(No Model.) 2 Sheets—Sheet 1.

A. B. MACKLIN.

REVOLVABLE RECLINING CAR CHAIR.

No. 522,608. Patented July 10, 1894.

Fig. 3.

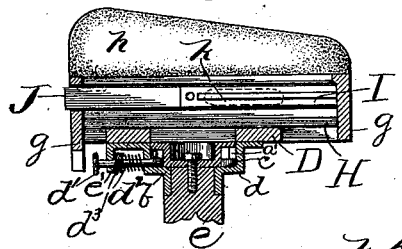


Fig. 1.

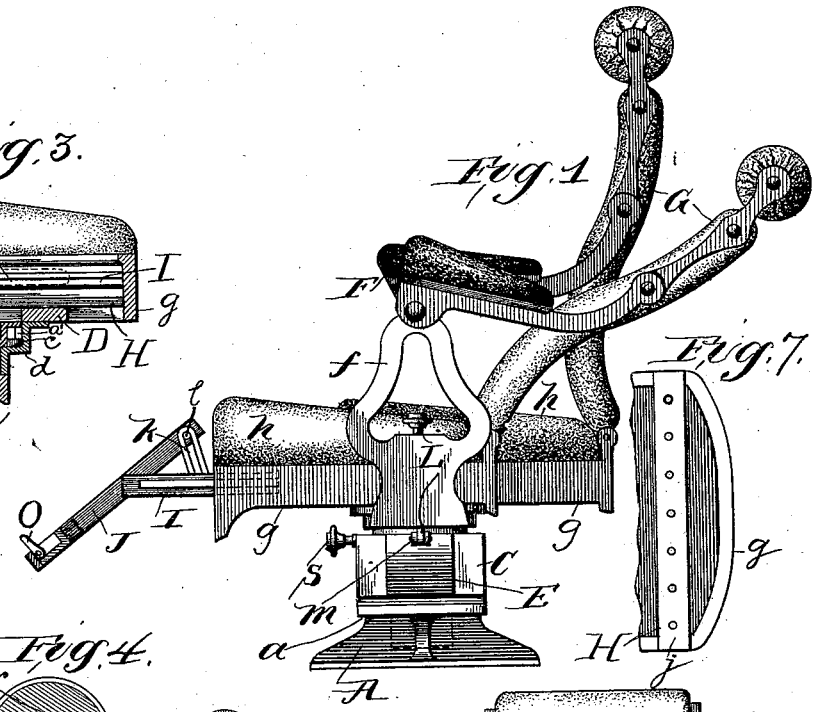


Fig. 7.

Fig. 6.

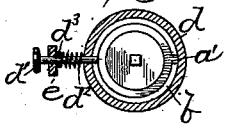


Fig. 4.

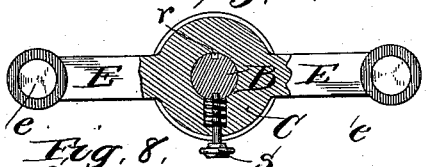


Fig. 8.

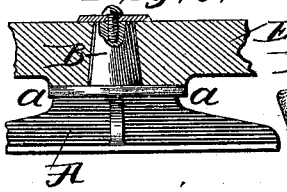


Fig. 9.

