April 23, 1963 P. S. FLETCHER 3,086,814

RECLINING CHAIR OF THE MULTIPLE MOVEMENT TYPE

Original Filed Aug. 3, 1956 3 Sheets-Sheet 1

FIG. 1.

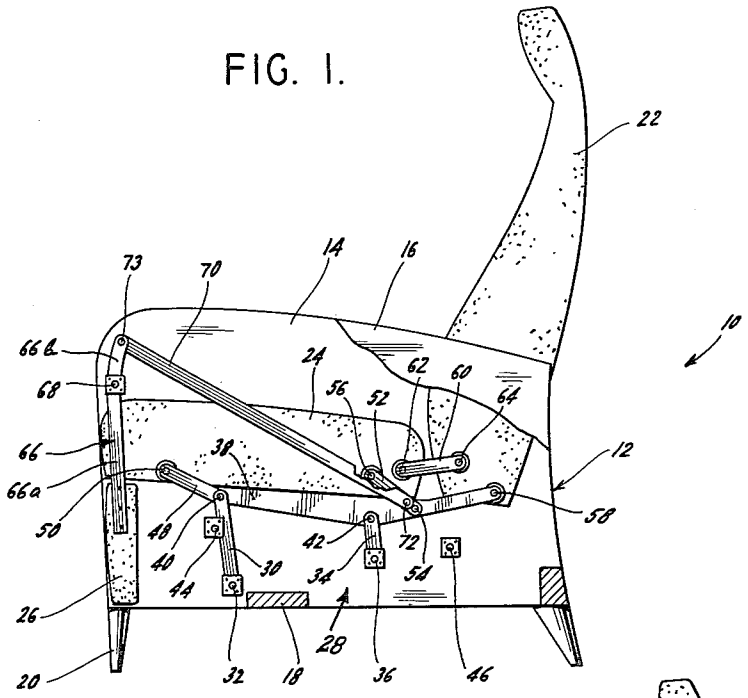
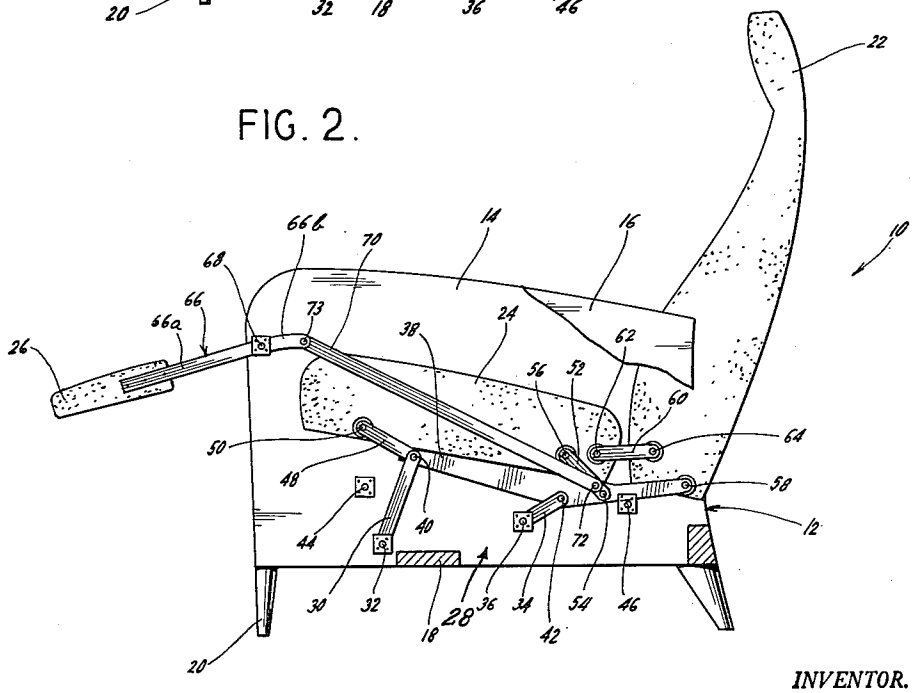


FIG. 2.



INVENTOR.
PETER S. FLETCHER
BY
Amster + Levy
ATTORNEYS

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FIG. 3.

