

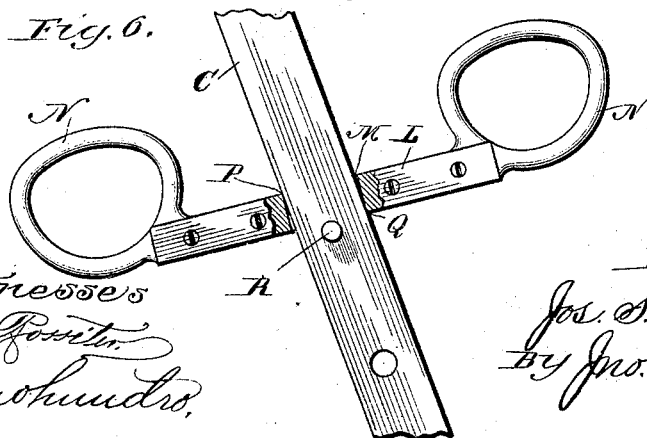
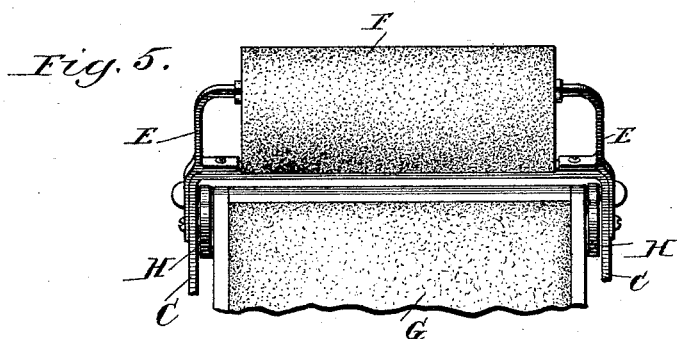
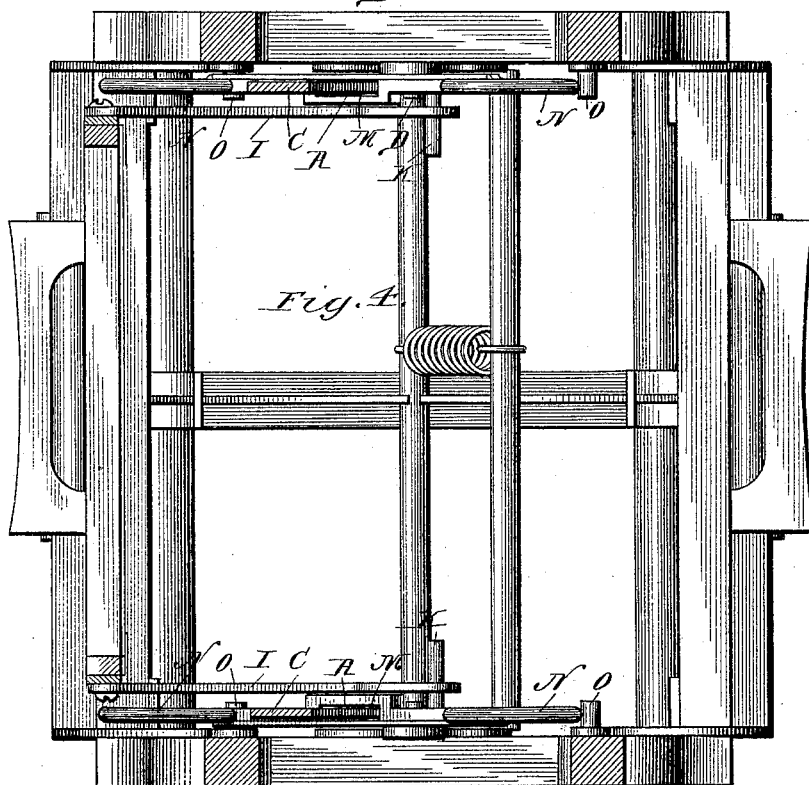
(No Model.)

2 Sheets—Sheet 2.

J. S. EMMERT.
RECLINING CHAIR.

No. 421,353.

Patented Feb. 11, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH S. EMMERT, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE JOHNSTON
CAR SEAT COMPANY, OF SAME PLACE.

RECLINING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 421,353, dated February 11, 1890.

Application filed September 3, 1888. Serial No. 284,427. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH S. EMMERT, a citizen of the United States, residing at the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reclining-Chairs, of which the following is a specification.

