

No. 814,455.

PATENTED MAR. 6, 1906.

J. B. KILBURN.  
CAR SEAT.

APPLICATION FILED JUNE 18, 1904.

2 SHEETS—SHEET 1.

Fig. 1,

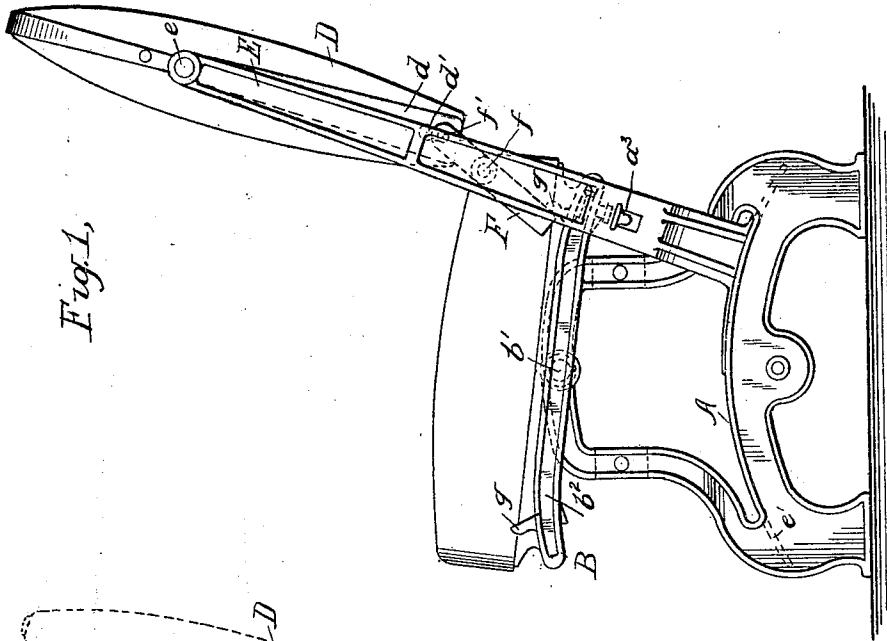
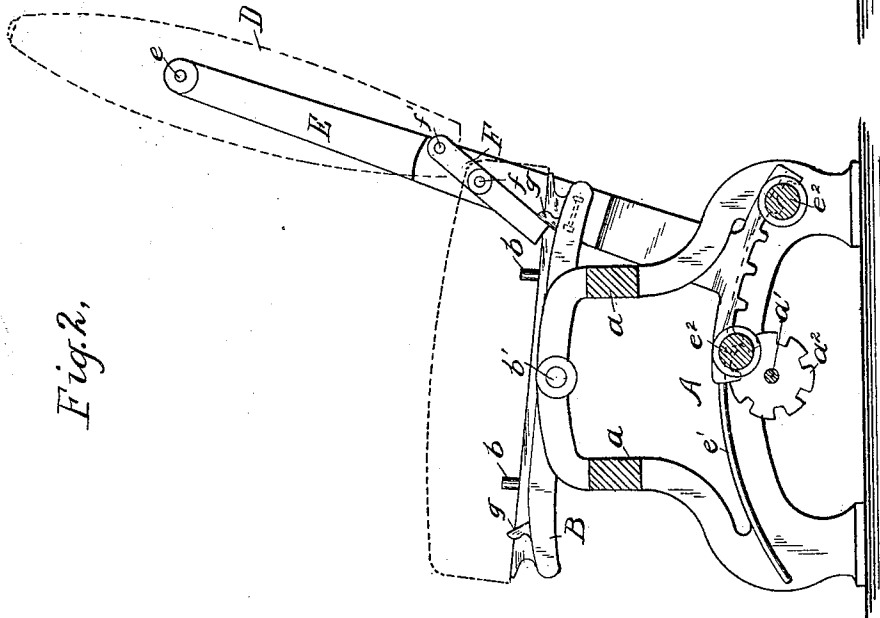


Fig. 2,



WITNESSES:

