Sept. 21, 1937. A. BRENNER 2,093,510

RECLINING CHAIR

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Fig. 1.

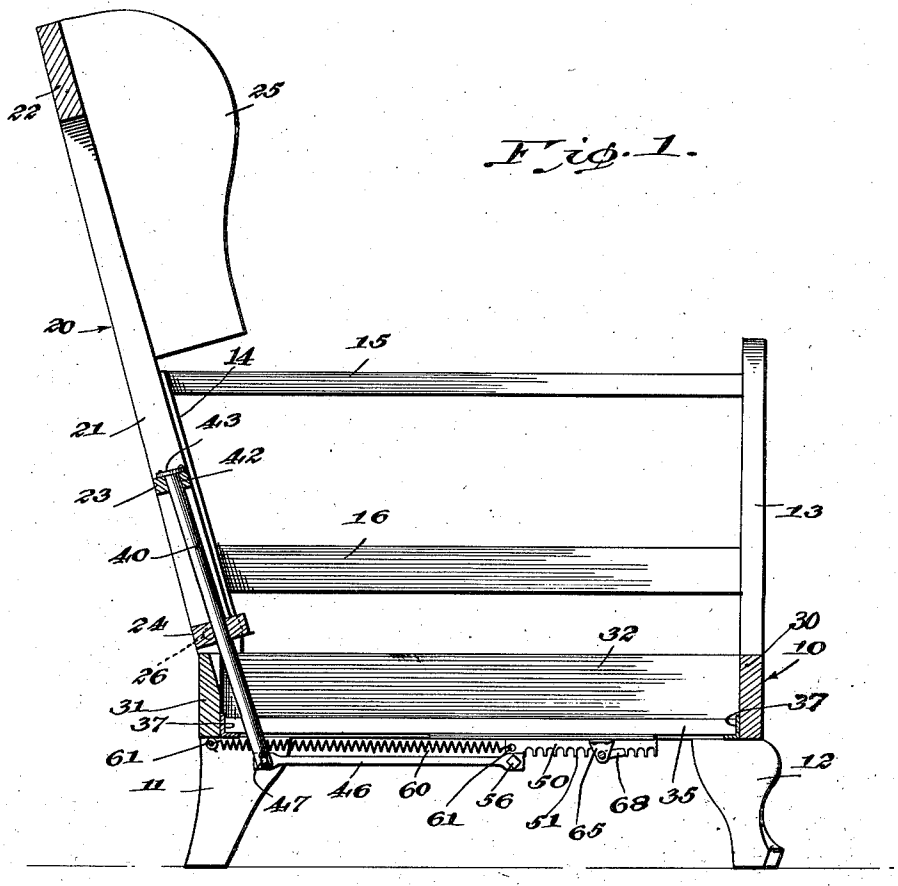


Fig. 2.

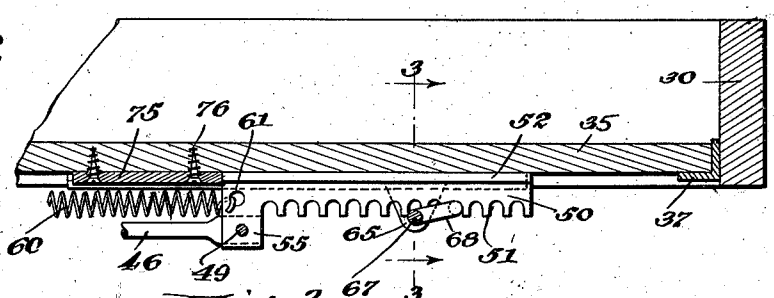
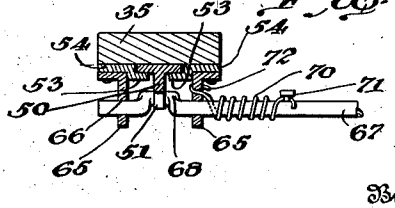


Fig. 3.



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Fig. 4.

