A. D. LUEDDERS.

ADJUSTABLE RECLINING CHAIR.

APPLICATION FILED OCT. 23, 1909.

971,288. Patented Sept. 27, 1910.

Fig. 2.

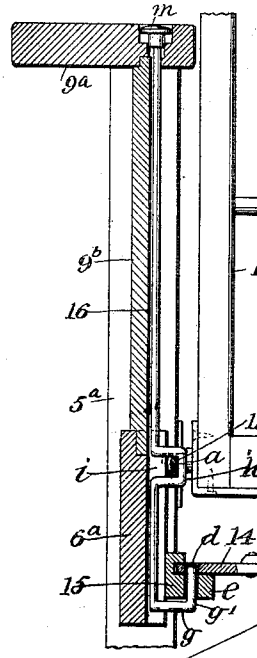


Fig. 1.

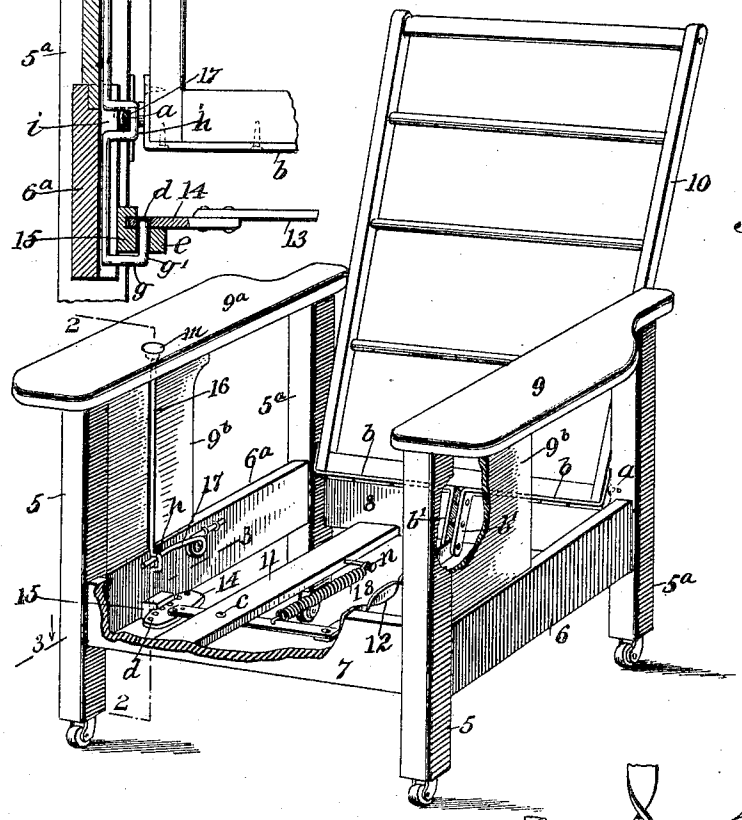
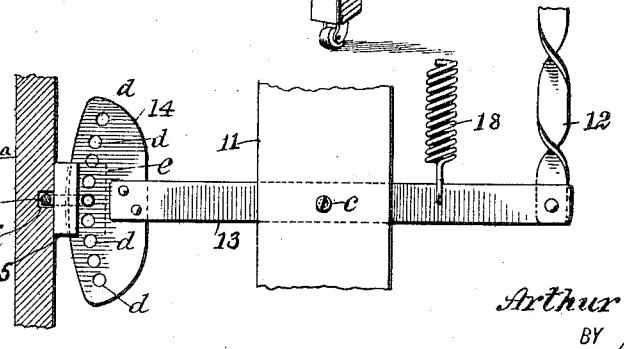


Fig. 3.



WITNESSES:

Geo. W. Taylor

W. E. Patton

INVENTOR

Arthur D. Luedders

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

ARTHUR DEIDRICH LUEDDERS, OF STURGIS, MICHIGAN.

ADJUSTABLE RECLINING-CHAIR.

971,288. Specification of Letters Patent. Patented Sept. 27, 1910.

Application filed October 23, 1909. Serial No. 524,123.

To all whom it may concern:

Be it known that I, ARTHUR DEIDRICH LUEDDERS, a citizen of the United States, and a resident of Sturgis, in the county of St. Joseph and State of Michigan, have invented a new and useful Improvement in Adjustable Reclining-Chairs, of which the following is a full, clear, and exact description.

This invention relates to a class of chairs that are provided with a fixed seat and a back adapted for adjustment at different angles of inclination from the seat; and has for its object to provide novel, simple details of construction for a chair of the character indicated, which afford convenient means for releasing the back of the chair for its inclination at a proper angle, and for automatically locking the back securely when it is inclined at a desired angle in relation to the seat.

The invention consists in the novel construction and combination of parts, as is hereinafter described and defined in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a perspective view of an adjustable chair having the top of the seat removed and exposing novel details that control the rocking movement of the chair back; Fig. 2 is an enlarged vertical transverse sectional view, taken substantially on the line 2—2 in Fig. 1, and Fig. 3 is an enlarged partly sectional plan view of details, substantially on the line 3—3 in Fig. 1.

In the drawings that show the construction and application of the invention, 5, 5 indicate the front vertical legs of the chair frame, and 5^a, 5^a similar rear legs therefor. The pairs of legs 5, 5^a at each side of the chair are respectively spaced apart by side frame bars 6, 6^a, and similar frame bars 7, 8 extend between the front legs 5 and rear legs 5^a. Upon the upright legs 5, 5^a, at each side of the chair frame, arm rests 9, 9^a are respectively secured. A preferably rectangular back frame 10, of any preferred construction, is pivoted at each side near its lower end upon the rear legs 5^a, so as to rock between them, these pivots *a*, *a*, being oppositely positioned and appearing respectively in Figs. 1 and 2. A flat frame bar 11 is secured at its ends on the front cross bar 7 and rear cross bar 8, at their lower edges, said frame bar being disposed parallel with the side frame bar 6^a, and a suitable distance therefrom.

