

Nov. 14, 1967

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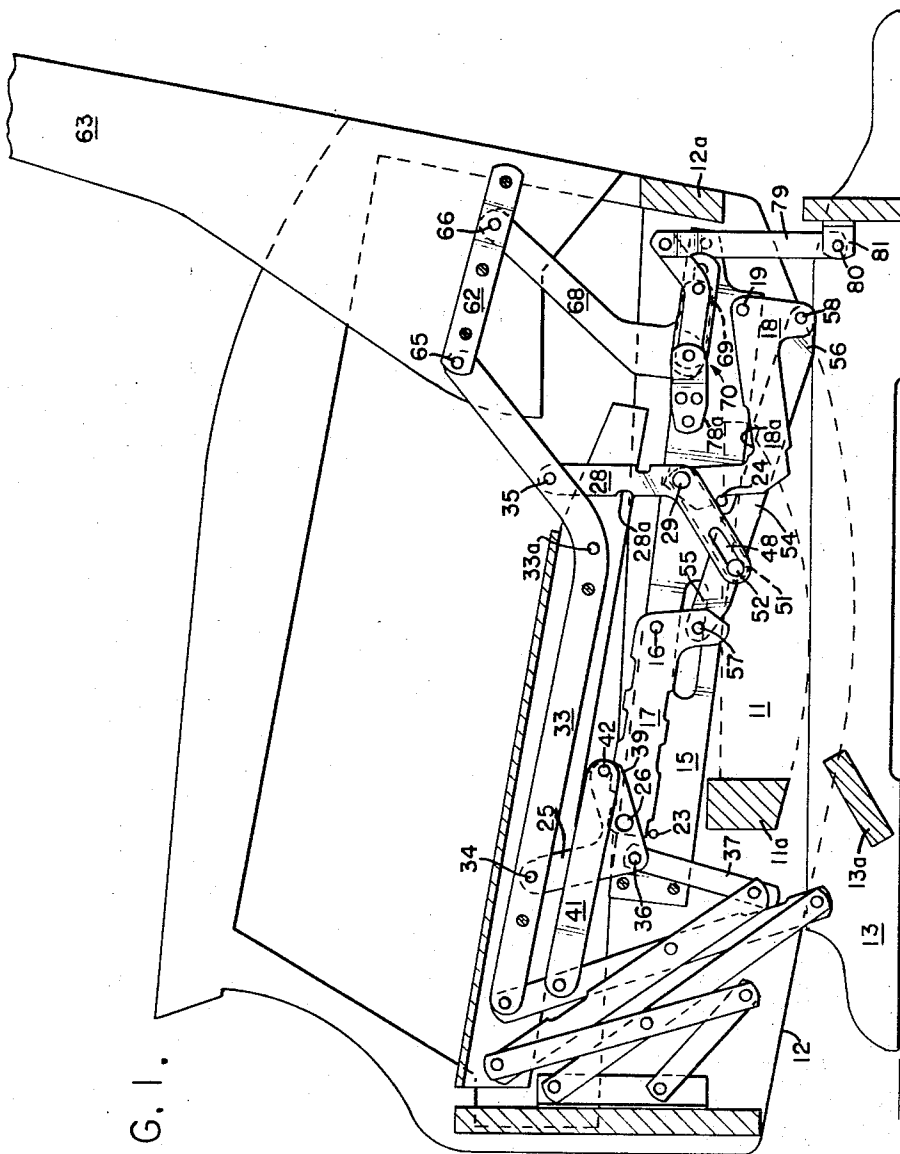
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CHAIR

Filed May 19, 1966

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FIG. 1.



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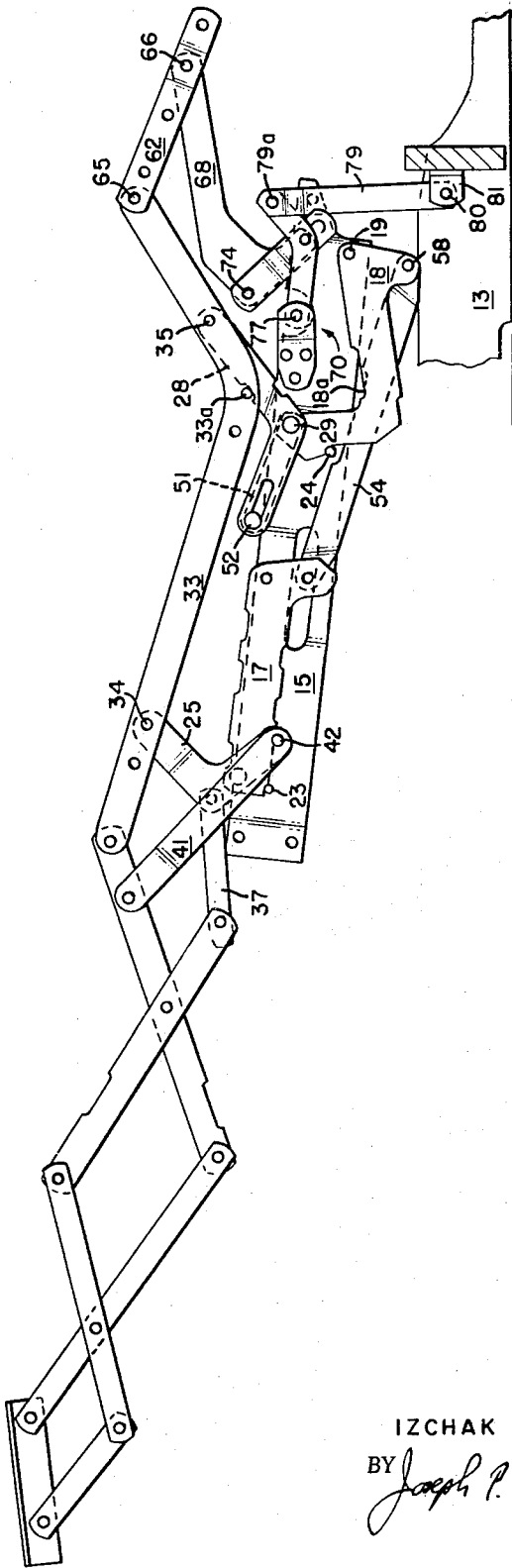
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FIG. 2.