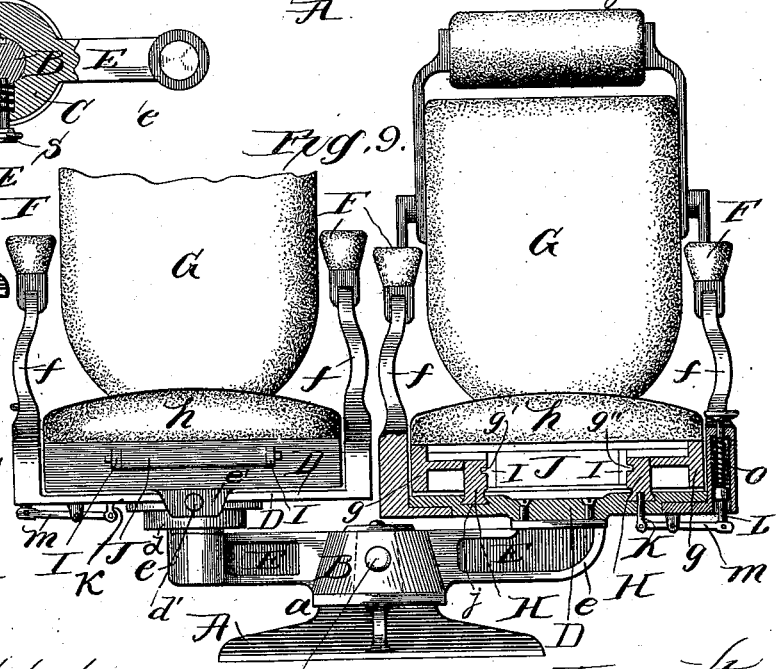
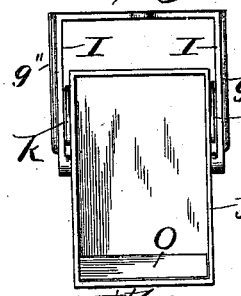


Fig. 5.



Witnesses:
Wm. N. Sheem.
Wm. A. Scott

Inventor
Athol B. Macklin
By Frank D. Thomson Attys

(No Model.) 2 Sheets—Sheet 2.

A. B. MACKLIN.

REVOLVABLE RECLINING CAR CHAIR.

No. 522,608. Patented July 10, 1894.

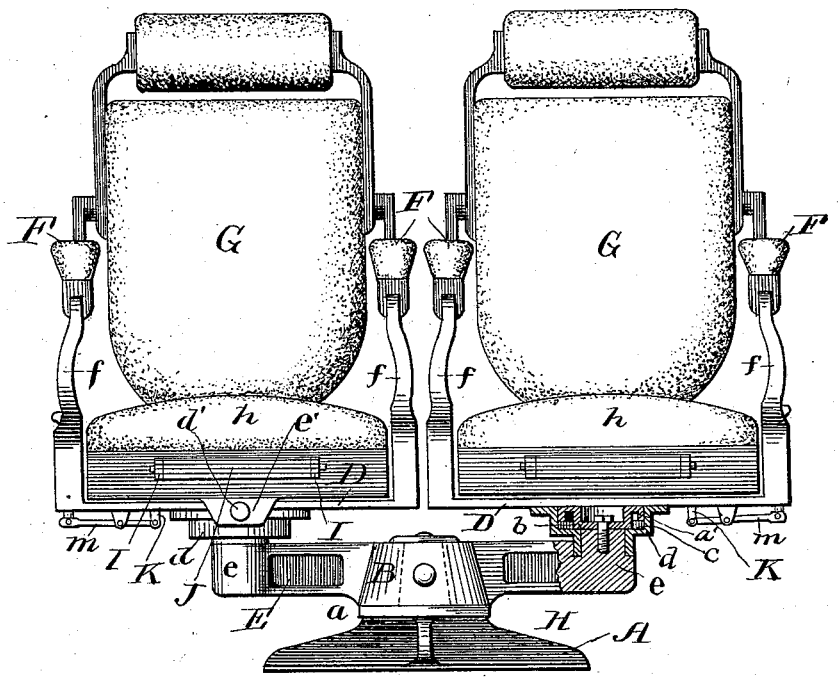


Fig. 2.

Witnesses.
Chas. B. Parker
H. N. Low

Inventor.
Athol B. Macklin
per J. S. Parker
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UNITED STATES PATENT OFFICE.

ATHOL B. MACKLIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE MACKLIN ADJUSTABLE CAR SEAT COMPANY, OF SAME PLACE.

REVOLUBLE RECLINING CAR-CHAIR.