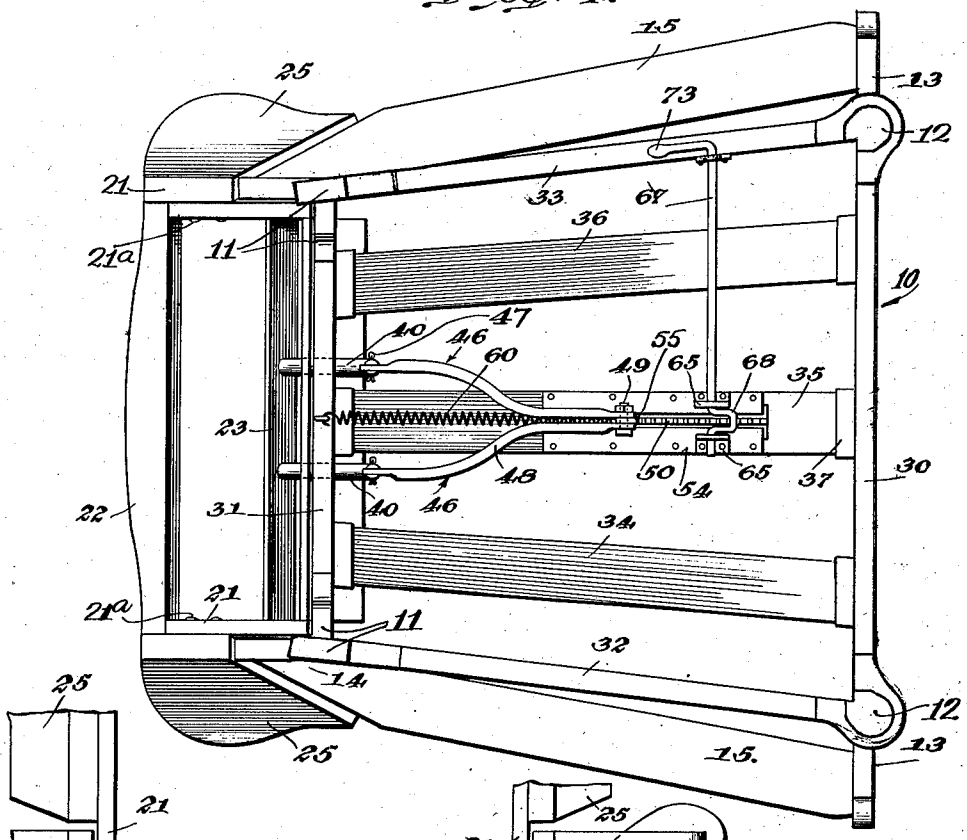
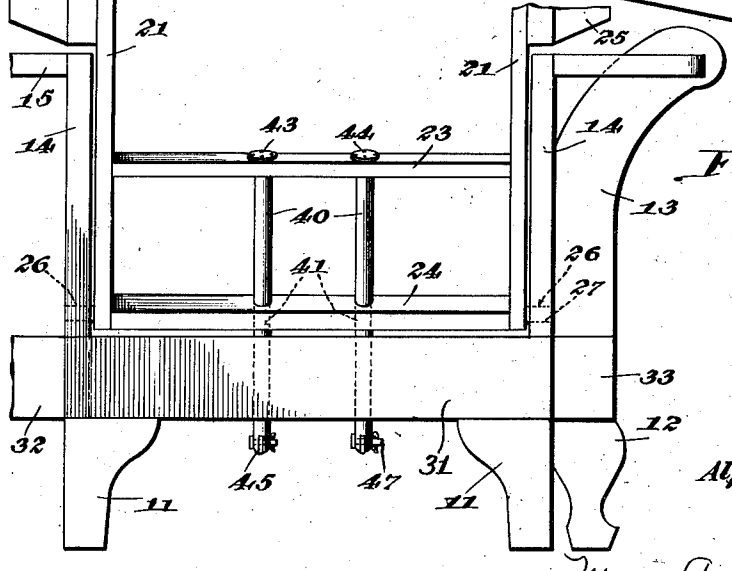


Fig. 5.



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RECLINING CHAIR

Alphonse Brenner, Shreveport, La.

Application June 6, 1935, Serial No. 25,327

1 Claim. (Cl. 155—161)

This invention relates to a reclining chair.

An object of the invention is the provision of a chair having a movable back which may be tilted at any angle desired for the convenience of the user.

Another object of the invention is the provision of a chair having a reclining back which may be moved at a predetermined angle by the occupant of the chair without necessitating his leaving the chair for an adjustment.

A further object of the invention is the provision of a chair having a reclining back which is adapted to be tilted at a predetermined angle with the back being free of any connections with the arms or supporting base structure of the chair except a pivotal connection for swinging the back through an arc of a circle, rods being secured in the back and projecting below the seat with links connecting the lower ends of the rods to a slidably mounted rack which is retained in position by a crank on a shaft adapted to be manually operated, a resilient means being employed for moving the back to a normal inclined position.

This invention will be best understood from a consideration of the following detailed description, in view of the accompanying drawings forming a part of the specification; nevertheless, it is to be understood that the invention is not confined to the disclosure, being susceptible of such changes and modifications as define no material departure from the salient features of the invention as expressed in the appended claim.

In the drawings:

Figure 1 is a vertical section of the chair,

Figure 2 is a fragmentary enlarged vertical section showing a retaining means for a pivotally mounted back,

Figure 3 is a transverse vertical section taken along the line 3—3 of Figure 2,

Figure 4 is a bottom plan view of the chair, and

Figure 5 is a fragmentary rear view of the chair.

Referring more particularly to the drawings, 10 generally designates a base frame supported by legs 11 and 12. Rising from the base member 10 are front uprights 13 and rear uprights 14. These uprights not only support arm rests 15 but side rails 16 which also act to reinforce the uprights. The uprights 13 are located substantially vertically while the uprights 14 are inclined at an angle to the horizontally disposed base member 10 and lean rearwardly from the chair.

A back frame, generally designated by the numeral 20, consists of side bars 21, a top bar 22 and cross bars 23 and 24.

