Feb. 17, 1942. J. R. STAUDT 2,273,667

ADJUSTABLE CHAIR

Filed Nov. 27, 1939

FIG. 1

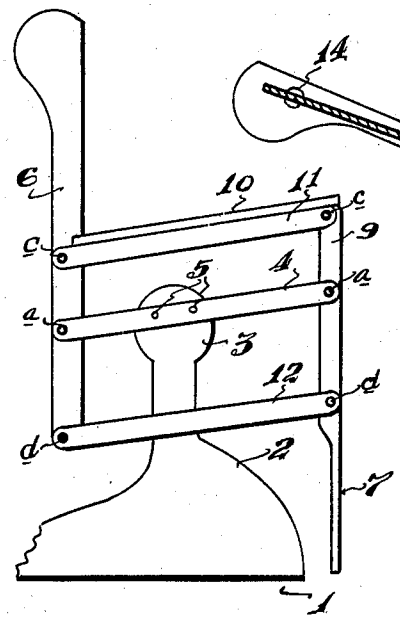


FIG. 2

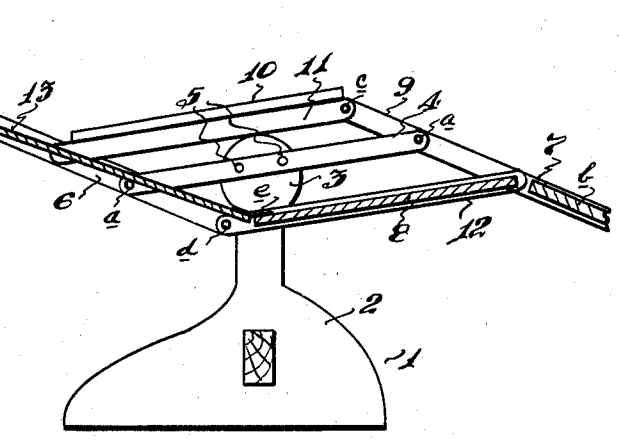


FIG. 3

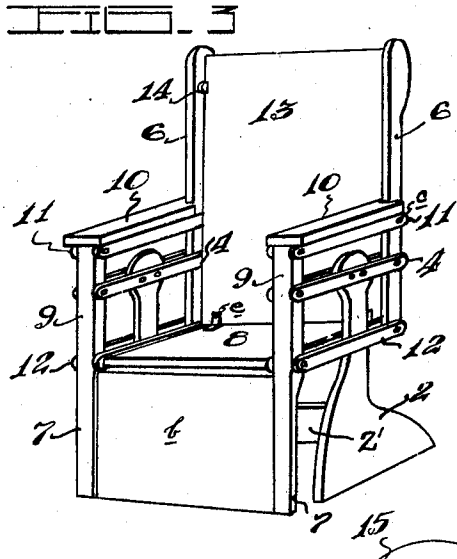


FIG. 4

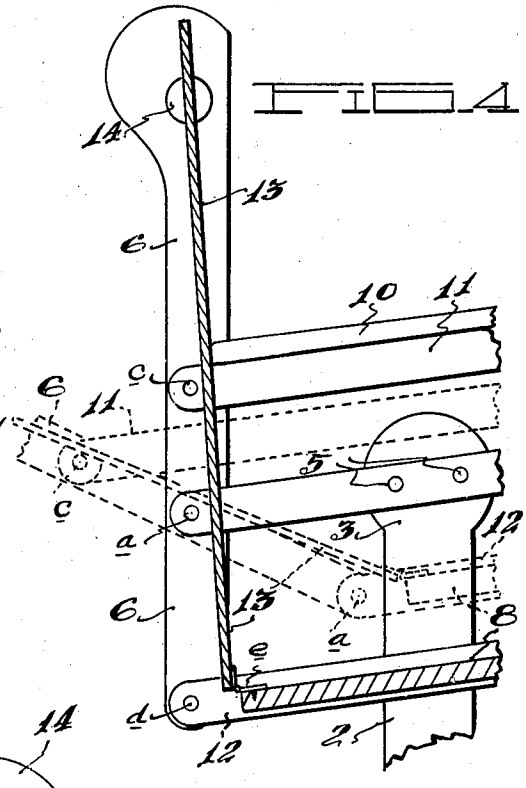
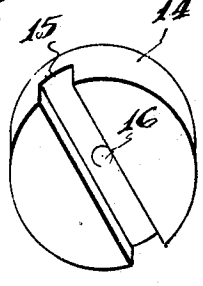