This invention relates to improvements in that class of reclining-chairs which are made reversible by the swinging of the back from one side to the other of a stationary seat, but is more particularly designed as an improvement upon the invention set forth in the application of E. S. Gilfillan and J. S. Emmert, filed February 14, 1888, Serial No. 263,936, for improvements in reversible reclining-chairs. In that application the pivoted supporting-bars for the back are locked in various inclined positions by means of a spring-actuated catch device attached either to said bars or to the arms of the chairs, which engage with a toothed or notched plate secured to the other member. In that case, also, the pivot-connection between the upper end of the back and the supporting-bars was stationary, so that the said end of the back remained in the same relative position to the stationary head-rest at all times, regardless of the direction or angle of inclination of the back.

The prime object of this invention is to utilize friction only as the means for locking the chair in any adjusted position, whereby the employment of a toothed, notched, perforated, or other like form of plates with which interlocking catch devices must be employed may be dispensed with, and the cost of the chair, as well as the difficulty of manipulating the same, thereby materially lessened.

Another object is to have the friction device of such a character that it will lock the supporting-bars in any adjusted position in either direction in which the chair is reclined, but only against a further reclining of the chair, and then only when the device is uncontrolled by the occupant of the chair.

A further object is to have the friction device attached to the pivoted supporting-bars in such manner that it will not only move therewith, so as to operate with equal effect regardless of the direction in which the chair may be reclined, but may slide freely upon

the supporting-bar and be thus adapted to lock said bars in any adjusted position, the variations between which are determined only by the occupant of the chair.

A further object is to combine with such a chair a clutch-lever sliding freely upon the supporting-bar, one end of which is arranged to bear upon a stationary projection upon the chair, whereby the sliding connection between the lever and bar will become rigid and thereby lock the bar in any adjusted position until the lever is moved upon the fulcruming projection so as to slide upon the bar, at which time it may be moved to any desired point thereon and the bars be correspondingly reclined, but immediately upon being released will automatically lock the bars against further reclining.

A further object is to have a swinging pivot or link connection between the upper ends of the back and the supporting-bars, whereby the end of the back will swing in the arc of a circle whenever the chair is inclined, thereby enabling the employment in connection therewith of a fixed head-rest, between which and the back the proper relative positions will be at all times maintained, notwithstanding the reclining of the chair.

I attain these objects by the devices illustrated in the accompanying drawings, in which—

Figure 1 represents a central vertical section of a reclining-chair embodying my invention with the seat shown in dotted lines and the back in its normal upright position; Fig. 2, a similar view showing the back in a reclined position; Fig. 3, a perspective view of the link for pivotally supporting the upper edge of the back; Fig. 4, a horizontal section of the chair on the line 4 4 of Fig. 1; Fig. 5, a detail rear elevation of the upper end of the back; and Fig. 6, a detail elevation, partly in section, showing the operation of the clutch-lever.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates the chair-frame; B, the side arms thereof, and C two parallel supporting-bars pivoted to the frame at D on each

side thereof, so as to swing freely between the side arms of the chair, the said side bars preferably being composed of metal for strength and finish. Connecting the upper ends of these bars, and rigidly secured between the handle-brackets E, attached to said bars, is a head-rest F, upholstered and of the usual length. Immediately below this head-rest, and of a width that will permit of its passing between the supporting-bars, is the back G, attached at both its upper and lower edges to said bars by means of links H and I, the upper and shorter links H being pivotally secured to said bars sufficiently below the head-rest to permit the back to swing freely beneath said rest in passing from one side of the center to the other when the chair is reversed. The lower link I is provided with an elongated slot J, at the lower edge thereof, working on a pin K, secured to the supporting-bars below the pivots thereof, the purpose of such slot-connection being to enable the swinging of the back past the center whenever the chair is reversed. These two links, however, effect other important results in the operation of this chair which have not before been accomplished—namely, the automatic adjustment of the back relative to the head-rest and seat during the reclining of the chair—that is to say, as the chair reclines the upper edge of the back swings down under the head-rest, which practically has the same effect as if the pillow were raised during this operation, to accomplish which heretofore the pillows have been equipped with various forms of mechanism more or less complicated, and all of which add materially to the cost of the chair, and simultaneously with this movement the lower edge of the back is gradually drawn in toward a parallel line with the supporting-bars by reason of the connection between the link I at the lower edge of the back and the supporting-bars being located below the pivot of said bars, thereby causing the back of the chair to follow and support the back of the occupant in any adjusted position.