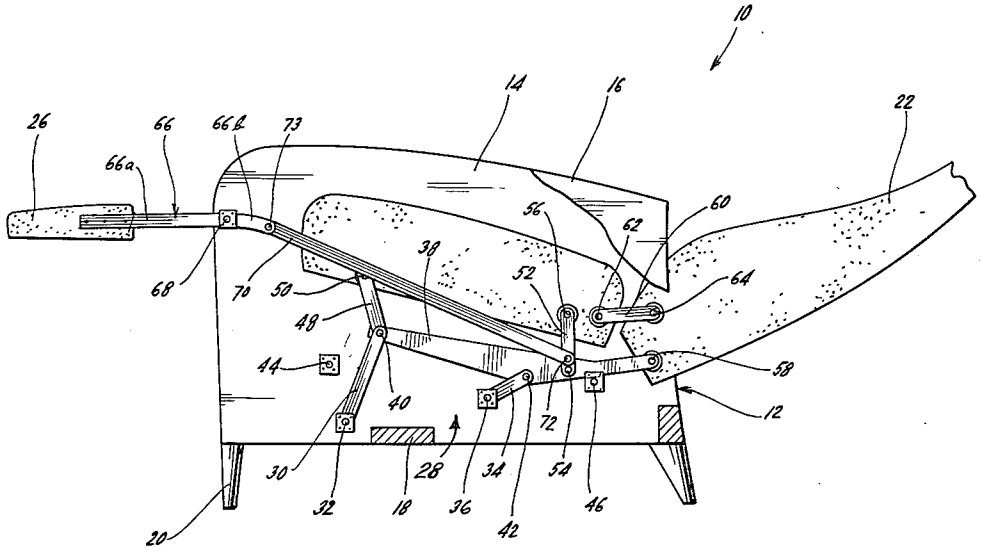
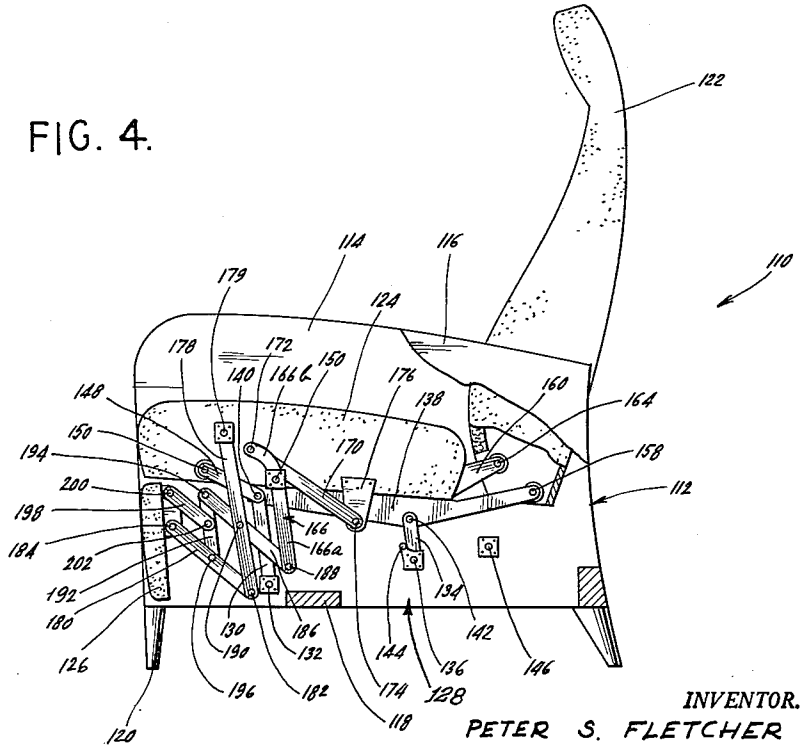


FIG. 4.



INVENTOR.
PETER S. FLETCHER
BY
Amster & Levy
ATTORNEYS

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FIG. 5.

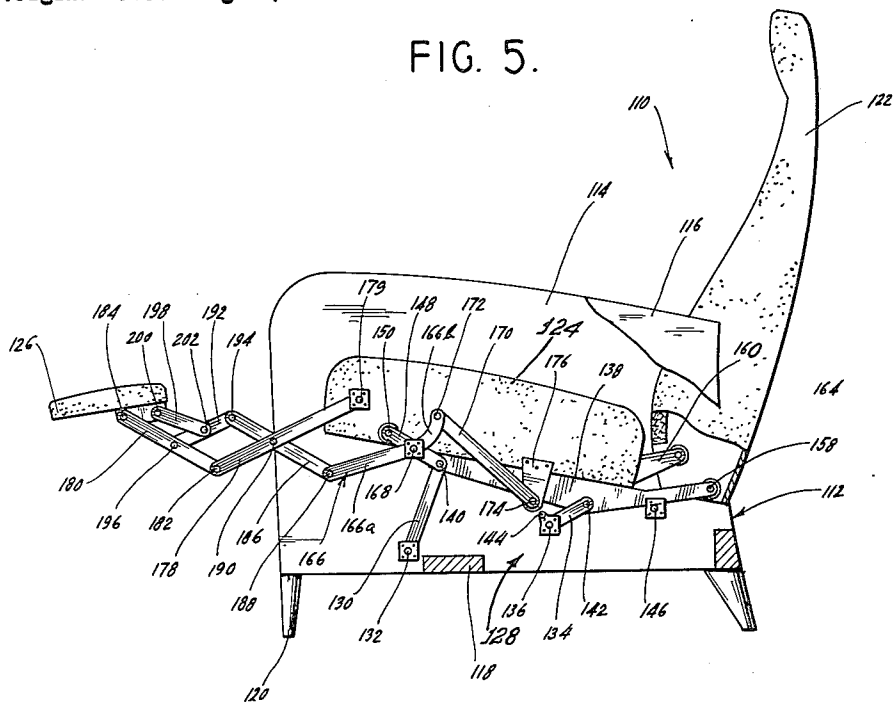
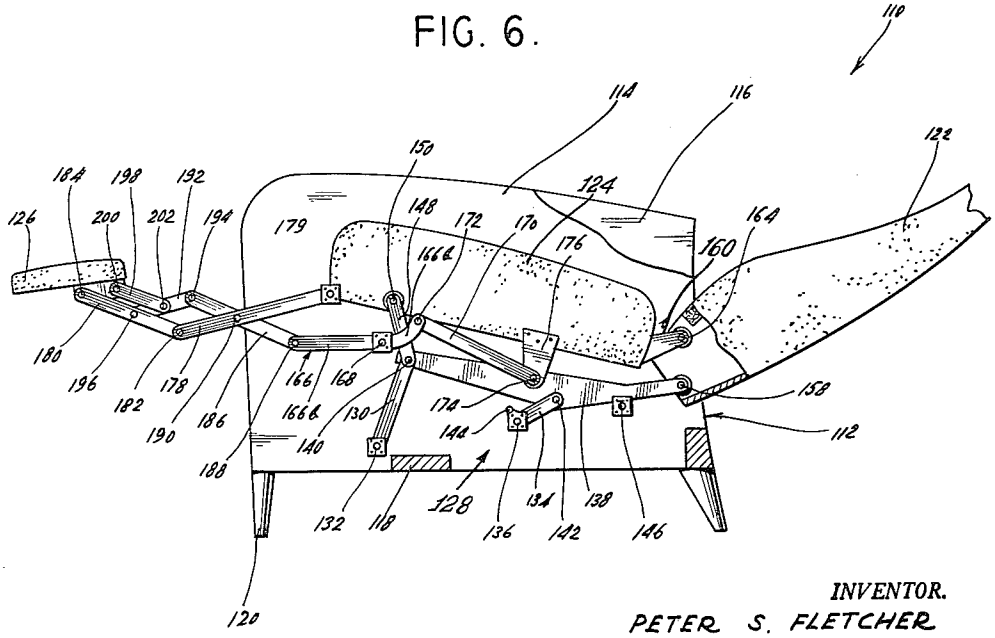


