. One of the laps of the cable passes through the loops m of the levers, and when either lap is drawn upon or pulled the upper or knotted lap 90 disposes itself through the proper narrow recesses m' formed at diametric points throughout all the loops, and as the knots are too large to pass through said recesses, the levers will be oscillated. The upper lap 95 of the cable will engage the upper recesses m' when the pull is on said lap and it will engage the lower set of recesses when the pull is on the lower or exterior lap. The cable winds over a drum D at a convenient 100 part of the car (the upper lap passing through the loops m) and over a pulley 21 as shown. A crank-disk 22 is used to actuate the drum. No claim however is made to this feature as the levers 6 may be actuated in any other equivalent mechanical 105 manner.

Features shown but not referred to are old in the art and hence require no description in the present connection. 110

Having described my invention, what I claim is:—

1. In combination with a stationary frame, leaves hinged at the front and rear of said frame, and foldable against the frame, pinions at the adjacent ends of the hinge-axes 115 of the leaves, extensions hinged to the free edges of the leaves, pinions at the adjacent ends of the hinge-axes of the extensions, links hinged to the frame at points removed 120 from the hinge axes of the leaves, means for guiding the free ends of the links, the latter being provided with toothed portions engaging the pinions of the extensions, a reciprocating rack-bar mounted to the frame 125 and meshing with the pinions of the leaves, and means for actuating the rack-bar, substantially as set forth.

2. In combination with a stationary frame, leaves hinged at the front and rear of said 130

frame, and foldable against the frame, pinions at the adjacent ends of the hinge axes of the leaves, extensions hinged to the free edges of the leaves, pinions at the adjacent ends of the hinge-axes of the extensions, links hinged to the frame at points removed from the hinge axes of the leaves, means for guiding the free ends of the links, the latter being provided with toothed portions engaging the pinions of the extensions, a reciprocating rack-bar mounted to the frame and meshing with the pinions of the leaves, the upper faces of the latter being provided with offsets to accommodate the extensions, means on the frame for guiding the rack-bar and limiting the movements thereof in either direction, and a reversing lever pivoted to the frame and having one arm loosely coupled to the rack-bar for actuating said bar, the parts operating substantially as, and for the purpose set forth.

3. In combination with a frame, legs at

opposite ends of the same, a hinged frame mounted to oscillate about a central axis between the legs, leaves hinged at the front and rear of the frame and capable of oscillation about axes parallel to the axis of the hinged frame, an oscillating reversing lever, intermediate connections between said lever and leaves for folding and unfolding the leaves to and from said frame, an arm coupled to the axis of oscillation of the lever, the first mentioned hinged frame being provided with a central slot at one end disposed transversely to its axis of oscillation, and a finger at the free end of the arm aforesaid traversing said slot, for the purpose set forth.

In testimony whereof I affix my signature, in presence of two witnesses.

JOSEPH STVERAK.

Witnesses:

EMIL STAREK,
A. W. POWELL.