FIG. 5



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ADJUSTABLE CHAIR

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2 Claims. (Cl. 155—110)

This invention relates primarily to chairs and it has particular reference to a reclining chair having a back support adapted to be readily adjusted to varying inclined positions and its principal object resides in the provision of a chair designed for comfort in all of its several positions, obviating the necessity for rising from the chair to effect adjustments to cause the back to recline and eliminating all unnecessary, unsightly and usually undesirable ratchets, springs, and other mechanisms, commonly employed in adapting chairs of this general character to varying inclined positions.

Another object of the invention resides in the provision of a chair of the character described constructed in such a manner as to properly balance the weight of the person to insure comfort in all inclined positions, enabling the occupant to readily adjust himself from an erect to a reclined position by simply leaning against the back of the chair with a slight exertion of force and without allowing the full weight of his legs to bear upon the leg support and, conversely, sitting erect from a reclining position by reversing this process and exerting a force upon the leg support.

Still another object of the invention is manifest in the provision of a reclining chair having a back rest slidably supported by the back frame and hinged to the seat whereby the back rest is maintained in juxta-positional relationship to the said seat irrespective of the angular relationship of the back rest to the said seat when the back is inclined, thus enabling the hinged movement of the back and seat to comfortably correspond to the hinge movement of the body while reposing in the said chair.

Yet another object of the invention resides in the provision of a chair embodying a combination of elements so arranged as to permit the equal distribution of the weight of the body in such a manner as to insure proper balance and thereby enable the occupant to adjust himself at will in any of several reclining positions with a minimum of effort and without changing from a reclining to a sitting posture to effect such adjustment except when it is desired to adjust the chair to a sitting arrangement.

Broadly, the invention seeks to comprehend the provision of a reclining chair adapted to be adjustably conformable with the body in all positions from an erect to a reclining posture without the usual mechanical combinations ordinarily required to effect variable adjustments and maintain such adjustments.

While the foregoing objects are paramount, other and lesser objects will become manifest as the description proceeds when taken in connection with the accompanying drawing wherein:

Figure 1 illustrates the invention in elevation from the right side.

Figure 2 is a vertical sectional view of the invention shown in reclined position and illustrating the longitudinally movable back rest and the seat.

Figure 3 is a perspective illustration of the invention.

Figure 4 is a fragmentary cross sectional illustration showing the adjustable back rest and illustrating, in dotted lines, the latter in reclined position, and

Figure 5 is a perspective illustration of one of the oscillating guides in which the back rest is supported.

The invention is accordingly comprised of a base 1 which may be of any desired form, comprised of a pair of supports 2, connected by a suitable horizontal bar 2', and having liberal bases and uprights 3 to which the main frame of the chair is secured through the medium of horizontally arranged bars 4 and bolts or screws 5. The bars 4 are pivotally connected at each end at *a* to a back supporting frame 6 and a leg support 7, as illustrated particularly in Figures 1 and 2.

Upwardly projecting members 9 on each side of the leg support 7 form the forward supports for arm rests 10. The horizontal bars 4 are pivoted to the members 9 intermediate the seat 8 and the arm rests 10, as shown in Figure 3. The arm rests 10 are supported by horizontal links or bars 11 pivoted to the upper ends of the members 9 at *c* at one end and to the back frame 6 at their opposite ends.

The seat 8 is secured between the supporting uprights 3 to horizontal members 12 which are pivoted at *d* to the lowermost ends of the upright members 9 of the leg support 7 which form a part of the arm rest assembly and at their rearmost ends to the lower ends of the back supporting frame 6, all of the cross members 4, 11 and 12 being arranged in such a manner as to enable the assembly to assume the position illustrated in Figure 2 and in dotted lines in Figure 4.