*D. Mc Intosh*  
*L. Nork*

INVENTOR

*John B. Kilburn*

BY

*J. P. Edwards*

ATTORNEY

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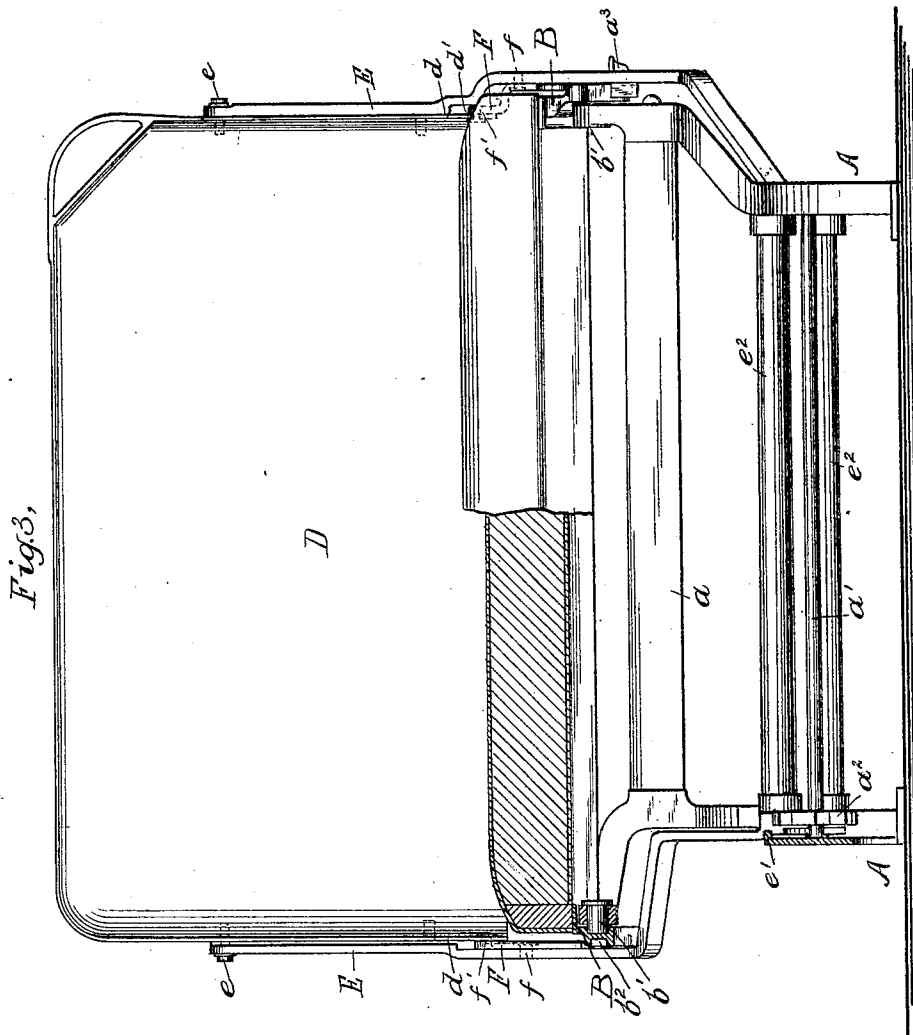
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INVENTOR

*John B. Kilburn*  
BY  
*J. P. Edwards*  
ATTORNEY

# UNITED STATES PATENT OFFICE.

JOHN B. KILBURN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
THE HALE & KILBURN MANUFACTURING COMPANY, OF PHILADEL-  
PHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

## CAR-SEAT.

No. 814,455.

Specification of Letters Patent.

Patented March 6, 1906.

Application filed June 18, 1904. Serial No. 213,170.

*To all whom it may concern:*

Be it known that I, JOHN B. KILBURN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a certain new and useful Improvement in Car-Seats, of which the following is a description.

This invention relates to reversible car-seats, and particularly to that type thereof in which a back is employed which is adapted for reversal by swinging from one edge of the cushion to the other.

In seats of this type it is common to cause the movement of the back to effect a corresponding movement of the seat-cushion, such movement being either a canting movement or such a movement combined with a bodily shift of such cushion.

The object of the invention is to increase the efficiency of seats of the type referred to, and particularly to make the same more comfortable in operation and at the same time effect desirable economy of space in the car in which such seats are installed.

In carrying out the invention I employ in a preferred embodiment of the seat known as the "walk-over" type a frame upon which the seat-cushion is supported in any suitable manner—as, for instance, by pivots at either end. The back is supported upon arms extending outside the ends of the cushion and having their lower ends mounted in the framework, so as to be movable from front to rear. The back-cushion is pivotally mounted in the upper ends of these arms, so as to swing relatively to the same, and is provided at either end with a slot which receives a pin carried by a lever pivoted to each back-supporting arm and the lower end whereof lies in the path of stops carried by the seat-cushion, so that in either operative position of the back the coaction of one of said stops and said lever moves the lower edge of the seat-back to the rear, thereby not only imparting to it a more comfortable inclination relatively to the seat-cushion, but also preventing excessive rearward projection of the upper edge of said back and consequent consumption of space at the rear of the seat.

The invention is illustrated in the accompanying drawings, in which Figure 1 is a side view of a seat employing my improvement. Fig. 2 is a central section, the back and seat

cushions being shown in dotted lines; and Fig. 3 is a front view, partly in section.

Referring to the drawings, in which similar letters denote corresponding parts, A designates the seat-frame, here shown as comprising two side members connected by cross beams or sills *a* and by a tie-rod *a'*, carrying pinions *a*<sup>2</sup>.

B designates the cushion-supporting rockers having dowel-pins *b*, by means whereof the seat-cushion C is firmly placed in position. Said rockers in this instance are pivoted intermediate of their ends at *b'* upon the side members of the frame A, so as to cant upon either side of said pivotal point.

D designates the seat-back. At either side edge this is provided with a plate *d*, in the lower end of each of which plates is formed a slot *d'* for the purpose presently to be described.