FIG. 6.



INVENTOR.
PETER S. FLETCHER
BY Amster + Levy
ATTORNEYS

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RECLINING CHAIR OF THE MULTIPLE MOVEMENT TYPE

Peter S. Fletcher, Delray Beach, Fla., assignor to Anton Lorenz, Boynton Beach, Fla.

Continuation of application Ser. No. 601,885, Aug. 3, 1956. This application June 15, 1959, Ser. No. 820,431
10 Claims. (Cl. 297—84)

The present invention relates to reclining chairs, and in particular to an improved reclining chair of the type including body-supporting means having a movable back-rest and movable seat which are coordinated with each other to include at least two distinct phases of chair movement. This is a continuation of my earlier filed application Serial No. 601,885, filed August 3, 1956, and entitled Movable Reclining Chair With Back-Rest, Seat and Leg-Rest, now abandoned.

The well known reclining chair comprises a support, body-supporting meaans including a back-rest and seat movably mounted on the support, and a leg-rest mounted beneath the seat and movable into various elevated leg-supporting positions, with appropriate means coordinating the back-rest, seat and leg-rest for the requisite chair movement. Heretofore, there have been two distinct types of reclining chairs, those constructed with a rigid body-supporting unit including a unitary back-rest and seat mounted on the support for movement into various tilted positions and those constructed with a movable back-rest and movable seat mounted on the support for reclining and inclining movement respectively. Chairs of the type incorporating a rigid or unitary seat and back-rest unit were found to be most suitable for accommodating the chair occupant in a tilted-back position, but in a sitting attitude, with the occupant's legs supported on the elevated leg-rest. Such chairs are particularly suitable for accommodating the chair occupant in an attitude appropriate for television viewing, reading, sewing and like activities. Chairs of the type incorporating a movable back-rest and movable seat are suitable for complete and full relaxation in that the angle between the back-rest and seat increases in response to reclining movement of the chair to comfortably accommodate the chair occupant in a stretched out or fully reclined attitude.

Broadly, it is an object of the present invention to provide an improved reclining chair which exhibits attributes of both types of chairs which have been heretofore sold, to wit those suitable for accommodating the chair occupant in a tilted-back sitting attitude and those suitable for accommodating the chair occupant in a fully reclined or complete relaxation attitude.

Specifically, it is within the contemplation of the present invention to provide an improved reclining chair wherein in a first movement phase from a sitting position to an intermediate tilted sitting position, during which there is substantially no angular displacement between the back-rest and seat, the leg-rest is moved to an elevated leg-supporting position; and in a second movement phase from the intermediate tilted position to a fully reclined position, the angle between the seat and back-rest opens up, with the leg-rest remaining elevated, to establish a complete relaxation or fully reclined attitude. Advantageously, with this type of chair the the functional attributes of chairs having a rigid seat and back-rest and chairs a movable seat and movable back-rest may be realized in a single construction, with the occupant having the added facility to move first to an intermediate tilted sitting position and then through successive complete relaxation positions to a fully reclined position.

In accordance with an illustrative embodiment demonstrating features and advantages of the present invention, my reclining chair of the double movement type comprises a support, body-supporting means including a back-rest and seat adapted to be mounted on the support for reclining and inclining movement respectively, and means movably mounting said body-supporting means on said support for a first movement phase from a sitting position to an intermediate tilted position and for a second movement phase from the intermediate tilted sitting position to a reclining position. The mounting means includes a first linkage providing guide means for the body-supporting means during the first movement phase and a second linkage providing guiding means for the body-supporting means during the second movement phase. The first guide means includes the support as a stationary link thereof and movable links including an intermediate coordinating link, while the second guiding means includes the intermediate coordinating link as a substantially stationary link thereof and the seat and back-rest as movable links thereof.