Within the back frame 6 is arranged a back rest 13, the lower end of which is hinged at *e* to the rear edge of the seat 8 while its upper end is supported through the medium of oscillating guides 14, one of which is shown in detail in Figure 5.

The guides 14 are preferably circular in form, having a slot 15 arranged diametrically thereacross to receive the opposite edges of the back rest 13 permitting the latter to slide longitudinally through the slots 15 while the guides 14 oscillate on their pivots 16 by which these members are attached near the top of the frame members 6, as illustrated in Figures 2, 3 and 4. Thus, when the back assembly is inclined, as shown in Figure 2, the plane of the back rest 13 may vary slightly with respect to the longitudinal axes of the frame members 6 according to the degree of inclination of the latter since the lowermost end of the back rest 13 is hingedly secured to the seat 8 and remains constantly juxta-positional therewith. In other words, as the back frame 6 is inclined and consequently the seat 8 is moved forward the back rest 13 will move a limited space longitudinally of the frame 6, in the manner illustrated in dotted lines in Figure 4 wherein the angle of the back rest 13 is shown varied with respect to the angle of the frame members 6.

The person of the occupant, therefore, when properly adjusted to a comfortable position in the chair, may recline to any posture from the angle shown in Figure 1 to the degree illustrated in Figure 2, the hinged connection between the back rest 13 and the seat 8 being fixed.

No shifting of the body is necessary in order to readjust one's self to the new positions assumed and the distribution of weight is therefore constant. Unless the back rest 13 is so arranged as to permit its movement to be coordinated with the movement of the seat 8, that is longitudinally of the frame 6, the occupant would necessarily have to readjust the upper portion of his body to the varied longitudinal relationship between himself and the back rest 13 which latter would, if made stationary with the back frame 6, move longitudinally with respect to the body and create a frictional engagement therewith, disarranging the clothing and providing discomfort until the occupant readjusted his person against the back rest. The hinged connection *e* between the seat 8 and the back rest 13 functions in coordination with the natural hinge of the body at the hips at which point, also, the weight of the body is generally fairly distributed.

In operation the occupant may recline in the device by balancing the weight of the upper portion of his body by his legs resting upon the panel *b* of the leg rest 7 and may assume any reclining position by slightly alleviating the weight of his legs upon the leg support 7 or, conversely, may assume a sitting posture from a reclining position by bearing with his legs upon the leg rest 7 which will enable him to readily assume a sitting posture none of which operations requires more than a minimum of exertion.

By reason of the several elements throughout the device and, therefore, the equal distribution of weight when occupied, such adjustments may be accomplished and retained without the usual mechanical apparatus, such as ratchets, springs, and the like, which ordinarily serve to retain the chair in its several adjusted positions and often require the user to arise from the chair to effect adjustments each time a variation is required.

Manifestly, the structure herein shown and described is capable of considerable changes and modifications by those skilled in the art and such changes and modifications as may be resorted to from time to time and which may be considered as coming within the spirit and intent of the invention may also be considered as falling within the scope of the appended claims.

What is claimed is:

1. In a reclining chair having a base comprising a pair of connected uprights, longitudinal supports rigidly secured to the upper end of each of the said uprights, a back frame and a leg supporting frame pivotally secured to the rear and front ends of said supports, arm rests above the supports pivotally secured to the back frame and leg supporting frame, a seat below the supports pivotally secured to the back frame and leg supports, a back pivoted at its lower edge to the said seat and having a sliding pivotal connection with the said back frame at its upper end.

2. In a reclining chair having a base comprising a pair of connected vertical standards, a horizontal support rigidly secured to the upper end of the said base at each side thereof, a back and leg frame pivotally connected to the rear and front ends of the said support, arm rests pivotally connected to the back frame and leg support above the said horizontal supports, a seat pivotally secured to the back frame and leg support below the said horizontal support and a back pivoted at its lowermost end to the said seat and having a sliding pivotal connection with the said back frame at its upper end.

JAMES R. STAUDT.