In order to lock the supporting-bars in their various inclined positions, I have provided a clutch-lever L, sleeved upon one or both of the supporting-bars at its center by means of an oblong opening M therein, through which the side bars work, such a connection permitting the levers to be slid freely upon the bars, the ends of the said levers being provided with or formed into loops N, which constitute handles for the convenience of the operator in manipulating it.

From the frame of the chair project inwardly pins or projections O, upon which bear one of the ends of said levers, constituting fulcrums for said levers, upon which they tilt to the extent permitted by the size of the openings in the levers until the opposite edges thereof—that is, one upper edge P at one side of the bar and the lower edge Q at the opposite side of said bar—clutch the bar and

prevent a further movement of the levers upon said bars. While in this position one of the handles N of the lever-bar projects forward in convenient position for manipulation by the operator, whether the chair is upright or reclined, and in order to release the clutch it is only necessary for the operator to lift the free ends of said levers by means of the handle until the levers stand exactly at right angles to the bars, when the levers may be slid upon the bars and the latter inclined to any desired position; but as soon as the free ends of the levers are released the bearing of the opposite end thereof upon the fulcrum-pin will cause the same to clutch the bar and prevent a further inclination of the bars, which, however, may be returned to their normal upright position without manipulating the levers, for when so moved there is no tendency to bind the lever upon the fulcrum-pin, and the levers will slide downwardly upon the bars, remaining at all times in contact with the fulcrum-pin until they reach their lowest position, which is limited by transverse pins R upon said bars or by any other equivalent device, these pins also preventing the levers from falling too low when the back is shifted from one side to the other. There are two of these fulcrum-pins—one on each side of the pivot of the supporting-bars—so that the lever operates with equal effect, regardless of the direction in which the chair is reclined, the free ends of the levers when the chair is reclined in one position operating as the fulcrum ends when the chair is reclined in the opposite direction.

The back is automatically returned from an inclined position to its normal upright position whenever relieved from the weight of the occupant by means of coiled springs S, secured at their ends, respectively, to the supporting-bars and to the frame of the chair at the center thereof, or to the floor, as in the aforesaid application; operating alternately, according to the direction in which the chair is reclined, thus causing the back to normally and automatically assume an upright position.

In conclusion, I may state that the link-connection between the upper edge of the back and the supporting-bars constitutes a sliding or movable pivotal connection between these members, and may be of any form so long as it subserves the intended purpose, and I therefore do not desire to limit myself to the employment of the exact form of link for accomplishing this object, any equivalent device being within the scope of my invention.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a reclining-chair, the supporting-bars pivoted to the seat-frame, in combination with the clutch-lever and a sliding connection between said lever and bar, and pins or bearings on the opposite sides of said frame,

against which the ends of the clutch-lever alternately engage, substantially as described.

2. In a reclining-chair, the frame, a pin or projection thereon, and the supporting-bars pivoted to said frame, in combination with a clutch-lever sleeved on one of said bars, one end of which engages and fulcrums upon said projection, substantially as described.

3. In a reclining-chair, the frame provided with projections at each side thereof and the supporting-bars pivoted to said frame between said projections, in combination with a clutch-lever sleeved upon one of said bars, adapted and arranged to alternately engage said projections, substantially as described.

4. In a reclining-chair, the frame provided with projections at each side thereof and the supporting-bars pivoted to said frame between said projections, in combination with a clutch-lever, a sliding connection between said bar and lever at the center of length of the lever, and loops or handles on each of said levers, substantially as described.

5. In a reclining-chair, the frame provided with a pin or projection and supporting-bars pivoted to said frame, in combination with a clutch-lever provided with an opening at the center of length thereof working and sliding

upon one of said supporting-bars, one end of said lever engaging and fulcruming upon the projection on the frame, and the other end constituting a handle for manipulation thereof, substantially as described.

6. In a reclining-chair, the supporting-bars pivoted to the said frame and the back, in combination with a traveling pivot connecting the upper edge of said back and the supporting-bars and a link connecting the lower edge of said back and the supporting-bars, substantially as described.

7. In a reclining-chair, the supporting-bars pivoted to the seat-frame and the back, in combination with links connecting the upper and lower edges of said back and the supporting-bars, substantially as described.

8. In a reclining-chair, the supporting-bars pivoted to the seat-frame and the back, in combination with a link connecting the upper edge of said back with the supporting-bars, and a link-connection between the lower edge of the back and said bars below the pivots thereof, substantially as described.

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Witnesses:

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