The above brief description as well as further objects, features and advantages of the present invention will be more fully appreciated by reference to the following detailed description of several presently preferred but illustrative embodiments in accordance with the present invention, when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a side elevational view, with parts broken away and sectioned, showing a reclining chair of the double movement type embodying features of the present invention, with the chair in the upright or sitting position;

FIG. 2 is a side elevational view, similar to FIG. 1, but showing the reclining chair in an intermediate tilted sitting position, with the leg-rest moved to an elevated leg-supporting position;

FIG. 3 is a side elevational view similar to FIG. 2, but showing the reclining chair in a fully reclined position wherein the seat and back-rest have been angularly displaced relative to each other to establish a complete relaxation position for the chair occupant, with the leg-rest disposed in an elevated leg-supporting position;

FIG. 4 is a side elevational view of a modified reclining chair of the double movement type demonstrating further features of the present invention, with the chair shown in the upright or sitting position;

FIG. 5 is a side elevational view similar to FIG. 4, but showing the chair in the intermediate tilted sitting position; and,

FIG. 6 is a side elevational view similar to FIG. 5 but showing the chair in the fully reclined or complete relaxation position.

Referring now specifically to FIGS. 1 to 3 of the drawings, there is shown a reclining chair demonstrating features of the present invention, generally designated by the reference numeral **10**, which includes a support or frame **12** having opposite side walls **14**, **16** interconnected by suitable cross braces **18** and supported on depending legs **20**.

Body-supporting means including a back-rest **22** and a seat **24** are movably mounted on the support for reclining and inclining movement respectively for a first movement phase from the sitting position illustrated in FIG. 1 to the intermediate tilted sitting position illustrated in FIG. 2 and for a second movement phase from the intermediate tilted sitting position illustrated in FIG. 2 through a series of reclining positions to the fully reclined position illustrated in FIG. 3. Disposed beneath the forward end of the seat **24** is a leg-rest **26** which is mounted for movement from a stored or retracted position, as shown in FIG. 1, to a first elevated leg-supporting position, as shown in FIG. 2 and to a further elevated leg-supporting position, as shown

in FIG. 3. As will be described, the leg-rest 26 is coordinated to the back-rest 22 and the seat 24 for movement into an elevated leg-supporting position in response to the first movement phase of the chair, with the leg-rest remaining substantially in the elevated leg-supporting position as the chair moves from the intermediate tilted sitting position shown in FIG. 2 to the fully reclined position shown in FIG. 3.

A mounting arrangement, generally designated by the reference numeral 28, provides respective first and second constrained linkages for guiding the back-rest 22 and the seat 24 during the first and second movement phases of the reclining chair. Specifically, the mounting arrangement 28 includes a first or front guiding link 30 having a pivotal mount 32 adjacent its lower end on the support 12, a second or rear guiding link 34 having a pivotal mount 36 adjacent its lower end on the support 12, and an intermediate coordinating link 38 having respective pivotal connections 40, 42 intermediate its ends to the upper ends of the front and rear guiding links 30, 34 respectively. Links 30, 34 and 38 comprise a first linkage providing a guiding means for the back-rest 22 and the seat 24 between the sitting position of FIG. 1 and the intermediate tilted sitting position of FIG. 2, with the portion of the support intermediate the pivotal mounts 32, 36 for the front and rear guiding links 30, 34 serving as a stationary link of the first linkage and with the front guiding link 30, the portion of the coordinating link 38 intermediate the pivotal connections 40, 42, and the rear guiding link 34 serving as movable links of the first linkage. For all intents and purposes during the first movement phase the back-rest 22 and the seat 24 may be considered to be unitary with the intermediate coordinating link 38 and thus movable as a unit with the link 38 as the first linkage guides the body-supporting means.

A stop 44 is positioned forwardly of and is abutted by the front guiding link 30 to establish the sitting position for the chair while a stop 46 is positioned below the intermediate coordinating link 38 and behind the rear guiding link 34 in position to be abutted by the link 38 to establish the end of the first movement phase and the intermediate tilted sitting position as shown in FIG. 2.

The mounting arrangement 28 further includes a second linkage providing guiding means for the back-rest 22 and the seat 24 during movement between the intermediate tilted sitting position and the various reclining positions. The second or further linkage includes a front guiding link 48 having a pivotal mount at its lower end on the intermediate coordinating link 38 coaxially with the pivotal connection 40 and a pivotal conection 50 at its upper end to the seat contiguous to the forward end thereof and a rear guiding link 52 having a pivotal mount 54 at its lower end on the intermediate coordinating link 38 and a pivotal connection 56 at its upper end to the seat contiguous to the rear end thereof. The back-rest 22 is mounted on the intermediate coordinating link 38 at a back-rest pivot 58, with the linkage being completed by a connecting link 60 having a pivotal connection 62 at its forward end to the seat 24 and a pivotal connection 64 at its rearward end to the back-rest 22 at a point spaced above and forwardly of the back-rest pivot 58 on the link 38. In this embodiment, the second linkage includes the intermediate coordinating link 38 as the stationary link thereof and the back-rest 22 and seat 24 as movable links thereof. Specifically, the second linkage includes a seat control linkage including the portion of the link 38 intermediate the pivotal mounts 40, 54 as the stationary link thereof and the front guiding link 48, the portion of the seat 24 intermediate the pivotal connections 50, 56, and the rear guiding link 52 as movable links thereof and a back-rest control linkage including the portion of the link 38 intermediate the pivots 54, 58 as a stationary link thereof and the rear guiding link 52, the portion of the seat intermediate the pivotal connections 56, 62, the connecting link 60 and a portion of the back-rest intermediate the pivotal connection 64, 58 as movable links thereof. Essentially, the guided action of the seat 24 during the second movement phase may be established to be independent of the guided action of the back-rest, the two control linkages together constituting the guiding means and constrained linkage for the seat and back-rest during the second phase of the reclining movement. The use of such separate but intercoupled linkages for the seat and back-rest controls, respectively, allows for greater flexibility in establishing the relative movement of the seat and back-rest to each other and to the support during the second phase of the chair movement.