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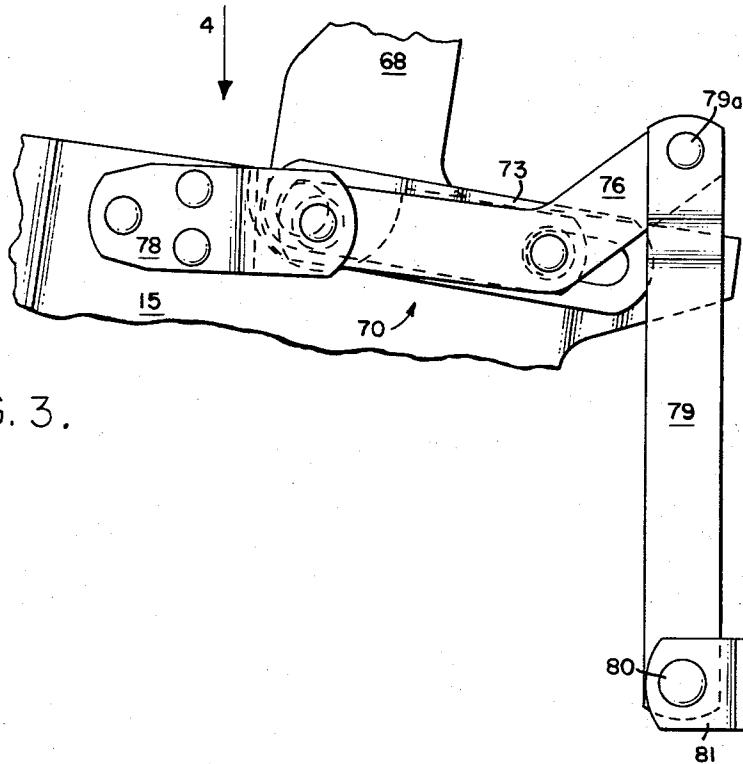
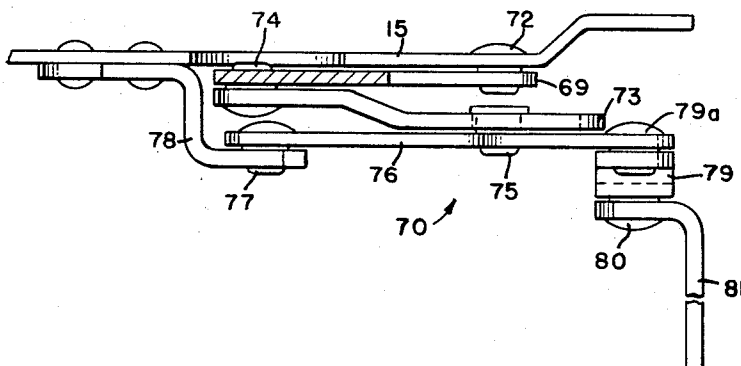


FIG. 3.

FIG. 4.



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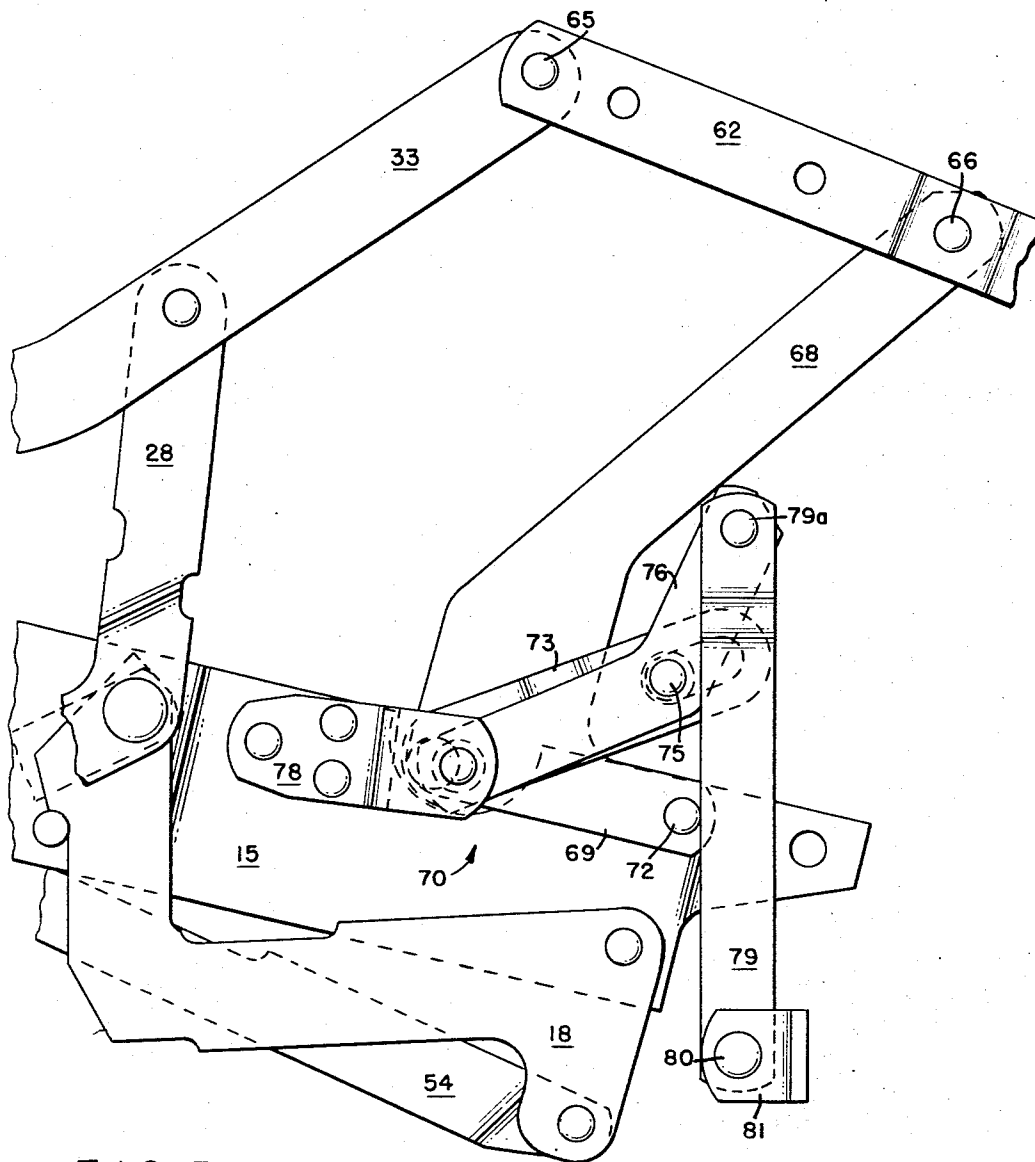


FIG. 5.