Wings 25 are secured to the bars 21 at 21*a* and have their lower ends movable in close association with the rear ends of the arm rests 15. The frame 20, including the wings 25, are free of the uprights 14 except for the pivotal connections.

It will be noted from Figs. 1 and 5 that a pin 26 projects laterally from each side of the frame 20 and these pins are secured at their inner ends to the lower ends of the bars 21. A bearing 27 is formed in each upright 14 adjacent the lower end and receives a respective pin 26 so that the frame 20 is swingable towards or away from the rear portion of the chair.

The bottom or base member 10 consists of a front transverse bar 30 and a rear transverse bar 31 connected together at their ends by side rails 32 and 33.

Bottom plates 34, 35, and 36 form the supporting structure for a cushion which provides a seat in a well known manner. Angle irons 37 provide means for retaining the bottom plates in position in the supporting base frame.

A pair of rods 40 are received by passages 41 in the bar 24 and by passages 42 in the bar 23. A cap 43 which is secured to the outer end of each rod 40 is in the form of a flange which is secured at 44 to the upper face of the member 23. The lower ends of the rods are split, as shown at 45.

Each of a pair of links 46 has its outer end pivotally connected to one of the rods 40 by a pin 47. The links are straight and parallel to each other for a portion of their backwardly extending distance as shown at 48, and then are bowed outwardly from the rack 50 into line with the rods 40. The forward ends of the links are commonly connected at 49 to an extension 55 of the rack (Fig. 2).

The rack 50 extends horizontally and is provided with teeth 51 projecting downwardly from the underface of the base frame. The rack is provided with flanges at its opposite sides, as shown at 52 (Fig. 3), and these flanges are situated between the offset ends 53 of plates 54 which are secured to the board or plate 35. The offset flanges 53 form a guide for the rack 50.

A spring 60 is connected at 61 to the rear end of the rack 50 while the opposite end of the spring is connected at 61*a* to the underface of the board or bar 31. This spring tends at all times to move the rack 50 rearwardly for a purpose which will be presently explained.

Brackets 65 are secured to the plates 54 in such a manner that the rack 50 is disposed between the brackets. Bearings 66 are formed in the brackets to receive a rock shaft 67 which has a crank 68 located between the standards and in a position to engage the curved pockets between the teeth 51 of the rack 50. A coil spring 70 is disposed on the shaft 67 and has one end connected at 71 to the shaft. The other end of the spring, as shown at 72, is connected to an adjacently disposed bracket 65. Thus it will be seen that the shaft will be maintained in a predetermined position so that the crank 68 will tend at all times to move into engagement with the teeth 51 of the rack.

The rock shaft 67 extends from the center towards the side where it is provided with a handle, as shown at 73. The handle is adapted to be grasped by the occupant of the chair for releasing the crank 68 from its engagement with the pockets of the rack whereby the back may be moved to a different angle. Some form of operating rod or chain may be connected with the handle 73 and disposed adjacent the arm rest 15 of the chair and in a position where it may be conveniently grasped by the occupant.

The operation of my device is as follows: In Fig. 1 the movable back 20 is in a position where it will normally be retained in position by means of the crank 68 and the spring 60, since the spring tends to move the rack to a position where the frame 20 will be in its normal reclining position. At this time, the rear end of the rack 50 will be in engagement with a stop 75 which is secured at 76 to the board or plate 35. If it be desired to move the back to a position where it will have a greater angle of inclination with respect to the base frame 10 it is only necessary for the occupant to grasp the handle 73 and rock the shaft 67 whereby the crank 68 will be released from the teeth 51. By throwing sufficient weight against the back 20 which is now free, the back will be moved to a greater angle with respect to the base member 10 and when the desired position has been reached the handle 73 is released whereby the crank 68 will snap into position between a pair of teeth 51 of the rack 50.

When it is desired to return the back frame to its normal position, it is only necessary to remove any pressure from the back so that when the handle 73 is manipulated and the shaft 67 rocked, the crank 68 will be released from the rack and the spring 60 will move the rack rearwardly to cause reciprocation of the links 46 and rocking of the rods 40 whereby the back will be moved upon its pivots 26 until it reaches the normal position shown in Figure 1 or any position desired.

I claim:

A reclining chair comprising a supporting base frame, a movable back frame having side bars pivoted at the lower end thereof to the base frame, said back frame having vertically spaced cross bars provided with aligned passages which are located medially of the ends of the cross bars, rods fitted in said passages secured to one of the cross bars and having ends projecting below the lower cross bar, said ends being split, a rack slidably mounted longitudinally of the base frame, guides for the rack, a link at each side of the rack and having pivotal connections therewith, said links being straight and parallel to each other for a portion of their backwardly extending distance and then bowed outwardly from the rack into line with the splits in the projecting ends of said rods, means pivotally connecting the links in said splits, resilient means tending to move the back frame to its normal position, and means carried by the base frame which is operable in respect to the rack to hold the back frame in adjusted position.

ALPHONSE BRENNER.