(No Model.) 3 Sheets—Sheet 1.

J. J. WHITE.

ADJUSTABLE CHAIR.

No. 606,612. Patented June 28, 1898.

Fig. 2.

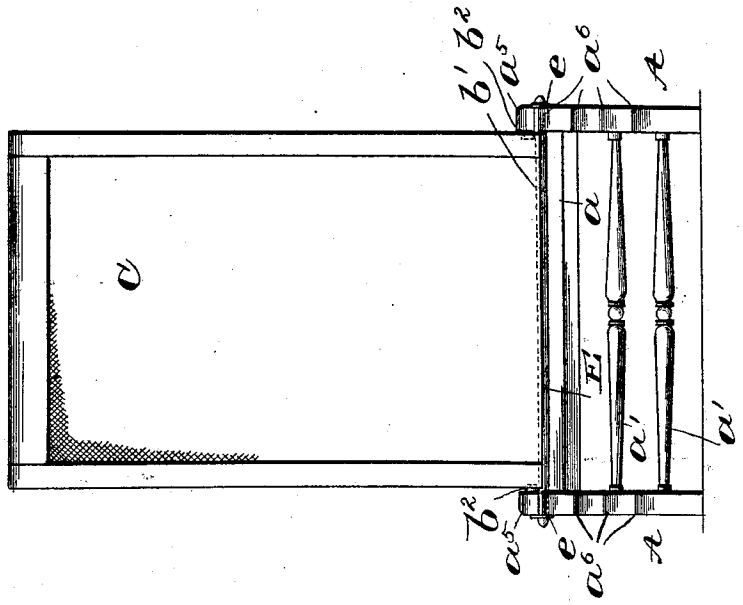
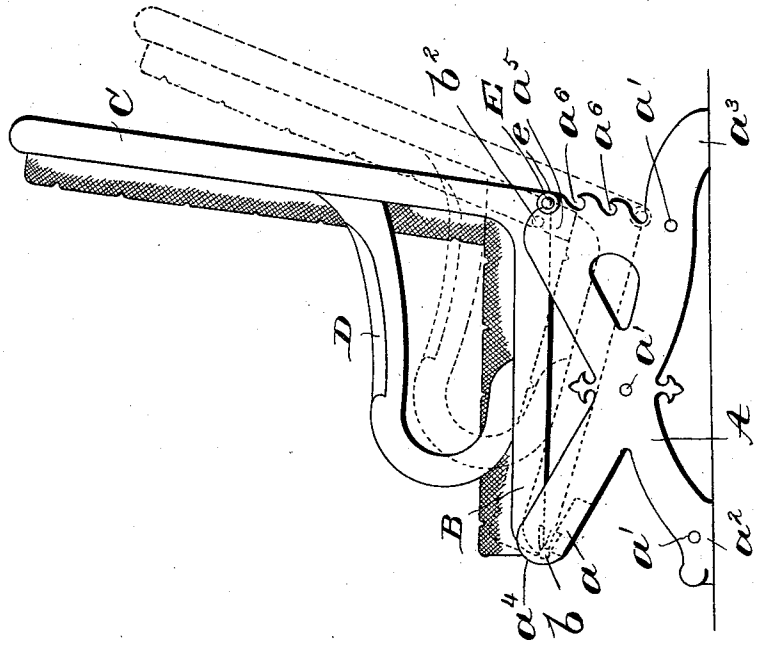


Fig. 1.



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Fig. 3.

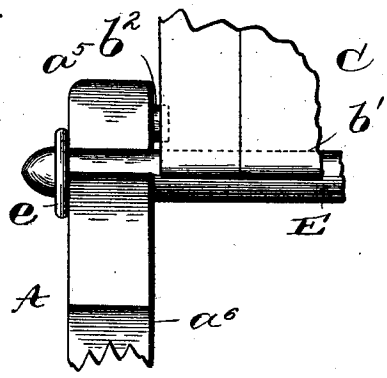


Fig. 4.

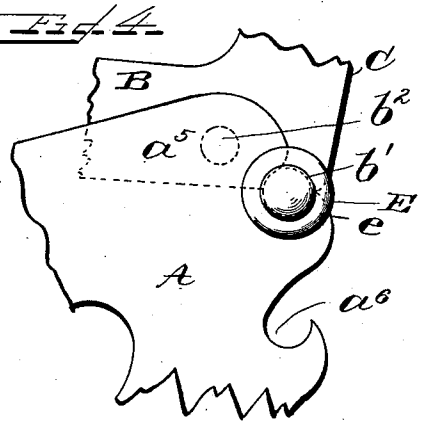


Fig. 5.