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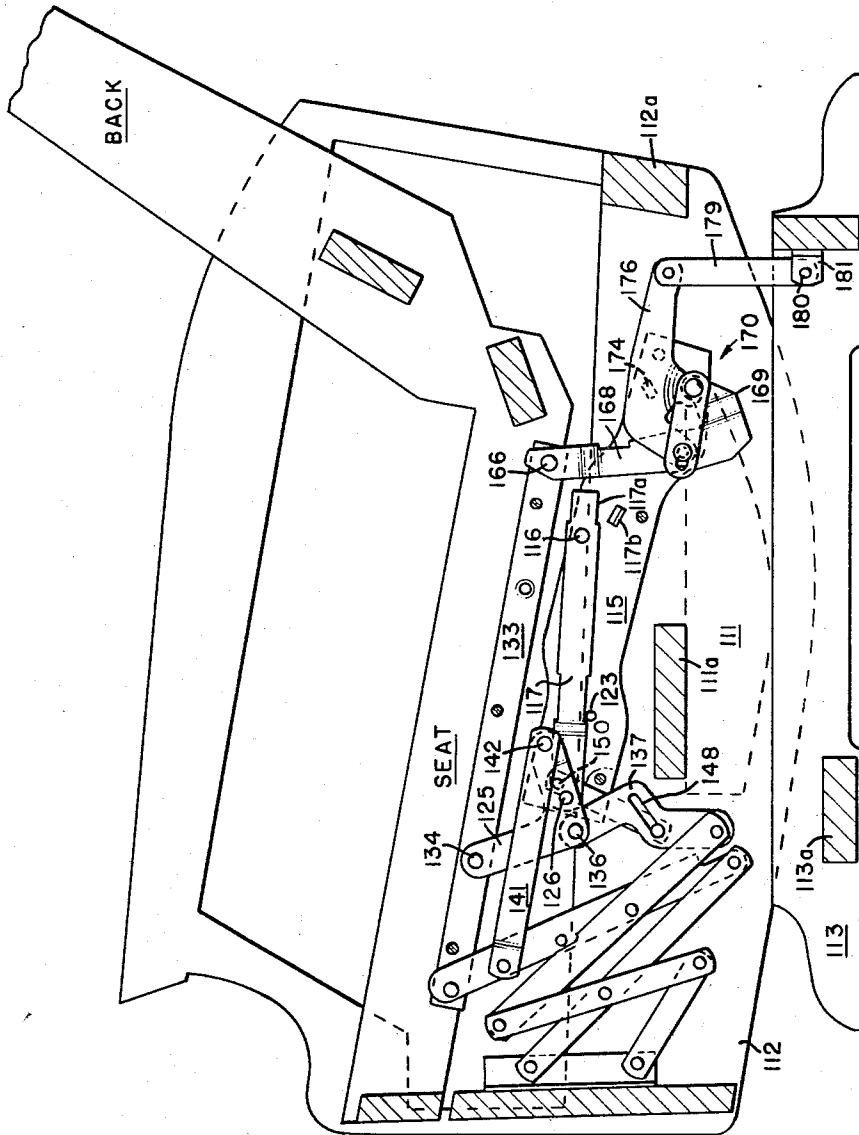


FIG. 6.

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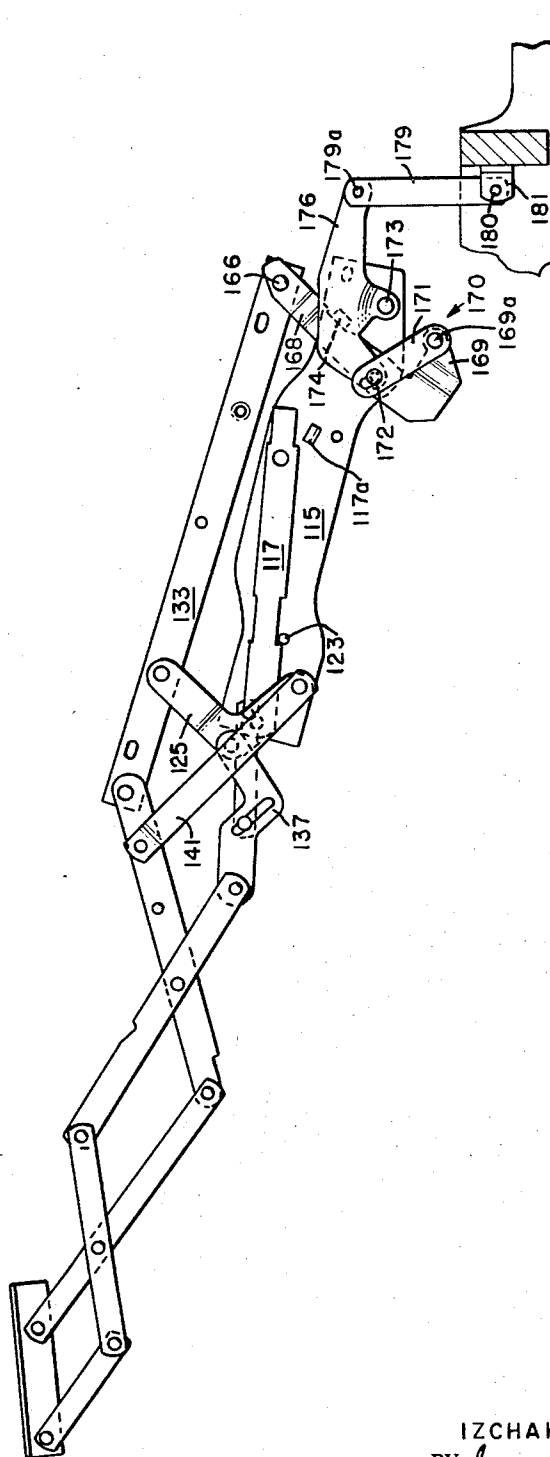
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FIG. 7.