Upon the lower portion of the back frame 10, two similar reinforcing strips *b*, formed of metal, are secured, said strips at their adjacent end terminating in arms *b'*, that are projected downward at a right angle therefrom parallel with each other. A connecting rod 12 that is preferably formed of a spirally twisted strip of metal, is pivoted at one end thereof between the arms *b'*, and thence extends forwardly, lapping at its front end upon one end of a flat lever 13, which is pivoted at *c* between its ends upon the lower side of the frame bar 11. The end of the lever 13, that projects toward the side frame bar 6^a, is secured upon a sector plate 14, or said plate may be integral therewith, and as shown in Figs. 1 and 3, a plurality of spaced perforations *d* are formed in the sector plate on the arc of a circle having the pivot bolt *c* as a center.

Upon the frame bar 6^a, opposite the pivot bolt *c*, a bracket block 15 is secured, having a horizontal flange *e* thereon, which projects below and affords support for the sector plate 14, the curved edge of said plate occupying a channel in the block, whereby it is retained in loose engagement therewith. A panel 9^b is secured at its ends in the arm rest 9^a and frame bar 6^a opposite the bracket block 15. A detent rod 16 is a detail of the invention, and co-acts with the sector plate 14 for retention of the lever in a desired position of locked adjustment. Said rod consists of a preferably cylindrical metal bar, having a rectangular loop *g* formed on its lower end, and a similar looped formation *h* formed a distance above said loop *g* and in the same plane therewith. The portion of the detent rod having the looped formations *g*, *h* thereon, is loosely embedded in a vertical groove *i* formed in the frame bar 6^a, and from said groove the body of the detent rod is upwardly extended at the inner side of the panel 9^b through a perforation in the arm rest 9^a. The perforation in the arm rest 9^a is enlarged in diameter from the upper end thereof, for accommodation of a pusher head *m* that is on the upper end of the rod 16. The upturned free end *g'* of the looped formation *g* is disposed directly below the perforations *d* in the sector plate 14,

and occupies one near the center of the row of perforations when the chair back is in normal adjustment or slightly inclined rearward.

A spring 17 is secured by one end upon the frame bar 6^a and at its free end is located in the looped formation h, the tension of the spring being adapted for raising the detent rod 16, and causing the end portion g' thereof to enter and occupy one of the perforations d in the sector plate to which it is oppositely disposed. A coiled spring 18 is secured by its front end on the lever 13 near the longitudinally-disposed frame bar 11, and in taut condition is extended rearward and connected to a pin n on the edge of the bar 11 that engages the rear end of said spring.

It will be noted in Fig. 1 that the pull of the spring 18 causes a rearward pressure of the connecting rod 12 that normally rocks the back frame 10 into a nearly upright position. If the seat of the chair is occupied while the back frame 10 is in normal adjustment, said back frame will so remain until a greater inclination of the same is desired. To this end the occupant of the seat, by depression of the detent rod 16, can instantly release the limb g' on the lower end of the detent rod from the sector plate 14, whereupon the back frame may be inclined more or less by leaning against it, and when a desired degree of inclination is obtained, the release of the pusher head m will permit the spring 16 to raise the limb g' into a perforation d to which it is oppositely disposed, and thus secure the chair back in its inclined position.

It will be seen from the description of the improvement, as hereinbefore set forth, that the occupant of the improved chair can readily change the adjustment of the chair back and that the mechanism will automatically lock the chair back at a desired inclination thereof.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. The combination with a chair frame, embodying a horizontal frame member, and a chair back pivoted between and upon rear legs of the frame, of a lever pivoted between its ends on the horizontal frame member, a connecting rod between an end of the lever and the lower portion of the chair back, a spring adapted for pulling the lever rearward near the connecting rod, a sector plate on the other end of the lever, having a plurality of perforations therein disposed concentric to the pivot of said lever, and a vertically adjustable detent rod, having an upturned limb thereon, adapted for engaging within either of the perforations in the sector bar and thus retaining the chair back rocked at a desired inclination.

2. The combination with a chair frame, embodying a horizontal frame member, a chair back pivoted between the rear legs of the chair frame near its lower end, and reinforcing straps on the lower end of the chair back having spaced arms projected therefrom, of a lever pivoted between its ends on the horizontal frame member, a connecting rod pivoted at its rear end between the arms that project from the chair back, a coiled spring connected at its ends respectively on the lever near the connecting rod and upon a pin on the horizontal frame member, a sector plate on the remaining end of the lever, having a plurality of perforations therein disposed concentric with the pivot for the lever, a bracket block on the frame adapted for supporting the sector plate, a detent rod arranged vertically, having a looped formation between its ends, a spring on the frame engaging said looped formation, and a looped formation on the lower end of the detent rod, having an upturned limb that may enter any of the perforations in the sector plate in accord with the rocking adjustment of the chair back.

3. In a chair of the character specified, the combination with the seat and the back hinged thereto, of arms depending below the back, a lever pivoted to the under face of the seat intermediate its ends, a rod pivoted to one of the ends of the lever and to the arms, a spring connected with the lever and acting to retain the back in upright position, and means engaging the other end of the lever for retaining the back in adjusted position, said means comprising a vertically slidable rod, having an angular portion, the lever having a sector provided with openings for engagement by the angular portion, and a spring normally pressing the rod into engagement with the sector.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ARTHUR DEIDRICH LUEDDERS.

Witnesses:
H. W. HAGERMAN,
JOHN FARROW.