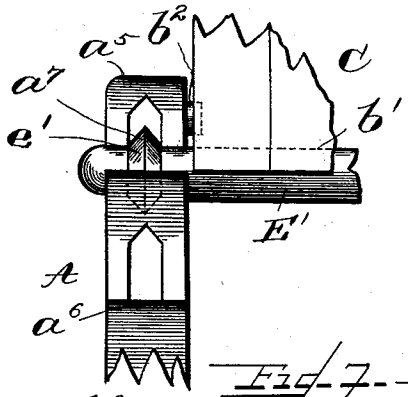


Fig. 6.

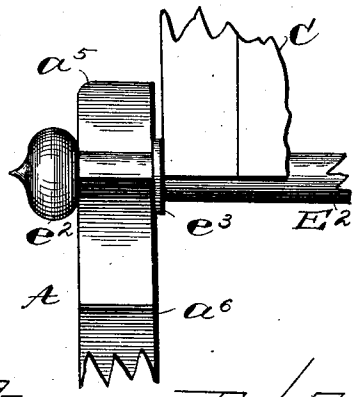


Fig. 7.

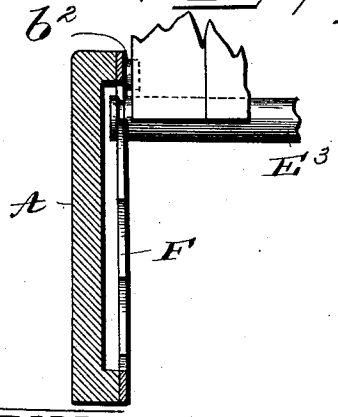


Fig. 9.

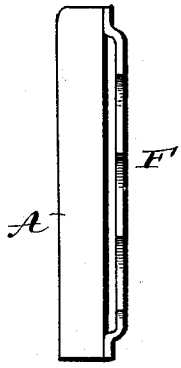
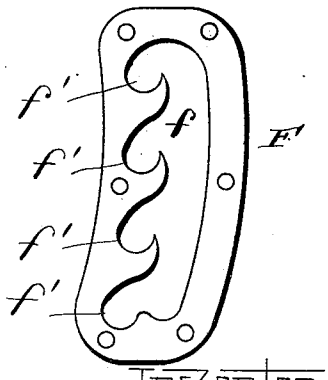


Fig. 8.