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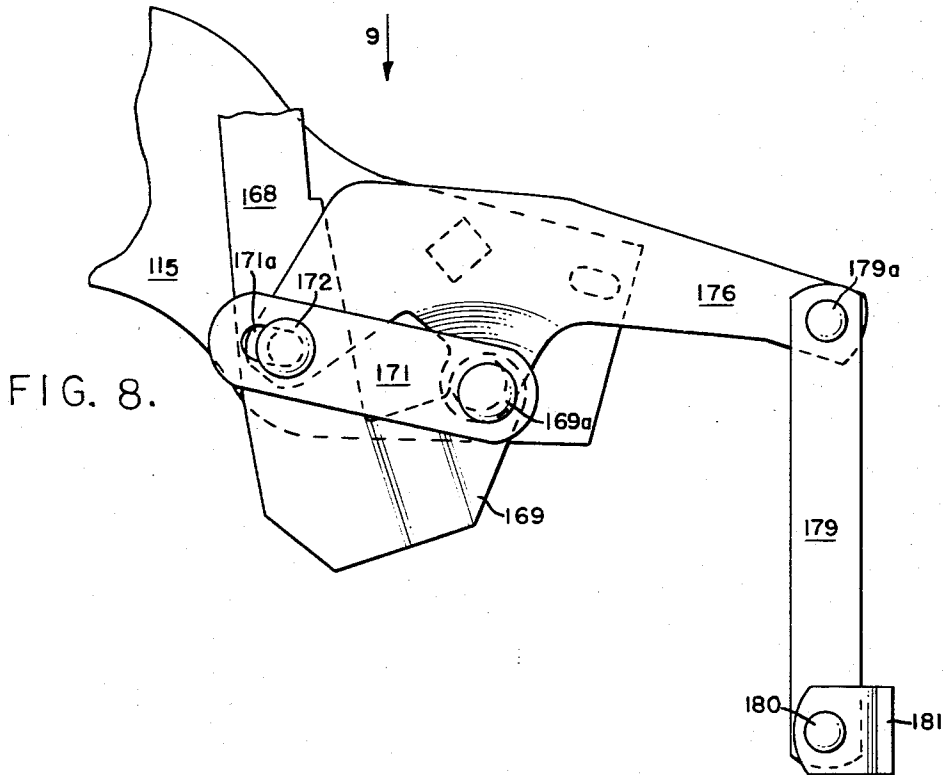
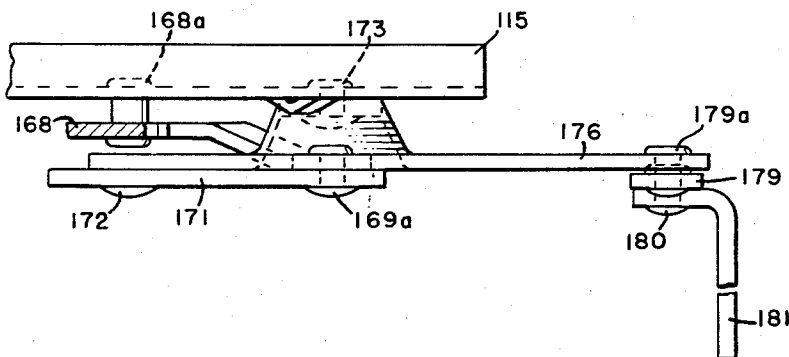


FIG. 9.



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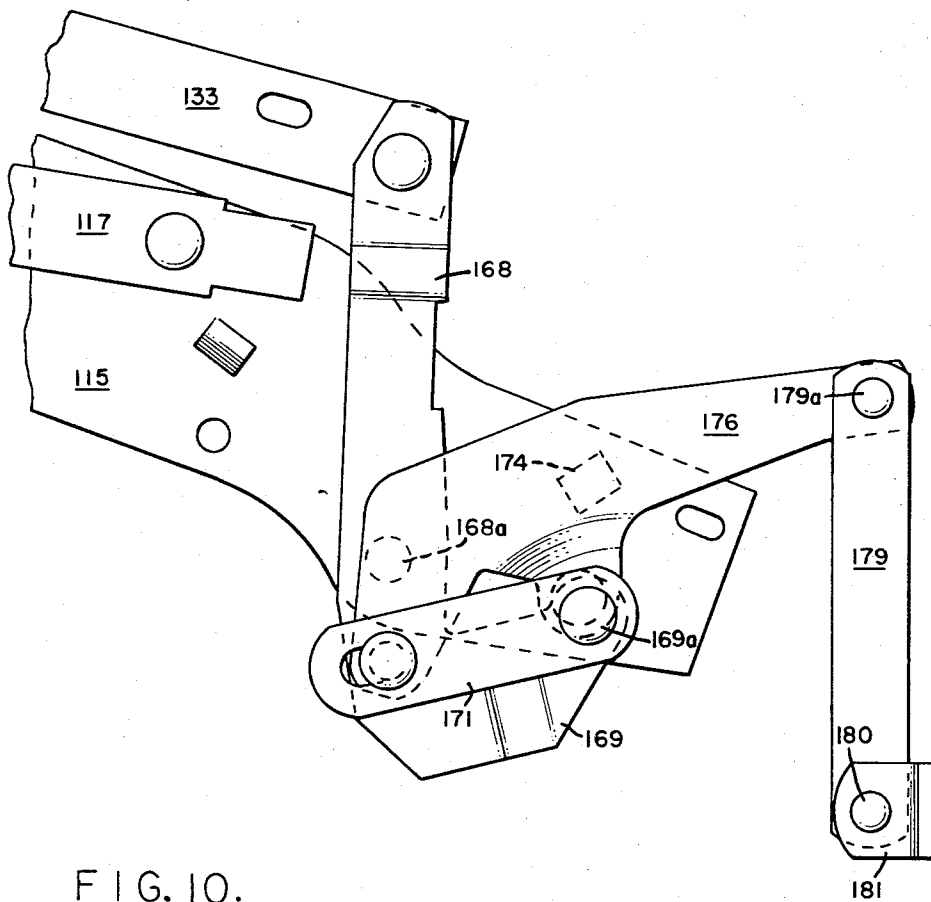


FIG. 10.

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7 Claims. (Cl. 297-85)

ABSTRACT OF THE DISCLOSURE

A linkage assembly for chairs of the rocking-reclining type which blocks reclining movement of the chair as the chair is rocked, and which prevents rocking movement of the chair as the chair is reclined.

The present invention relates to reclining chairs and more particularly to a chair commonly known as a rocker-recliner type.

In prior art chairs of the rocker-recliner type, one of the problems which is very much in evidence is that when such chairs are rocked in a rearward position, there is a tendency for the footrest to move forward from its normal position, secured adjacent the underside of the front part of the seating cushion. Additionally, I have found that in the rocker-recliners heretofore known, no satisfactory mechanism has yet been devised which will securely block rearward rocking motion of the chair when such chair is in a reclined position.