In this illustrative embodiment, the leg-rest 26 is mounted for movement into the various elevated leg-supporting positions on a double-arm lever 66 having a pivotal mount 68 intermediate the end thereof on the support 12, with the arm 66*a* thereof being rigidly connected to the leg-rest 26 and with the arm 66*b* thereof having a pivotal connection 73 via a connecting link 70 to the rear guiding link 52 of the second constrained linkage at a point spaced from the pivotal mount 54 thereof on the link 38. Accordingly, during the first movement phase, and in response to the rearward movement of the intermediate coordinating link 38 and the rear guiding link 52 which remained stationary relative thereto, the leg-rest 26 is moved into a first elevated leg-supporting position; and during the second movement phase, and as the rear guiding link 52 turns about its pivotal mount 54 on the link 38, the leg-rest 26 is moved into a further elevated leg-supporting position.

For a better understanding of the operation of my improved double movement type of chair, a typical sequence of operations will now be described in detail:

When the chair occupant is seated in the chair 10 and leans against the back-rest 22, the front and rear guiding links 30, 34 of the first constrained linkage turn about their respective pivotal mounts 32, 36 on the support, with the back-rest 22 and the seat 24 being maintained in a fixed relationship relative to each other. The inclination of the guiding links 30, 34 of the first constrained linkage is selected in relation to the inclination of the guiding links 48, 52 of the second constrained linkage such that considerably less work is required to bring about the actuation of the first constrained linkage as compared to the second constrained linkage and until such time as the first constrained linkage is blocked against further movement. In this connection, it is seen that the front and rear guiding links 30, 34 are inclined only slightly forwardly from a vertical position such that when a relatively small force is exerted against the back-rest 22, such force is sufficient to cause the pivots 40, 42 to move past the vertical position relative to the pivotal mounts 32, 36 and into the limit position established by the stop 46. The front and rear guiding links 48, 52 of the second constrained linkage have a substantial forward inclination such that there is a very pronounced tendency for the first and second constrained linkages to operate in the desired sequence. Incident to the movement of the first constrained linkage, the body-supporting means moves to the intermediate tilted sitting position shown in FIG. 2 with no change in the angular relationship between the back-rest 22 and the seat 24 and simultaneously the leg-rest 26 swings forwardly about its pivotal mount 68 on the support due to the rearwardly directed pull imparted via the connecting link 70 to the actuating arm 66*b* of the double-arm lever 66. When the intermediate coordinating link 38 arrives at the position illustrated in FIG. 2 in abutment with the stop 46, the link thereafter becomes a stationary support to all intents and purposes. As the chair occupant exerts further pressure against the back-rest 22, the chair may be moved from the intermediate tilted sitting position through a series of positions wherein the angle between the seat and back-rest opens up into the fully reclined position of FIG. 3. During the second movement phase, the respective control link-

ages for the back-rest and seat, which are coordinated to each other but which may be independently designed, may be arranged to impart a requisite inclining movement to the seat and reclining movement to the back-rest, with such movements being independently established but interrelated in accordance with the parameters of the respective control linkages. During the second movement phase into the fully reclined position, the rearward turning movement of the rear guiding link **52** about its pivotal mount **54** causes a further rearward pull to be exerted via the connecting link **70** on the actuating arm **66***b* of the mounting lever **66** for the leg-rest **26** whereupon further elevating movement is imparted to the leg-rest, as may be appreciated by progressively inspecting FIGS. 2 and 3.

When the chair occupant desires to restore the chair to the upright sitting position, the occupant merely presses against the leg-rest, whereupon the chair moves in the reverse direction through the second movement phase into the intermediate tilted sitting position, with the chair coming to a pronounced stop at such intermediate tilted sitting position. Thereupon with further pressure on the leg-rest, the chair may be restored to the upright sitting position.

Referring now specifically to FIGS. 4 to 6 of the drawings, there is shown a reclining chair demonstrating features of the present invention, generally designated by the reference numeral **110**, which includes a support or frame **112** having opposie side walls **114**, **116** interconnected by suitable cross braces **118** and supported on depending legs **120**.

Body-supporting means including a back-rest **122** and a seat **124** are movably mounted on the support for reclining and inclining movement respectively for a first movement phase from the sitting position illustrated in FIG. 4 to the intermediate tilted sitting position illustrated in FIG. 5 and for a second movement phase from the intermediate tilted sitting position illustrated in FIG. 5 through a series of reclining positions to the fully reclined position illustrated in FIG. 6. Disposed beneath the forward end of the seat **124** is a leg-rest **126** which is mounted for movement from a stored or retracted position, as shown in FIG. 4 to a first elevated leg-supporting position, as shown in FIG. 5 and to a further elevated leg-supporting position, as shown in FIG. 6. As will be described, the leg-rest **126** is coordinated to the movement of the back-rest **122** and the seat **124** for movement into the elevated leg-supporting position in response to the first movement phase of the chair, with the leg-rest **126** remaining substantially in the elevated leg-supporting position as the chair moves from the intermediate tilted sitting position shown in FIG. 5 to the fully reclined position shown in FIG. 6.