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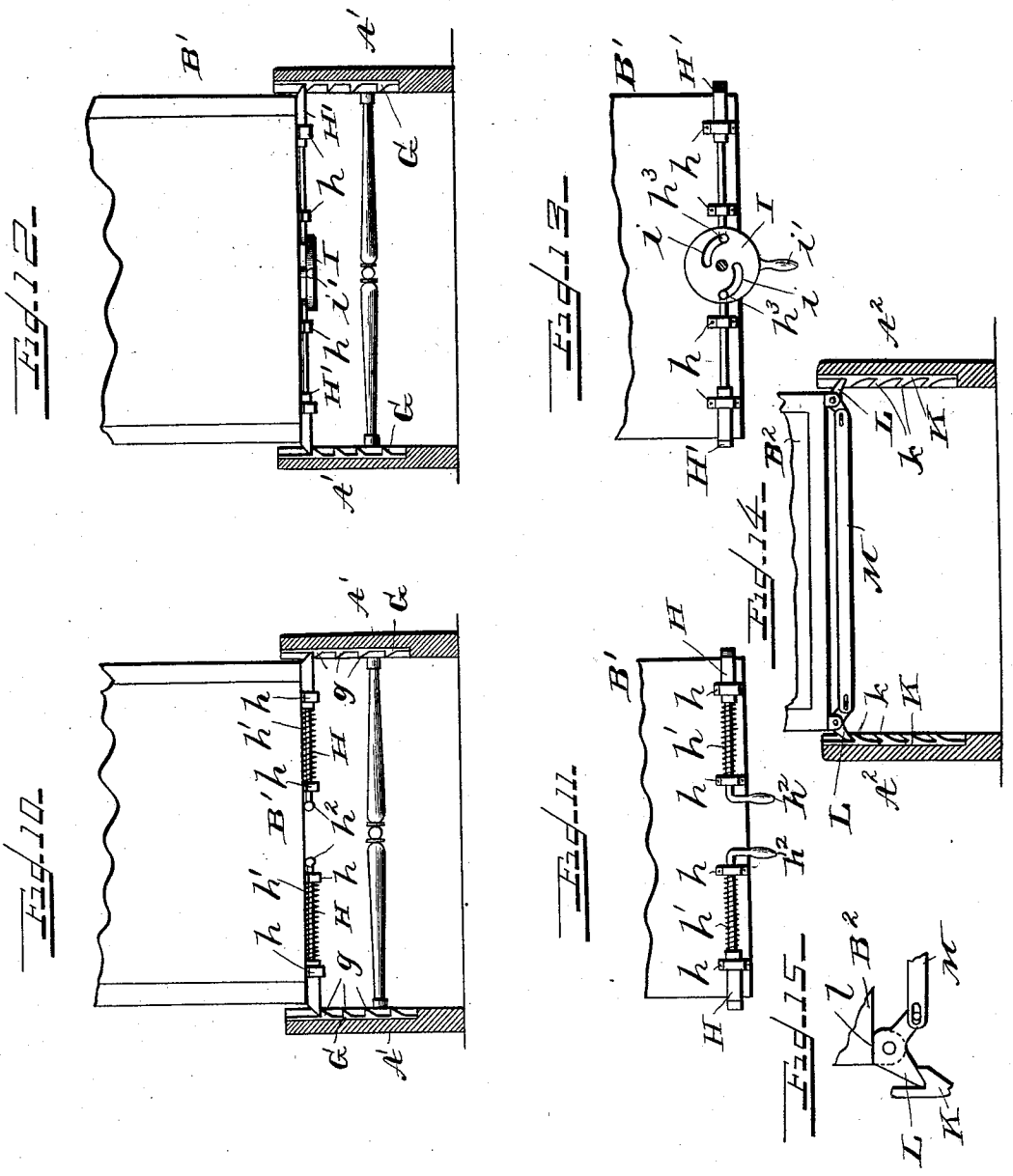
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UNITED STATES PATENT OFFICE.

JOSEPH J. WHITE, OF NEW LISBON, NEW JERSEY.

ADJUSTABLE CHAIR.

SPECIFICATION forming part of Letters Patent No. 606,612, dated June 28, 1898.

Application filed February 12, 1897. Renewed December 1, 1897. Serial No. 660,426. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH J. WHITE, a citizen of the United States, residing at New Lisbon, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Adjustable Chairs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists in the novel features hereinafter described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention and several slight modifications thereof, and said invention is fully disclosed in the following description and claims.

Referring to the drawings, Figure 1 represents a side elevation of a chair embodying my invention, another position of the back and seat being illustrated in dotted lines. Fig. 2 is a rear elevation of the chair. Figs. 3 and 4 represent enlarged detail views of parts of the seat-supporting devices. Figs. 5, 6, 7, 8, and 9 are detail views of slight modifications of the seat-supporting devices shown in the preceding figures. Fig. 10 is a rear view of a portion of a chair, showing another modified form of supporting devices. Fig. 11 is a bottom view of said supporting devices. Fig. 12 is a view similar to Fig. 10, showing another slightly-modified form of supporting devices. Fig. 13 is a bottom view of the supporting devices shown in Fig. 12. Fig. 14 is a view similar to Fig. 10, showing another slightly-modified form of supporting devices. Fig. 15 is a detail view of a part of the construction shown in Fig. 14.

In the drawings, A A represent the side pieces of the base of the chair, which are united by cross-bars a a' a' a', forming a rigid frame. Each of these side pieces is provided with portions which rest upon the floor—in this instance the feet a^2 a^3—a front portion a^4, located at about the height of the seat, and a rear portion a^5, curved in the arc of a circle, as hereinafter described, and provided with a series of supporting recesses or notches a^6, forming supporting-shoulders.

The seat-frame B and the back-frame C are rigidly secured together and preferably provided with the arms D, so that the seat and back always maintain the same relative positions with respect to each other in any position to which they may be adjusted. The seat is placed between the side pieces A A and is pivotally connected or hinged to the chair-base in any suitable or desired way. In this instance I have shown the front edge of the seat B hinged at b to the front upper cross-bar a, which is made sufficiently heavy for the purpose; but this result may be accomplished in other ways.