It is, therefore, an object of this invention to provide a mechanism which functions to render the rocking mechanism inoperative whenever the chair is in any of its reclined positions.

It is a further object of this invention to provide a mechanism which is effective to prevent reclining movement of the chair when the chair is in a rocked position.

Another object of this invention is to provide a chair of the rocker-recliner type wherein no forward movement of the footrest is possible as the chair is being rocked rearwardly.

The invention is illustrated in a preferred embodiment in the accompanying drawings, in which:

FIG. 1 is a side elevational view, with parts removed, of a first embodiment of a rocker-recliner chair, the chair being shown in the upright, sitting position;

FIG. 2 is a side elevational view of the linkage mechanism of FIG. 1, such mechanism being shown oriented in the position it assumes when the chair of FIG. 1 is reclined to its TV position;

FIG. 3 is an enlarged side elevational view of the blocking mechanism indicated by the arrow 70 of FIG. 1;

FIG. 4 is a plan view of the mechanism of FIG. 3;

FIG. 5 is a side elevational view of the blocking mechanism of FIG. 3 in a position where it is operative to block reclining movement of the chair when the chair is in a rearwardly rocked position;

FIG. 6 is a side elevational view, with parts removed, of a second embodiment of a rocker-recliner chair, the chair being shown in the upright sitting position;

FIG. 7 is a side elevational view of the linkage mechanism of FIG. 6, such mechanism being shown oriented in the position it assumes when the chair of FIG. 6 is reclined to its TV position;

FIG. 8 is an enlarged side elevational view of the blocking mechanism indicated by the arrow 170 of FIG. 6;

FIG. 9 is a plan view of the mechanism of FIG. 8; and

FIG. 10 is a side elevational view of the blocking mechanism shown in FIGS. 6-9, such blocking mechanism in a position where it is operative to block reclining movement of the chair when said chair is in a rearwardly rocked position.

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Referring to FIG. 1, a rocker-recliner has a chassis comprising inter-connected rocker members 11 and side frame members 12, said chassis being supported for rocking movement on base members 13.

The rocker members, side frame members, and base members may be connected by cross members 11a, 12a, and 13a, as desired to give the necessary structural stability, and the rocker members are secured to the side frame members and operatively connected to the base in a manner well known to those skilled in the art to which this invention pertains.

To each side frame member there is attached a linkage mechanism of the type shown in FIG. 1 and, since both such linkage mechanisms are the same, for the purpose of illustrating the instant invention, only one such mechanism will be described in detail, it being understood that the corresponding mechanism is the same in all substantial respects to that shown and described.

For purposes of reference, the chair of FIG. 1 has its forward end to the left of FIG. 1 and its rearward end to the right of FIG. 1. The linkage mechanism shown is that which is attached to the inner side of the side frame member located to the right of a person sitting in the chair of FIG. 1 and facing forwardly, the forward direction being to the left of FIG. 1, as mentioned hereinabove.

Fixedly attached to each side frame member is a mounting plate 15. Intermediate its ends, the mounting plate has pivotally attached to it, at 16, a forward carrier link 17 and a rear carrier link 18, the rear carrier link having its pivotal connection 19, to the mounting plate 15, located rearwardly of the forward carrier link pivotal connection 16.

The distal ends of each of said carrier links 17 and 18 are supported on stops 23 and 24, respectively, secured to the mounting plate, when the chair is in the normal position of FIG. 1.

Pivotally connected to the forward ends of each of the carrier links are a pair of supporting members, i.e., a first forward supporting member 25 pivotally attached to the forward carrier link 17 at a pivot 26, and a second rearward supporting member 28 pivotally attached to the rear carrier link 18 at a pivot 29. Each of said supporting members 25, 28 has one of its ends pivotally connected to a seat mounting link 33 at the points 34, 35, respectively.

The forward supporting member is pivotally connected intermediate its ends, at the point 36, to a legrest actuating lever 37, and, at its end 39 remote from the pivot 34, it is pivotally connected to a legrest control lever 41 at the pivot 42.

The rear supporting member 28, as mentioned above, has a pivotal connection with the seat mounting link 33 at the pivot 35, and is pivotally connected at 29, intermediate its ends, with the rear carrier link 18. One arm of the rear supporting member has a slot 48 formed therein for a purpose hereinafter described.

Pivotally mounted on the main mounting plate 15, at a point co-axial with the pivot 29, is a sequencing link 51 which has a pin 52 extending from one surface thereof, said pin being received in the slot 48 formed in the rear supporting member.

A connecting link 54 is pivotally connected at its opposite ends 55, 56 to the rear portions of the front carrier link 17 and the rear carrier link 18 at the points 57, 58, respectively.

A back mounting link 62, which is securely fastened to the backrest 63 of the chair, has one end thereof pivotally connected at 65 to the rear end of the seat mounting link 33. Pivotally connected to said back mounting link, at the pivot 66, rearwardly of said seat mounting link/back

mounting link connection 65, is a back carrier link 68. The back carrier link 68 extends in a downwardly direction from the back mounting link and, at its lower extremity, has a rearwardly extending portion 69, as more clearly shown in FIGS. 3-5. Said carrier link 68 is operatively connected to a blocking/locking means generally indicated by the arrow 70. The rearwardly directed extension 69 of the back carrier link 68 is pivotally connected to the main mounting plate 15 at a pivot 72. A first blocking link 73 is pivotally connected at one end thereof to the back carrier link at a movable pivot 74. The first blocking link 73, which has an offset portion as clearly shown in FIG. 4, has a slot formed intermediate its ends, which slot receives a pin 75 secured to a second blocking link 76. Said second blocking link 76 is pivotally connected at its leftmost end by the pivot 77 to a mounting bracket 78 secured to the main mounting plate 15 and, at its rightmost end, said second blocking link 76 is pivotally connected, at 79a, to one end of a rocker link 79, said rocker link 79 being pivotally connected, by the pivot 80, at its opposite end to a bracket 81 secured to the rocker base 13.

When the linkage mechanism is in the position of FIG. 1, the axis of the pivotal connection 74, connecting the back carrier link extension 69 to the first blocking link 73 at the leftmost end of the latter, and the axis 77 of the pivotal connection, connecting the second blocking link 76 to the mounting bracket 78, are substantially co-axial. Likewise, the axis of the pin 75, secured to the second blocking link 76 and received in the slot formed in the rightmost portion of the first blocking link 73, and the axis of the pivotal connection 72, joining the back carrier link to the main mounting plate, are also substantially co-axial when the linkage mechanism is in the position of FIG. 1.