A mounting arrangement, generally designated by the reference numeral **128**, provides respective first and second constrained linkages for guiding the back-rest **122** and the seat **124** during the first and second movement phases of the reclining chair. Specifically, the mounting arrangement includes a front guiding link **130** having a pivotal mount **132** adjacent its lower end on the support **112**, a second or rear guiding link **134** having a pivotal mount **136** adjacent its lower end on the support **112** and an intermediate coordinating link **138** having respective pivotal connections **140**, **142** intermediate its ends to the upper ends of the front and rear guiding links **130**, **134** respectively. Links **130**, **134** and **138** comprise a first constrained linkage providing a guiding means for the back-rest and seat between the sitting position of FIG. 4 and the intermediate tilted sitting position of FIG. 5, with the portion of the support intermediate the pivotal mounts **132**, **136** serving as a stationary link of the constrained linkage and with the front guiding link **130**, the portion of the intermediate coordinating link **138** intermediate the pivotal connections **140**, **142**, and the rear guiding link **134** serving as movable links of the first constrained linkage. For all intents and purposes during the first movement phase the back-rest **122** and the seat **124** may be conidered to be unitary with the intermediate coordinating link **138** and thus movable as a unit with the link **138** as the first constrained linkage guides the body-supporting means during the first movement phase.

A stop **144** is positioned forwardly of the rear guiding link **134** to establish the sitting position for the chair while a stop **146** is positioned below the intermediate coordinating link **138** and behind the rear guiding link **134** in position to be abutted by the link **138** to establish the end of the first movement phase and the intermediate tilted sitting position as shown in FIG. 5.

The mounting arrangement **128** further includes a second constrained linkage providing guiding means for the back-rest **122** and the seat **124** during movement between the tilted position and the various reclining positions, with the second or further constrained linkage including a front guiding link **148** having a pivotal mount on the intermediate coordinating link **138** coaxially with the pivotal connection **140** and a pivotal connection **150** to the seat **124** contiguous to the forward end thereof. The second constrained linkage is completed by the mounting of the back-rest **122** on the intermediate coordinating link **138** at a back-rest pivot **158** and the mounting of the seat **124** on the back-rest **122** via the hanger **160** at a seat pivot **164** spaced above and forwardly of the back-rest pivot **158**. The second constrained linkage includes the portion of the link **138** intermediate the pivotal mount **140** and the back-rest pivot **158** as the stationary link thereof and the front guiding link **148**, the portion of the seat **124** intermediate the pivotal connections **150**, **164**, and the portion of the back-rest intermediate the pivotal connections **156**, **158** as the movable links thereof.

In this illustrative embodiment, the leg-rest **126** is mounted for movement into the several elevated leg-supporting positions by a leg-rest mounting and control linkage particularly suited to achieve a relatively long extension of the leg-rest relative to the body-supporting means. Specifically, a double-arm mounting lever **166** is provided having a pivotal mount **168** intermediate its ends on the support, with the arm **166***a* thereof being coupled to the leg-rest **126** as will be described. The arm **166***b* of the double-arm lever **166** is coupled to the seat **124** by a connecting link **170** which has a pivotal connection **172** at its forward end to the arm **166***b* and a pivotal connection **174** at its rearward end to a bracket **176** depending from and rigid with the seat **124**. Forwardly of the double-arm lever **166**, there is arranged a mounting arm **178** having a pivotal mount **179** adjacent its upper end on the support **112**. The mounting arm **178** is coupled to the leg-rest **126** by a connecting link **180** which has a pivotal connection **182** at its rearward end to the lower end of the mounting arm **178** and a pivotal connection **184** at its forward end to the leg-rest **126**. The extensible leg-rest mounting linkage further includes a connecting link **186** which has a pivotal connection **188** at its rearward end to the arm **166***a* of the double-arm lever **166** and a pivotal connection **190** intermediate its ends and at a cross-over point to the mounting arm **178**. A further mounting link **192** is provided which has a pivotal connection **194** at one end thereof to the forward end of the connecting link **186** and a pivotal connection **196** at the other end thereof to an intermediate point of the connecting link **180**, the mounting link **192** being coupled to the leg-rest **126** by a still further connecting link **198** having a pivotal connection **200** at its forward end to the leg-rest **126** at a point spaced from the pivotal connection **184** and a pivotal connection **202** at its rearward end to an intermediate point of the mounting link **192**. The previously described linkage will be recognized as being generally of the lazy-tong type wherein upon movement of the pivot **188** toward the pivotal mount **180** in response to turning movement of the double-arm lever **166**, the interpivoted

links **178, 186** move with a scissor-like action to bring the pivots **182, 194** closer together, with a corresponding extension and elevation of the leg-rest **126.**

For a better understanding of the operation of this embodiment of double movement chair, a typical sequence of operations will now be described in detail:

When the chair occupant is seated in the chair **110** and leans against the back-rest **122,** the front and rear guiding links **130, 134** of the first constrained linkage turn about their respective pivotal mounts **132, 136** on the support, with the back-rest **122** and the seat **124** being maintained in a fixed relationship relative to each other. The inclination of the guiding links **130, 134** of the first constrained linkage is selected in relation to the inclination of the guiding link **148** and the guiding link provided by the portion of the back-rest between pivots **164, 158** of the second constrained linkage such that considerably less work is required to bring about the actuation of the first constrained linkage until such time as the first constrained linkage is blocked against further movement. The front and rear guiding links **130, 134** are inclined slightly forwardly from a vertical position such that a relatively small pressure against the back-rest **122** will cause the pivots **140, 142** to move past a vertical position relative to the pivotal mounts **132, 136** respectively, with the balance being such that the first constrained linkage thereafter moves into the limit position established by the stop **146.** The front and rear guiding links of the second constrained linkage have a substantial forward inclination such that there is a very pronuonced tendency for the first and second constrained linkages to operate in the desired sequence. Incident to the movement of the first constrained linkage, the body-supporting means moves to the intermediate tilted sitting position shown in FIG. 5 with no change in the angular relationship between the back-rest **122** and the seat **124,** and simultaneously the leg-rest swings forwardly about an instantaneous center which is above the top front edge of the seat as defined by the links **166, 178** due to the rearwardly directed pull imparted to the connecting link **170** incident to the rearward displacement of the seat. When the intermediate coordinating link arrives at the position illustrated in FIG. 5 in abutment with the stop **146,** the link becomes a stationary support to all intents and purposes. As the chair occupant exerts further pressure against the back-rest **122,** the chair may be moved from the intermediate tilted sitting position through a series of reclining positions wherein the angle between the seat and back-rest opens up until the body-supporting means moves into the fully reclined position of FIG. 6. During the movement into the fully reclined position, the rearward displacement of the seat **124** causes a further rearward pull to be exerted via the connecting link **170** to the arm **166***b* of the mounting lever **166** whereupon further elevating movement is imparted to the leg-rest, as may be appreciated by progressively inspecting FIGS. 5 and 6.

The first and second linkages which are operative during the first and second phases of chair movement act like constrained linkages due to the sequencing characteristic attained by the disposition of the links and the weight of the chair occupant. This sequencing characteristic may be supplemented by the provision of a sequencing arrangement as disclosed in said copending application Serial No. 601,885. In the appended claims the use of the term "constrained" is intended to connote this characteristic of the first and second linkages.

A latitude of modification, change and substitution is intended in the foregoing disclosure and in some instances some features of the invention will be employed without a corresponding use of other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

I claim:

1. A reclining chair comprising a frame, body-supporting means including a seat and a back-rest, and means mounting said body-supporting means on said frame for a movement from a sitting position to a tilted sitting position with said seat and back-rest in substantially the same relationship relative to each other during said movement to accommodate the chair occupant in a sitting position and for further movement from said tilted position to a reclined position with said seat and back-rest being displaced relative to each other during said further movement to accommodate said chair occupant in various reclined positions, the mounting means including two linkages interconnected with each other at a plurality of pivotal connections, the first of said two linkages including said frame as one of its links, the second of said two linkages including said seat as one of its links, operative means connecting said back-rest to said second linkage to coordinate the movement of said back-rest to that of said seat, said first linkage forming guiding means for said body-supporting means for the movement between said sitting position and said tilted sitting position, said second linkage and said operative means forming guiding means for said body-supporting means for said further movement from said tilted sitting position to said reclined position, and said plurality of pivotal connections between said two linkages forming a constraining means for one linkage by the other for the two independent movements of said body-supporting means.

2. A reclining chair comprising a support, body-supporting means including a back-rest and seat adapted to be mounted on said support for reclining and inclining movement respectively, and means movably mounting said body-supporting means on said support for a first movement phase from a sitting position to an intermediate tilted sitting position and for a second movement phase from said tilted sitting position to a reclining position, the mounting means including a first constrained linkage providing first guiding means for said body-supporting means during movement between said sitting position and said tilted sitting position and a second constrained linkage providing second guiding means for said body-supporting means during movement between said tilted sitting position and said reclining position, said first guiding means including said support as a stationary link thereof and movable links including an intermediate coordinating link, said second guiding means including said intermediate coordinating link as the stationary link thereof and said seat and back-rest as movable links thereof.

3. A reclining chair comprising a support, body-supporting means including a back-rest and seat adapted to be mounted on said support for reclining and inclining movement respectively, and means movably mounting said body-supporting means on said support for a first movement phase from a sitting position to an intermediate tilted sitting position and for a second movement phase from said tilted sitting position to a reclining position, the mounting means including a first constrained linkage providing guiding means for said body-supporting means during movement between said sitting position and said tilted sitting position and a second constrained linkage providing guiding means for said body-supporting means during movement between said tilted sitting position and said reclining position, said first guiding means including said support as a stationary link thereof and movable links including an intermediate coordinating link, said second guiding means including said intermediate coordinating link as the stationary link thereof and said seat and back-rest as movable links thereof, means pivotally mounting said back-rest on said intermediate coordinating link, and means pivotally mounting said seat on said back-rest at a point spaced above the pivotal mount of said back-rest on said intermediate coordinating link.