The rear portion of the seat-frame B rests upon a supporting-bar E, formed conveniently of metal, either solid or tubular, each end of which rests in one of the recesses a^6 of the side pieces A A. It will be seen that the recesses a^6 a^6 must be formed in the arc of a circle struck from the center of the hinge b as a center. By placing the supporting-bar in different pairs of recesses the chair can be quickly and easily adjusted to different positions, while the relation of the seat and back to each other does not change. I have found that in cases where the seat remains stationary and the back is adjusted with respect to it as the back is lowered it has a tendency to slide the occupant toward the front edge of the seat, making the chair uncomfortable and hard to sit in. This difficulty is overcome in my construction. I prefer to provide the rear portion of the seat-frame B with grooves b', which engage the bar E, as shown in the drawings.

As the seat and lower portion of the back must move up and down between the rear portions a^5 of the side pieces it is impossible to connect said side pieces at this point by a brace or braces. In order to brace the side pieces at this point to prevent them from warping or twisting and to add to the solidity of the chair-base, I prefer to provide the supporting-bar E at each end with an enlargement or head e, forming a shoulder which engages the outer side of each side piece A, adjacent to the recess occupied by said bar, and prevents the side pieces from moving outwardly, and I also prefer to provide the rear portion of the seat-frame B on each side with a spacing-block b^2, preferably of felt, rubber, or leather, or other elastic material, which en-

gages the inner side of its adjacent side piece (see Figs. 3 and 4) and holds said side pieces from moving inwardly. This construction clamps the side pieces rigidly and forms a brace for them, and it also relieves the hinge construction at the front of the seat from strain in case the chair is moved about by taking hold of the back or arm and, being of soft material, prevents the polished wood of the seat and back from being scratched. In Fig. 5 I have shown a slightly-modified construction for accomplishing this result. In this case the supporting-bar E′ is provided with an annular flange e' at each end, which engages grooves a^7 in the recessed portions of the side frames, and the seat is provided with the spacing-blocks b^2, as in Figs. 1 to 4, inclusive.

In Fig. 6 another slight modification is shown, in which the supporting-bar E^2 is provided at each end with a head or enlargement e^2 to engage the outer side of the side piece A and an annular ring or flange e^3 to engage the inner face of said side piece, thus clamping the side pieces rigidly in position. The flange e^3 will be of such width that it will fit between the side pieces and the seat-frame, and will thus dispense with the spacing-blocks.

In Figs. 7 and 8 I have shown another modification of my device, in which the notches in the rear of the side pieces A are dispensed with, and instead each side piece is provided with a curved recess, over which is fitted a metal plate F, secured to the side piece by screws or otherwise. Each of these plates (see Fig. 8) is provided with a slot f, having at one side a series of supporting shoulders or projections f' f' to receive the supporting-bar E^3. The said bar is provided at each end with an annular groove, which groove engages the plates F F and brace the side pieces while supporting the seat of the chair, and I prefer with this construction to use the spacing-blocks b^2, as shown. This construction is a very good one, as the notched parts are not visible from the side of the chair, and the side pieces can be finished off in the usual manner at their rear ends. Instead of recessing the side pieces A A the portions of the plate F adjacent to the slot f and shoulders or projections f' f' may be bent out away from the face of its support, as shown in Fig. 9.

It will be understood that the spacing-blocks b^2 need not be of elastic material, but I prefer to make them of such material to prevent scratching and to render the movements of the seat and back noiseless.

In Figs. 10 and 11 I have shown a modified form of supporting devices for the combined seat and back, in which, instead of using a single supporting-bar, I employ two separate bars movable longitudinally. In these figures, A′ A′ represent the side pieces of the base, which are provided at their rear ends with a series of supporting-shoulders g, preferably formed on plates G, secured to the side pieces. To the under side of the seat B′ a pair of longitudinally-movable bars H are attached, mounted in guides h, so that they can slide longitudinally, and preferably provided with springs h', which tend to force them outwardly. Each bar is provided with an arm h^2, extending rearwardly beyond the end of the seat, so that the operator, by grasping these arms h^2 and drawing them together, can retract both of the bars H and adjust the chair to any desired position. In Figs. 12 and 13 I have shown a slight modification of this construction, in which the sliding bars H′ H′ are provided with lugs or projections h^3, which engage cam grooves or slots i in a cam-plate I, mounted on a pivot or center of oscillation on the under side of the seat and provided with an operating-arm i', extending beyond the rear end of the seat. By moving this arm i' to the right or left the two bars can be simultaneously retracted or forced outwardly. In this construction the springs shown in Figs. 10 and 11 may be dispensed with, as shown, if it is desired. In both of these constructions shown in Figs. 10 to 13, inclusive, the shoulders g will preferably incline, as shown, and the ends of the bars H and H′ will also be inclined downwardly, as shown, so that when these parts are in operative engagement the side pieces A′ A′ will be held from lateral movement.