The chair illustrated in FIG. 1 is capable of being re-oriented from its normal, at rest, upright position of FIG. 1, as follows:

It may be rocked both clockwise and counterclockwise with respect to the normal position of FIG. 1.

It may also be reclined to two distinct positions from that shown in FIG. 1, that is, it may be reclined to a first intermediate position, said first intermediate position being popularly referred to as a TV position, and subsequently to a second fully reclined position, that is, a position wherein a person seated in the chair assumes a more supine position than in the intermediate TV position above described.

When a person seated in the chair desires to recline to the TV position, rearward pressure applied to the seat and/or back of the chair, as by the occupant of the chair grasping the arms of the chair and applying such pressure, causes, the seat mounting link 33 and back mounting link 62 to move rearwardly, thereby causing the forward supporting member 25, the rearward supporting member 28, and the back carrier link 68 to rotate clockwise about the pivots 26, 29 and 72, respectively, each of these pivots remaining fixed during such clockwise movement. Such clockwise motion of the forward supporting member causes the legrest actuating lever 37 and ottoman control link 41 to actuate and limit movement of the ottoman, while the clockwise rotational movement, under control of the sequencing link 51, of the rear carrier link 28, prepares such sequencing link for allowing subsequent movement of the seat and back from the intermediate TV position to the fully reclined position. As the back carrier link 68 rotates clockwise, as above described, it, by means of the connection 74 with the link 73, causes the link 73 and pivot 74 to likewise rotate clockwise about the pivot 75. Such displacement of the pivot 74, from its substantially co-axial alignment with the pivot 77, is effective to block rocking movement of the chair, as more fully described hereinafter.

As the rearward supporting member 28 rotates clockwise about the pivot 29 during reclining movement of

the chair from the upright position of FIG. 1 to the TV position of FIG. 2, the pin 52 secured to the sequencing link 51 is carried along by means of its operative connection, via the slot 48, with said rearward supporting member 28. Those skilled in the art will appreciate that the reception of the pin 52 in the slot 48, and the angular orientation of the sequencing link 51 with respect to the path of travel of the leftmost end of the slot formed in the rearward supporting member 28, makes it impossible for the pivot 29 to be translated from its FIG. 1 position until the pin 52 has rotated clockwise about the pivot 29 to such an extent that said pin 52 is free to move longitudinally relative to the slot 48 formed in the supporting member 28. Such longitudinal movement of the pin 52 is possible once the intermediate TV position has been reached and the linkage mechanism is in the position of FIG. 2. When the edge 28a of the rearward supporting member 28 abuts the stop 33a, the chair is in its TV position.

As above-mentioned, the chair of FIG. 1 may be reclined to two separate positions from that shown in FIG. 1, namely, the TV position of FIG. 2 and a fully reclined position. Inasmuch as the apparatus of the present invention which prevents rocking movement is fully operative prior to the time the chair is reclined to the TV position of FIG. 2, it is not deemed necessary herein to show the chair in its fully reclined position. Suffice it to say that in going from the TV position of FIG. 2 to the fully reclined position, not shown, the chair occupant exerts a further rearwardly directed force against the chair back 63. Such force causes clockwise movement of the rear carrier link 18 about its pivot 19 simultaneously with a rising movement of the rearward supporting member 28, which member, of course, is now free to rise along with the pivot 29 inasmuch as sliding movement of the pin 52 relative to the slot 48 is now possible. As the rear carrier link 18 rotates clockwise, it actuates the forward carrier link 17, via the connecting link 54, to cause clockwise rotation of said forward carrier link about its pivot 16. Such movement continues until the upper surface 18a of the rear carrier link 18 abuts the surface 78a of bracket member 78, whereupon the chair is in its fully reclined position.

When it is desired to collapse the chair from either the TV position or the fully reclined position, the occupant of the chair may accomplish such collapsing movement in a procedure the reverse of that described above.

The chair of FIG. 1 may be rocked rearwardly in the normal manner, for example, as when the occupant presses his feet against the floor to cause the chair to rock in a clockwise direction, the rocker 11 being mounted for rocking movement on the base 13. As the chair rocks rearwardly, the first and second blocking links 73 and 76 rotate, in unison, counterclockwise relative to the main mounting plate 15, about their respective pivots 74 and 77 while the back carrier link 68, being effectively coupled to the main mounting plate 15, rotates in unison with said plate 15. Simultaneously with the latter described movement of the links 73, 76 and 68, pivotal movement of the second blocking link 76 about the pivot 79a occurs, as does slight counterclockwise movement of the rocker link 79 about the pivot 80. Such movement causes the pivots 72 and 75 to be displaced from their substantial axial alignment of FIG. 1 to the relative positions of FIG. 5. Such translation of these pivots is effective to block the linkage mechanism in a manner such that no-reclining movement of the chair is possible whenever the chair is in a rearwardly rocked position.

It will be appreciated from the above that, in order for the linkage mechanism of FIG. 1 to be able to be re-oriented from its FIG. 1 position to either of its reclining positions, it is necessary that the axis of the pivots 72, 75 be in substantial axial alignment to allow the pivot 74 to rotate in a clockwise direction therearound, and such pivots 72, 75 are displaced from axial alignment when the

chair is rocked rearwardly. As a result, therefore, whenever the chair is rocked rearwardly from the position of FIG. 1, reclining movement of the chair is blocked and, as a consequence, no extension of the ottoman is possible, such ottoman movement being possible only during reclining movement of the chair.

Rocking movement of the chair is likewise effectively blocked when the chair is reclined from the FIG. 1 position due to the fact that, as above described, when the chair is in any of its reclined positions, the pivot pins 74 and 77 are displaced from their substantially co-axial alignment and, thus, the first and second blocking links 73 and 76 cannot rotate in unison around both such pivots.

Those skilled in the art to which this invention pertains will appreciate that the axes 74 and 77 are slightly offset relative to each other as shown because, during rearward rocking movement, as force is applied to rotate the links 73 and 76 about their pivots 74 and 77, respectively, the pivot 74 will tend to rotate counterclockwise about 77. As a result, the link 69 will also tend to rotate slightly counterclockwise around 72 and tighten up the ottoman in its non-extended position by first tightening up all pivot connections which, in rocker-recliner mechanisms, are desirably provided with slight clearances for satisfactory operation. Such force will tend to flex the links and components elastically. In such rearward rocking movement, the axes 74 and 77 will tend to become more axially aligned because of clearance provided in the pivotal connections 74, 75 and 77, and flexing of the links 73 and 76. The axes 74 and 77 will not become exactly axially aligned, however, such movement merely tending to tighten up the ottoman in its retracted position while rocking backwards.