4. A reclining chair according to claim 1 further characterized by said second linkage remaining substantially immovable relative to said seat during movement of said first linkage maintaining said plurality of pivotal connections substantially immovable relative to said seat during

said movement, said mounting means including blocking means for effectively blocking movement of said first linkage at said tilted sitting position and for initiating movement of said second linkage, said blocked first linkage thereafter maintaining said plurality of pivotal connections substantially stationary as said back rest moves relative to said seat, a leg-rest, and a leg-rest controlling mechanism operatively connected with said body-supporting means and engaged with said leg-rest for displacing same to an elevated leg-supporting position in response to movement of said first linkage and for maintaining said leg-rest substantially immovable relative to said seat during movement of said second linkage.

5. An article of repose for supporting the body of a person, comprising in combination: a base, body-supporting means, a first constrained system including relatively movable supporting means and guiding means, said guiding means being operatively engaged with said supporting means and said base, said supporting means being movable between a first position and a second position to tilt said body-supporting means from a normal sitting position to a tilted sitting position, blocking means on a member of said article for cooperation with said first constrained system so as to prevent said supporting means from a movement beyond said second position, and a second constrained system including a plurality of relatively movable links, said second constrained system being independent of said first constrained system and movably engaged with the supporting means of said first constrained system, at least one of the links of said second constrained system being provided by said body-supporting means, and the movable links of said second constrained system being capable of movement relative to each other and relative to the supporting means of said first constrained system whereby said body-supporting means may be moved beyond said tilted sitting position into an extreme reclined position, said second constrained system including a constrained linkage wherein a seat and a back-rest forming said body-supporting means are movable relative to each other and wherein said back-rest is pivoted to said supporting means of the first constrained system.

6. In an article of repose as claimed in claim 5, said blocking means including a stop arranged on said base for abutting cooperation with a member of said first constrained system.

7. In an article of repose as claimed in claim 5, a leg-rest movable relative to said body-supporting means, and a controlling mechanism operatively connected with said body-supporting means and engaged with said leg-rest for displacing same in dependence on movements of said body supporting means.

8. An article of repose for supporting the body of a person, comprising in combination: a base, body-supporting means, a first constrained system including relatively movable supporting means and guiding means, said guiding means being operatively engaged with said supporting means and said base, said supporting means being movable between a first position and a second position to tilt said body-supporting means from a normal sitting position to a tilted sitting position, blocking means on a member of said article for cooperation with said first constrained system so as to prevent said supporting means from a movement beyond said second position, and a second constrained system including a plurality of relatively movable links, said second constrained system being independent of said first constrained system and movably engaged with the supporting means of said first constrained system, at least one of the links of said second constrained system being provided by said body-supporting means, and the movable links of said second constrained system being capable of movement relative to each other and relative to the supporting means of said first constrained system whereby said body-supporting means may be moved beyond said tilted sitting position into an extreme reclined position, said second constrained system including a back-rest swingably mounted on said supporting means of the first constrained system, a seat, a first connecting link pivoted to said back-rest and the rear end portion of said seat, a second connecting link pivoted to said seat and to said supporting means of the first constrained system, and a third connecting link connected to said seat and to said supporting means for the first constrained system at points remote from the pivotal connections between said second connecting link and said supporting means.

9. An article of repose for supporting the body of a person, comprising in combination: a base, body-supporting means, a first constrained system including relatively movable supporting means and guiding means, said guiding means being operatively engaged with said supporting means and said base, said supporting means being movable between a first position and a second position to tilt said body-supporting means from a normal sitting position to a tilted sitting position, blocking means on a member of said article for cooperation with said first constrained system so as to prevent said supporting means from a movement beyond said second position, and a second constrained system including a plurality of relatively movable links, said second constrained system being independent of said first constrained system and movably engaged with the supporting means of said first constrained system, at least one of the links of said second constrained system being provided by said body-supporting means, and the movable links of said second constrained system being capable of movement relative to each other and relative to the supporting means of said first constrained system whereby said body-supporting means may be moved beyond said tilted sitting position into an extreme reclined position, said second constrained system including a back-rest swingably mounted on said supporting means of the first constrained system, a seat pivotally connected with said back-rest at a point spaced from the pivotal connection of the latter with said supporting means of the first constrained system, and a connecting link pivotally connected to said seat and to said supporting means of the first constrained system.

10. An article of repose for supporting the body of a person, comprising in combination: a base, body-supporting means, a first constrained linkage including a plurality of movable links and at least one stationary link, said stationary link being included in said base, one of said movable links being shaped as a supporting element, said supporting element being movable during a first phase between a first position and a second position to tilt said body-supporting means from a normal sitting position to a tilted sitting position, blocking means on a member of said article for cooperation with said first constrained linkage so as to prevent same and said supporting element included therein from a movement beyond its second position, a second constrained linkage including a plurality of relatively movable links, said second constrained linkage being movably engaged with said supporting element included in said first constrained linkage, at least one of the links of said second constrained linkage being provided by said body-supporting means, and the movable links of said second constrained linkage being capable of movement during a second phase relative to each other and relative to said supporting element included in said first constrained linkage whereby said body-supporting means may be moved beyond said intermediate tilted position into an extreme reclined position, at least one of said first and second constrained linkages being independent of the other of said linkages, the links of said other of said linkages being stationary relative to each other during the movement of said one of said linkages in its phase of movement, a leg-rest movable relative to said body-supporting means, and a controlling mechanism operatively connected with said body-supporting means

and engaged with said leg-rest for displacing same in dependence on movements of said body-supporting means.

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