In Figs. 14 and 15 I have shown another slight modification of the suppporting devices. In these figures the side pieces A^2 A^2 of the base are provided also with supporting-shoulders k k on a plate K, preferably inclined, as shown, and the bottom rear portion of the seat B^2 is provided at each side with a locking-pawl L, pivoted to said seat and having a downwardly-inclined portion to engage said shoulders. Each pawl is provided with a shoulder l, which abuts against the bottom of the seat or other fixed part to prevent the pawl from moving outwardly when in engagement with one of the supporting-shoulders. To secure the simultaneous release and engagement of said pawls, I connect them to opposite ends of a bar M by a slotted construction. In this instance I have shown bar M provided at each end with a slot engaged by a pin or lug on one of said pawls. By lifting this bar M with the hand or foot both of said pawls will be retracted to enable the chair to be adjusted, and when the bar is released its weight will cause the pawls to quickly engage the supporting-shoulders. The pawls, engaging the inclined shoulders in the manner described, will hold the rear ends of the side pieces from lateral movement.

What I claim, and desire to secure by Letters Patent, is—

1. In an adjustable chair, the combination with the base comprising the side pieces provided adjacent to their rear ends with supporting-shoulders in different horizontal planes, of a seat pivoted to said base adjacent

to its front edge, and lying between said side pieces, supporting means for engaging said shoulders and directly supporting said seat adjacent to its rear end, and a back connected to said seat, whereby said seat can be adjusted vertically between said side pieces, substantially as described.

2. In an adjustable chair, the combination with the base, comprising the side pieces provided adjacent to their rear ends with supporting-shoulders in different horizontal planes, of a supporting-bar engaging said shoulders, and a combined seat and back secured together, said seat being pivoted between said side pieces adjacent to its front end and resting on said bar, between said side pieces at its rear end, whereby said seat and back may be moved vertically between said side pieces, said bar and pivotal connection forming the sole supports for said seat and back, substantially as described.

3. In an adjustable chair, the combination with the base including among its members side pieces each provided adjacent to its rear end with supporting-shoulders in different horizontal planes, of supporting means adapted to engage said shoulders and provided with devices for preventing the lateral movement of said side pieces, a seat pivotally connected adjacent to its front edge to said base and having its rear portion directly supported by said supporting means and a back rigidly connected with said seat, substantially as described.

4. In an adjustable chair, the combination with the base including among its members, side pieces each provided adjacent to its rear end with supporting-shoulders in different horizontal planes, of a supporting-bar adapted to engage said shoulders, and provided with devices for preventing the lateral movement of said side pieces, a seat pivotally connected adjacent to its front edge to said base and having its rear portion resting on said bar, a back rigidly connected with said seat and means for preventing the lateral movement of said seat and back with respect to said base, substantially as described.

5. In an adjustable chair, the combination with the base including among its members side pieces each provided adjacent to its rear end with supporting-shoulders in different horizontal planes, of a supporting-bar adapted to engage said shoulders and provided with devices for preventing the lateral movement of said side pieces, a seat pivotally connected adjacent to its front edge to said base and having its rear portion resting on said bar, a back rigidly connected with said seat, and spacing-blocks between said back and seat and the side pieces of said base, substantially as described.

6. In an adjustable chair, the combination with the base, having side pieces provided at their rear ends with plates each having a slot a series of supporting-shoulders at one side of said slot, and attaching means out of the plane of said supporting-shoulders, of a supporting-bar adapted to engage the said shoulders, the seat pivoted at its front end to said base and having its rear end resting on said bar, a back rigidly secured to said seat, substantially as described.

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

JOSEPH J. WHITE.

Witnesses:
LOUIS F. SCHUCK,
JOHN E. HOLMES.