In FIGS. 6-10, I have shown a second embodiment of my invention. In this embodiment, the invention is shown utilized in connection with a rocker-recliner of the restor type. A rock-recliner of the restor type, as is well known in the art, differs from the chair of FIGS. 1-5 in that it is constructed in such a manner that, as the chair is reclined from its TV to its fully reclined position, the angle between the back and seat is not allowed to increase.

The chair of FIGS. 6-10 is capable of both reclining and rocking movement similar to that of the chair of FIGS. 1-5, and the blocking mechanism indicated by the arrow 170 of FIG. 6 is effective to block rocking movement of the chair when such chair is reclined, and block reclining movement of the chair when it is rocked rearwardly.

In FIG. 6, which is similar to FIG. 1 and shows the linkage mechanism located on one side of a chair, it being understood that a similar mechanism is attached to the other side of the chair, a chassis comprising interconnected rocker members 111 and side frame members 112 is supported on a base 113 in similar fashion to that shown in FIG. 1. A main mounting plate 115 is attached to the side frame member 112.

Pivotaly attached to the main mounting plate 115 at a pivot 116 is a supporting lever 117 which rests on a stop 123 carried by the plate 115. A forward supporting member 125 is pivotaly connected to the lever 117 at a pivot 126. The forward supporting member 125 has one of its ends pivotaly connected at 134 to a seat mounting link 133, and, at its end remote from the pivot 134, the member 125 is pivotaly connected at 142 to a legrest control lever 141. Intermediate its ends, the forward supporting member 125 has pivotaly connected to it, at a pivot 136, a legrest actuating link 137.

A link 151 is pivotaly mounted on the mounting plate 115 at a pivot 150. The link 150 carries a pin 152 on its end remote from the pivot 150, and such pin is received in a slot 148 formed in the link 137.

The rearward end of the seat mounting link 133 is pivotaly connected by a pivot 166 to an L-shaped link 168 which, as seen in FIG. 6, extends downwardly from the pivot 166 and has a rearwardly extending portion 169 at its lower end. The L-shaped link 168 is pivotaly supported

on the main mounting plate 115 by the pivot 168a, FIG. 10. Pivotaly attached to said rearward extension 169, at the pivot 169a, is a first blocking link 171. The blocking link 171 has a slot 171a formed therein. The slot 171a receives a pin 172 carried by one end of a second blocking link 176 which is pivotaly mounted at 173 on the main mounting plate 115. At its end remote from the pivot 172, the second blocking link 176 is connected to a rocker link 179 by the pivot 179a, said rocker link 179 being supported at its lower end on a pivot 180 carried by a bracket 181 affixed to the chair base 113.

When the chair is in the normal upright sitting position of FIG. 6, the pivots 169a and 173 are in substantially axial alignment and in order for the chair to be rocked rearwardly from its FIG. 6 position, such pivots 170 and 171 must remain in the substantially axial alignment shown in FIGS. 6 and 8.

The pivots 168a, 172 are likewise in substantially axial alignment when the chair is in the position of FIG. 6 and, in order for the chair to be reclined from the position shown in FIG. 6 to the position of FIG. 7, it is necessary that both of such pivots 168a, 172 remain in such alignment.

Reclining movement of the chair of FIG. 6 is accomplished by the occupant of the chair grasping the chair's arms and applying rearward pressure to the back of the chair. Such pressure causes the seat mounting link 133 to move rearwardly, thereby rotating the forward supporting member 125 in a clockwise direction about its pivot 126, and causing clockwise rotation of the L-shaped link 168 about the pivots 168a and 172. Movement of the chair from its upright position of FIG. 6 of its intermediate TV position of FIG. 7 is complete when the L-shaped link 168 abuts the stop 174, as shown in FIG. 7. The above described clockwise rotation of the forward supporting member 125 causes the legrest actuating lever 137 and the ottoman control link 141 to actuate and limit movement of the ottoman, while the clockwise rotational movement of the L-shaped link 168 about its pivot 168a causes a displacement of the pivots 169a, 173 from their substantially axial alignment of FIG. 6. Such displacement of the pivots 169a, 173 begins when reclining movement of the chair is begun and when the chair has been reclined to its intermediate TV position, the pivots 169a, 173 are displaced as shown in FIG. 7. Such displacement of pivot 169a, from its substantially co-axial alignment with the pivot 173, is effective to block rocking movement of the chair as more fully described below.

In order to recline the chair from the intermediate TV position of FIG. 7 to a fully reclined position, not shown, the chair occupant may exert a further rearwardly directed force against the back of the chair. Such force will be effective to rotate the seat mounting link 133 clockwise about the pivot 166. As the seat mounting link 133 moves clockwise, it will, through the pivotal connection 134 with the front supporting member 125, lift the front supporting member 125. As the front supporting member 125 moves upwardly, it will carry with it the leftmost end of the supporting lever 117 which, it will be recalled, is pivotaly connected to said forward supporting member at the pivot 126. The above described movement of the seat mounting link 133, forward supporting member 125, and supporting lever 117 continues until the supporting lever 117 has moved clockwise around the pivot 116 a sufficient distance such that the surface 117a of the supporting lever 117 abuts the stop 117b, at which time the chair will be in its fully reclined position.

When it is desired to collapse the chair from a reclined position, such collapsing movement may be accomplished by the occupant of the chair in a procedure the reverse of that described above.

The chair of FIG. 6 may be rocked rearwardly as described above in connection with the chair of FIG. 1. As the chair of FIG. 6 rocks rearwardly, the rightmost

end, FIG. 6, of the main mounting link 115 moves in a downwardly direction and, by means of the pivotal connection 173 with the second blocking link 176, pulls said second blocking link 176 along with it in such a manner that said second blocking link 176 rotates counterclockwise about the pivot 179a. During this movement, the pivot 179a is translated slightly leftwardly, FIG. 10, as the rocker link 179 moves counterclockwise slightly around the fixed pivot 180. In consequence of the above described action, the second blocking link 176 moves counterclockwise around the substantially axially aligned pivots 169a and 173 to cause relative displacement of the axes 168a and 172 as shown in FIG. 10, which displacement is effective to block reclining movement of the chair.