Said back is carried by back-supporting arms E, to the upper ends whereof said back D is pivoted at *e*, and the lower ends whereof are supported upon the segmental tracks *e'*, formed on the side members of the frame A. In the embodiment of the invention under discussion the lower ends of said arms E coact with the pinions *a*<sup>2</sup> in order to secure synchronous movement of both sides of the seat. Foot-rests *e*<sup>2</sup> are carried by the lower ends of said back-supporting arms E, as best shown in Figs. 2 and 3.

The back-supporting arms E are provided with lugs engaging with grooves *b*<sup>2</sup>, formed in the sides of the cushion-carrying rockers B. Due to this coaction the movement of the back-supporting arms causes a corresponding movement of the seat-cushion, so that the forward edge thereof in either operative position shall be elevated relatively to the rearward edge.

If desired, a locking device *a*<sup>3</sup> may be employed for securing the parts of the seat in one or the other operative position.

F F designate levers pivoted at *f* to the inner faces of the back-supporting arms E. Each of these levers is provided at its upper end with a stud or sheave *f'*, coacting with one of the slots *d'* in the lower end of the back-plate *d*. The lower end of each lever is of such length as that in either operative position of the seat the same will coact with one or the other of two stops *g g*, carried by

the cushion-supporting rockers. If desired, the studs *f'* may be carried by the plate *d* and the slots *d'* formed in the levers *F*.

The operation of the invention will be readily understood from the foregoing description. If the back be moved from one position to the other—as, for instance, from the position in which it is illustrated in the drawings to the reversed position toward the left—the movement of the back-supporting arms and back not only effects the canting of the cushion, but in addition when the back nears its ultimate position the levers *F* coact with the stops *g* at the left, whereby such levers are rocked upon their pivots and the lower edge of the back-cushion moved rearwardly beyond the point to which it would be moved by the action of the supporting-arms *E* alone. Due to this movement the back-cushion occupies a much more comfortable position or inclination relatively to the seat-cushion, and in addition the degree of rearward projection of the upper end of the cushion being curtailed more space is allowed the occupant of the next adjacent seat in the rear.

Having now described my invention, what I claim as new therein, and desire to secure by Letters Patent, is as follows:

1. In a car-seat, the combination with a frame and a movable cushion supported thereby, of a back, supporting-arms therefor carried by said frame below the cushion, and a lever pivoted to one of said arms and connected with said back, said lever coacting with either of two stops carried by the seat, substantially as set forth.

2. In a car-seat, the combination with a frame, of a cushion supported thereby, a back pivotally carried upon back-supporting arms movable forward and rearward, a lever carried by one of said arms and pivotally connected with the lower edge of said back, its lower end being free and means for operating said lever upon movement of the parts to one or another operative position to effect the rearward movement of such lower edge of said back, substantially as set forth.

3. In a car-seat, the combination with a frame and a cushion supported thereby, of a back-supporting arm, a back pivotally carried thereby and having an end plate, a lever carried by said arm and coacting with a recess in said end plate, and means, including stops carried by said cushion, for automatically actuating said lever upon movement of said back-supporting arm to operative position, substantially as set forth.

4. In a car-seat, the combination with a

frame, of a cushion supported upon movable rockers carried by said frame, back-supporting arms supported by said frame, a back pivoted to said arms, and a lever pivoted to one of said arms, its upper end coacting with the lower edge of said back and its lower end coacting with stops carried by one of said rockers, substantially as set forth.

5. In a car-seat, the combination with a frame and cushion, of back-supporting arms, a back pivotally mounted therein and having a slotted plate at one end thereof, a lever pivoted to one of said arms and having at its upper end a stud or sheave coacting with the slot in said plate, and two fixed stops adapted to be engaged by the lower end of said lever when the back is approaching the end of a movement to one or the other of its operative positions, substantially as set forth.

6. In a car-seat, the combination with a frame, of rockers pivoted thereto and supporting a seat-cushion, back-supporting arms movably carried by said frame, a back pivoted to said arms, and a lever also pivoted to said arms, its upper end being provided with a stud or sheave coacting with a slot in said back and its lower end coacting with stops carried by said rockers, substantially as set forth.

7. In a car-seat, the combination with a frame, of rockers pivoted thereto and supporting a seat-cushion, back-supporting arms movably carried by said frame and coacting with said rockers, a back pivoted to said arms, and a lever also pivoted to said arms, its upper end being provided with a stud or sheave coacting with a slot in said back and its lower end coacting with stops carried by said rockers, substantially as set forth.

8. In a car-seat, the combination with a frame and a cushion movably supported thereby, of back-supporting arms movably supported at their lower ends upon ribs or flanges carried by said frame, a back pivotally mounted upon said arms, and means controlled by said arms and including a lever carried by said arms and coacting with said back at one end and free at the other end for automatically moving said back relatively thereto on the approach of said arms to either operative position, substantially as set forth.

This specification signed and witnessed this 15th day of June, 1904.

JOHN B. KILBURN.

Witnesses:

GEO. H. RAPSON,

P. J. BUCKER.