SPECIFICATION forming part of Letters Patent No. 522,608, dated July 10, 1894.

Application filed March 9, 1891. Serial No. 384,204. (No model.)

To all whom it may concern:

Be it known that I, ATHOL B. MACKLIN, of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Revoluble Reclining Car-Chairs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of my invention is to provide a car chair, which occupies the least possible floor space, so that no difficulty (comparatively speaking) is experienced in cleaning the floor of the car, and more room is provided for the disposition of the limbs of passengers and their small personal baggage. My chair is also a great improvement upon the existing chairs of its class because it can be turned within the least possible space, and instead of its being necessary to confine the seat in two positions (necessary to permit it to face the direction in which the car is moving) it can be placed at any desirable angle to the line of motion of the car. It also permits the passenger to recline in any posture desirable, from that of an upright position to that of a horizontal one, providing support for the back and head in the most comfortable manner possible, and also for the lower limbs and feet without the necessity for utilizing the lower part of the structure of the seat in front of it, substantially as hereinafter fully described, and as illustrated in the drawings, in which—

Figure 1, is a side elevation of my improved car chair. Fig. 2, is a front elevation thereof showing the connection between the supporting arm and the chair in the right hand side in transverse vertical section. Fig. 3, is a longitudinal vertical section taken centrally through one of the seats of my improved car chair. Fig. 4, is a plan view of my turn table base with the seats and their appurtenances removed. Fig. 5 is a plan view of the foot-rest of my car seat, and the frame by which it is supported. Fig. 6 is a horizontal section taken through the devices connecting the revolving car seat to the end of the arm of my turn table base, on a horizontal plane corresponding to the top of said arm. Fig. 7 is a detail view showing a portion of the car seat frame looking at it from beneath, and Fig. 8 is a detail view showing in section the pivoting devices of the turn table base. Fig. 9 is a front view of a seat containing certain of my improvements, the seat at the right hand side being shown in part transverse vertical section, and the connection between the seat and its supporting arm being different from that shown in the other figures.

Referring to the drawings, A represents a base or standard, the basal flanges of which have sufficient spread to insure the equilibrium of the chair, and which are preferably screwed or bolted to the car floor. The supporting surface of this standard consists, preferably, of a centrally located platform *a*, which has arising from its center a pivotal post B, which may be perfectly cylindrical, or have a slightly truncated cone shape. Pivoted on this post, and resting on the platform is a suitable shaped head C, which has projecting laterally and in diametrically opposite directions from it, the arms E, E, the ends *e* of which are turned upward, and made to form suitable supports for the plates D of the car seats, as will hereinafter be more fully explained. In order to lock the "turn table frame" (consisting of the head C, and arms E), in a position facing either end of the car, I provide recesses *r*, *r*, in the front and the back of the post B, and then seat a bolt *s* in a suitable radial opening in the head C, which shoots into one or the other of the recesses *r*, when it comes in register therewith, and locks said turn table frame. Bolt *s* has a suitable knob on its outer end which can be readily grasped so as to withdraw it from the recess *r* when it is desired to turn the "turn table frame."

The car seats *h* are arranged close side by side, one being supported upon each arm E of the rotatable head, and they are so arranged that they normally face both the same way. The seats are connected to the ends of arms E, so as to revolve thereon. To permit which, the plate D, is provided with the central circular opening, and has secured to its under surface, preferably, concentric with the said opening, the upward outwardly flanged edges of a collar *d*. This collar is reduced to a less diameter at a point a short distance down from the plate D, and its lower portion is set upon and

surrounds the top of the upturned end *e* of arm E.