From the above description, it will be apparent that in order for the chair of FIG. 6 to undergo reclining movement, the axes 168a and 172 must be in substantially axial alignment and, in order for such chair to undergo rearward rocking movement, the axes 169a and 173 must be in substantially axial alignment, and that whenever the chair is reclined, the axes 169a and 173 are displaced from such axial alignment, while the axes 168a and 172 are displaced whenever the chair is rocked rearwardly from the position of FIG. 6.

In both of the above described embodiments, the footrest actuating linkage is actuated during reclining movement of the chair, but not during rearward rocking movement, and since reclining movement is blocked whenever the chairs of FIGS. 1 and 6 are rocker rearwardly, it will thus be appreciated that I have provided a rocker-recliner chair wherein no objectionable extension of the footrest will be encountered during rearward rocking movement of the chair. Furthermore, it will be apparent that my improved chair has the added advantage of being one wherein no objectionable rearward rocking movement occurs while such chair is in a reclined position.

Having thus described my invention, I claim:

1. A rocker-recliner chair having a base, a chassis mounted on said base for rocking movement and reclining movement relative to said base, a footrest operatively connected to said chassis, linkage means operable upon reclining movement of said chassis to actuate said footrest and prevent rocking movement of said chair and operable upon rocking movement of said chair to prevent reclining movement of said chair and actuation of said footrest, said prevention of rocking movement occurring substantially simultaneously with the initiation of reclining movement of said chassis, and said prevention of reclining movement occurring substantially simultaneously with the initiation of rocking movement of said chassis.

2. A rocker-recliner chair including a base, a chassis mounted on said base, said chassis having a plurality of side frame members, a mounting plate attached to each said side frame member, linkage means mounted on each said main mounting plate and operatively connected between each said side frame member and said base, a footrest mounted on said linkage means, said linkage means operable to permit a first reclining movement of said chassis and actuation of said footrest, and a second rocking movement of said chassis relative to said base, said linkage mechanism being operable to block rocking movement of said chassis upon reclining movement of said chassis and operable to block reclining movement of said chassis and actuation of said footrest upon rocking movement of said chassis, said prevention of rocking movement occurring substantially simultaneously with the initiation of reclining movement of said chassis, and said prevention of reclining movement occurring substantially simultaneously with the initiation of rocking movement of said chassis.

3. A rocker-recliner chair including a base, a chassis mounted on said base, said chassis having a plurality

of side frame members, a mounting plate attached to each side frame member, linkage means mounted on each said main mounting plate and operatively connected between each said side frame member and said base, a footrest mounted on said linkage means, said linkage means operable to permit a first reclining movement of said chassis and actuation of said footrest, and a second rocking movement of said chassis relative to said base, said linkage mechanism being operable to block rocking movement of said chassis upon reclining movement of said chassis and operable to block reclining movement of said chassis and actuation of said footrest upon rocking movement of said chassis, said linkage mechanism including a forward carrier member and a rearward carrier member pivotally connected to said main mounting plate, an actuator link pivotally connected between said carrier members, a supporting member pivotally attached to each of said carrier members, a seat mounting link having pivotal connections intermediate its ends with said supporting members, legrest actuating and control means pivotally interconnected to one of said supporting members and one end of said seat mounting link, a back mounting link having one end thereof pivotally connected to the other end of said seat mounting link, a back supporting member having one end pivotally connected to said back mounting link and its other end pivotally connected to said main mounting plate, a first blocking link pivotally connected at a movable pivot to said back supporting member, a second blocking link, coupling means operatively connecting said second blocking link to said first blocking link, said second blocking link mounted at one of its ends on a stationary pivot attached to said main mounting plate and a rocker link, said rocker link pivotally supported at one end on said base and having its other end pivotally connected to the other end of said second blocking link.

4. The invention of claim 3 wherein during reclining movement of said chassis, said blocking links undergo relative movement about said coupling means to block rocking movement of said chassis.

5. The invention of claim 3 wherein during rocking movement of said chassis said back supporting member and said blocking links are moved relative to each other to block reclining movement of said chassis.

6. A rocker-recliner chair including a base, a chassis mounted on said base, said chassis having a plurality of side frame members, a mounting plate attached to each side frame member, linkage means mounted on each said main mounting plate and operatively connected between each said side frame member and said base, a footrest mounted on said linkage means, said linkage means operable to permit a first reclining movement of said chassis and actuation of said footrest, and a second rocking movement of said chassis relative to said base, said linkage mechanism being operable to block rocking movement of said chassis upon reclining movement of said chassis and operable to block reclining movement of said chassis and actuation of said footrest upon rocking movement of said chassis, said linkage mechanism including a forward carrier member and a rearward carrier member pivotally connected to said mounting plate, an actuator link pivotally connected between said carrier members, a supporting member pivotally attached to each of said carrier members, a seat mounting link having pivotal connections intermediate its ends with said supporting members, legrest actuating and control means pivotally interconnected to one of said supporting members and one end of said seat mounting link, a back mounting link having one end thereof pivotally connected to the other end of said seat mounting link, a back supporting member having one end pivotally connected to said back mounting link and its other end pivotally connected to said main mounting plate, a first blocking link pivotally connected at a movable pivot to

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said back supporting member, a second blocking link, coupling means operatively connecting said second blocking link to said first blocking link, said second blocking link mounted at one of its ends on a stationary pivot attached to said main mounting plate and a rocker link, said rocker link pivotally supported at one end on said base and having its other end pivotally connected to the other end of said second blocking link, wherein during reclining movement of said chassis, said blocking links undergo relative movement about said coupling means to block rocking movement of said chassis, and wherein during rocking movement of said chassis said back supporting member and said blocking links are moved relative to each other to block reclining movement of said chassis.

7. In a chair having a base and a chassis mounted on said base for movement relative to said base, control means operatively connected between said chassis and said base to control movement of said chassis relative to said base, said control means comprising a first link pivotally connected to said chassis, a control link pivotally connected to said first link, an additional control link pivotally connected between said control link and

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said chassis, and a rocker link pivotally connected between said additional control link and said base, said control link being movable during a first movement of said chair to constrain movement of said additional control link, said additional control link being movable during a second movement of said chair to constrain movement of said control link.

References Cited

UNITED STATES PATENTS

2,746,519	5/1956	Krikorian	297—269
3,163,464	12/1964	Martin et al.	297—85
3,235,307	2/1966	Knabusch et al.	297—69 X
3,243,226	3/1966	Katz	297—85
3,243,227	3/1966	Katz	297—85

FOREIGN PATENTS

1,380,124 10/1964 France.

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