The reducing of the diameter of the collar forms a shoulder *c*, which provides a seat for the washer *b*, which latter is bolted or otherwise suitably secured to the end of arm E, and is of such diameter that its marginal edges rest on said shoulder *c* and holds it on the standard. This washer is sort of pan-shaped, that is, has its edges turned upward to about the horizontal plane of the under side of the plate D; then outward, and then downward so as to be inclosed within the upper part of the collar above the plane of the shoulder *c* thereof, as shown in Figs. 2 and 3. In order to lock the seat in any position it may be revolved to, I provide a bolt *d'*, which enters the notches *a'*, located diametrically opposite each other in the downward turned edges of the washer. Bolt *d'* reciprocates radially in a suitable guide-lug *e'* depending down from the plate D, and through a suitable opening made in the upper part of collar *d*, just above the plane of the shoulder *c* thereof, and it has its inner end turned upward at about right angles to its length a short distance. It is surrounded by an expansion spring d^2 between its bearings, the outer end of which presses against a suitable nut d^3, and the inner end against the outer circumference of said collar, thus keeping the said bolt shot to the limit of its outward movement at all times, and keeping its inner end normally in one of the notches in the edge of the washer *b*. By pushing this bolt inward its upturned end moves out of the notch *a'*, into the annular space coming between the vertical portion of the flanged edge of the washer, and thus releases the collar *d*, so that it and the seat can revolve. When the seat has been turned sufficiently for the bolt to come in radial register with the other notch, the action of spring d^2 causes the inner end of the bolt to enter said notch, and thus locks the seat again.

Secured to and arising from the sides of the plate D, at points diametrically opposite each other, are corresponding vertical frames *f*, *f*, to the upper end of which are pivotally connected the forward ends of the arms F, F. The rear ends of these arm-rests are, preferably, curved upward, and are pivotally secured at corresponding points to the side edges of the back G of the car seat.

The lower edge of back G is hinged or pivoted to knuckles secured to and projecting vertically from the rear of the seat frame *g* in such manner, that when reclining, the occupant's body, between the rear of the seat cushion *h* and the lower edge of the back, will have, as near as possible, a continuous support, and so that the rear edge of the seat will not arise above the plane of the natural line of repose.

Seat frame *g* consists, substantially, of an iron border-band conforming to the contours of the seat cushion *h*, which rests thereon. Its rear stretch is connected to its front by means of corresponding longitudinal bars H, H, which are parallel to each other and are arranged an equal distance on either side of the transverse center of the seat. These bars are provided with longitudinal dove-tailed tenons on their under surfaces, which enter the corresponding dove-tailed grooves *j*, *j*, made with reference thereto in the plate D, thus insuring to said seat a guide for its longitudinal reciprocal movement upon said plate D. The inner vertical sides of these bars H, facing each other, are provided with longitudinal grooves *g'*, *g'*, and the front of the seat frame is provided with a transverse horizontal slot coincident with the distance between where the bars H, are secured thereto.

I represents a U-shaped frame, the parallel arms of which are a suitable distance apart and have tenons *g''* on their outer surface which enter the grooves *g'* in the inner surfaces of bars H. The free ends of this U-frame point toward the front of the seat and have journaled therein the foot rest J, which consists, preferably, of a suitable carpeted board having its edges properly bound; is of a width corresponding to the distance between the parallel arms of said U-frame; and of a length corresponding to about the length of the seat frame, less about one half the length of the U-frame, the rear half of which when the foot rest is drawn out remains within the frame *g*. When drawn out through the slot in the front of frame *g*, the foot rest is inclined downward at a suitable angle to afford a suitable rest to the lower limbs. But in order to prevent its inclining at too steep an incline, I pivot link *k* to the inner surface of the parallel arms of the U-frame about midway their length, and I slot the remainder of these links longitudinally, and provide lateral studs *l*, *l*, which project from the sides of the foot rest near its rear end and extend through the said slots thereof. In order to provide a heel guard for this foot rest I depress the forward end of the same within its border, and then pivot in the sides of the said border, at points very near the forward end, the heel-guard O, so that it can be folded against and come within the said depressed area of the contiguous end of the foot rest. When this heel guard, which is merely a plate of the dimensions about as shown, is raised to an angle of about ninety degrees to the plane of the foot rest, it is prevented from coming farther by reason of the construction of the longitudinal edge thereof nearest its pivoted center, substantially as shown in Fig. 1 of the drawings.

In order to hold the seat at any point desired within the limits of its reciprocal movement, I provide the under surface of one of the bars H with a series of recesses, into one of which the adjacent end of a bolt K shoots when opposite or in register thereto. This bolt K moves vertically in a suitable vertical passage through plate D immediately under

one bar H, and has its lower end jointed to the adjacent end of a lever *m*, which is fulcrumed at a point nearer its inner end and between suitable lugs depending downward from the said plate D. Its outer end terminates immediately under the center of frame *f* on the adjacent side of plate D, at which point it is pivotally connected to a vertical rod L that moves in a suitable passage made therefor in the lower part of frame *f*, and has its upper end provided with a suitable pull or hand-grasp so as to be easily manipulated by the hand. The part of rod L that normally lies within the passage in frame *f*, is surrounded by a coil expansion spring *o*, which exerts a downward pressure upon said rod and keeps the bolt K always pressing upward.

So far as the reclining features of my invention are concerned, the chairs may be connected non-rotatably to the arms E, and in Fig. 9 one of the chairs is shown as being so mounted.

There can in an invention such as I have herein described be a simple modification of parts, and changes of sizes and dimensions, and relative distances between devices which can always be made when manufacturing the same, and I wish to be understood as considering such alterations as coming within the scope of my invention.

From the drawings and the foregoing description it will be seen that my invention consists of a car chair or seat mounted, so as to be capable of rotation, at the end of a short arm which arm is itself rotatable upon a standard or support. This arrangement and construction of parts gives to the chair or seat capability of adjustment to such an extent that the occupant can face with ease and comfort in practically any direction. In order that the arm at the end of which the said chair or seat is supported may be the better balanced, and at the same time arrange two seats or chairs in a space but little greater than that ordinarily occupied by a single car of the parlor car style, I extend the arm which carries the chair out on either side of its pivotal support, and mount two chairs thereon, side by side, and one chair or seat on each side of the main support or standard. This last referred to arrangement which is the one illustrated in the drawings, and which is the one which I prefer to use, permits the two chairs to be turned together without disturbing their positions relative to each other, and at the same time permits the occupants to both face in the direction the car is moving, or in the opposite direction, or so as to face the windows, or the seats across the aisle; or in any other desired direction. On the other hand it also permits the occupants of the two seats or chairs to face, one in one direction, and the other in the opposite direction.

What I claim as new is—

1. The combination, of the single standard A, the head rotatably mounted thereon and provided with the arms E projecting in opposite directions from the standard, the locking means for securing the head immovably upon the standard, the chairs independently mounted, one on each arm, E, and arranged close side by side and to normally face both the same way, the said seats being independently revoluble on their supports, substantially as set forth.

2. A car seat having the plate, D, and the rigid side frames, *f*, rising therefrom, the seat, *h*, mounted on the said plate between the side frames and adapted to slide forward and back thereon, the back pivoted to the rear edge of the seat, and the arms pivoted to the side frames and to the back, substantially as set forth.

3. A car seat having the plate, D, and the rigid side frames, *f*, rising therefrom, the seat *h*, mounted on the said plate between the side frames and adapted to slide forward and back thereon, the means for locking the seat to the plate in the positions to which it may be adjusted, the back pivoted to the rear edge of the seat, and the arms pivoted to the side frames and to the back, substantially as set forth.

4. The combination with a car chair or seat and the support upon which it is rotatably mounted, of the flanged collar *d* secured to the chair and rotatably mounted upon the seat support, the washer *b* secured to the seat or chair support, and arranged within the flange of the collar *d*, and the locking bolt seated in the collar *d* and adapted to engage with the washer *b*, whereby the chair and its support may be locked together, substantially as described.

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