June 20, 1961 F. F. SCHLIEPHACKE 2,989,342

RECLINING CHAIR OF THE DOUBLE MOVEMENT TYPE

Filed Oct. 27, 1958 3 Sheets-Sheet 1

FIG. 1.

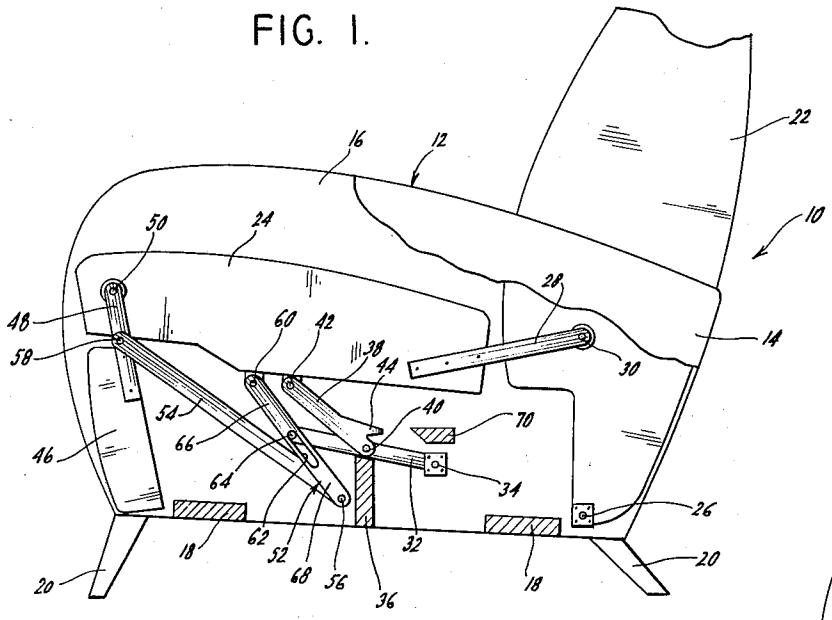
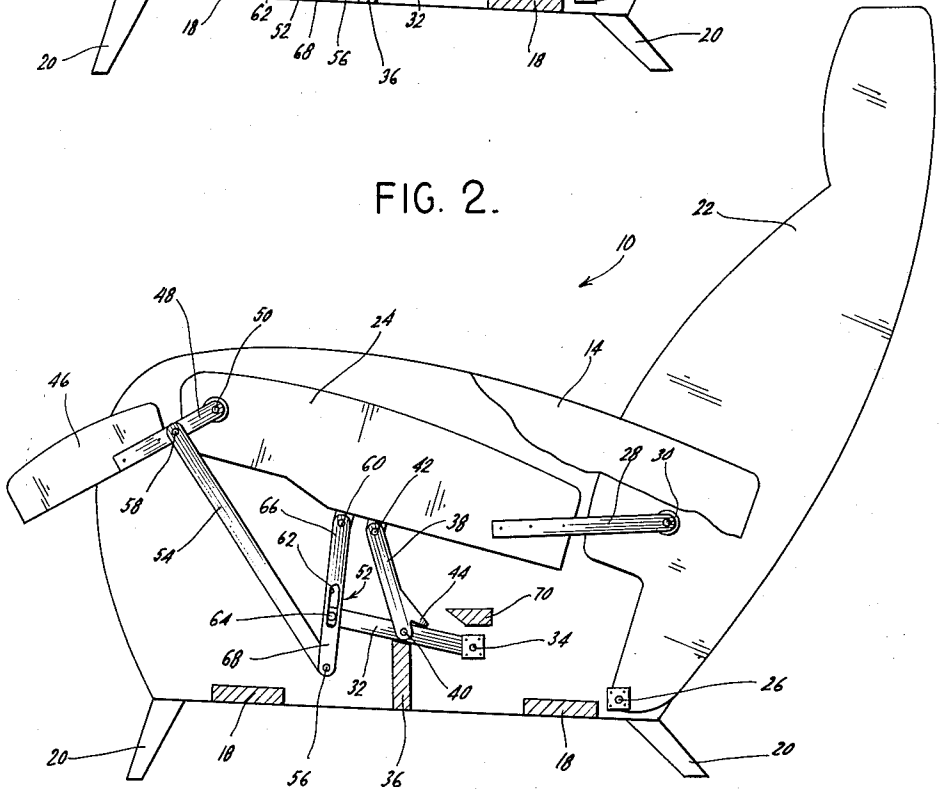


FIG. 2.



INVENTOR.

FRIDTJOF F. SCHLIEPHACKE

BY

Amster + Levy

ATTORNEYS

June 20, 1961 F. F. SCHLIEPHACKE 2,989,342

RECLINING CHAIR OF THE DOUBLE MOVEMENT TYPE

Filed Oct. 27, 1958 3 Sheets-Sheet 2

FIG. 3.

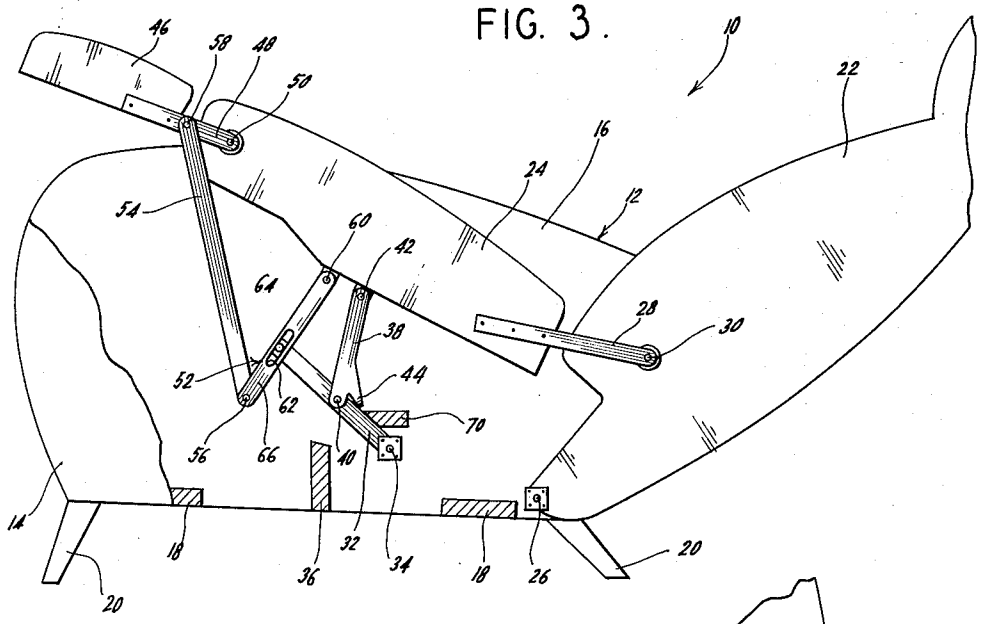
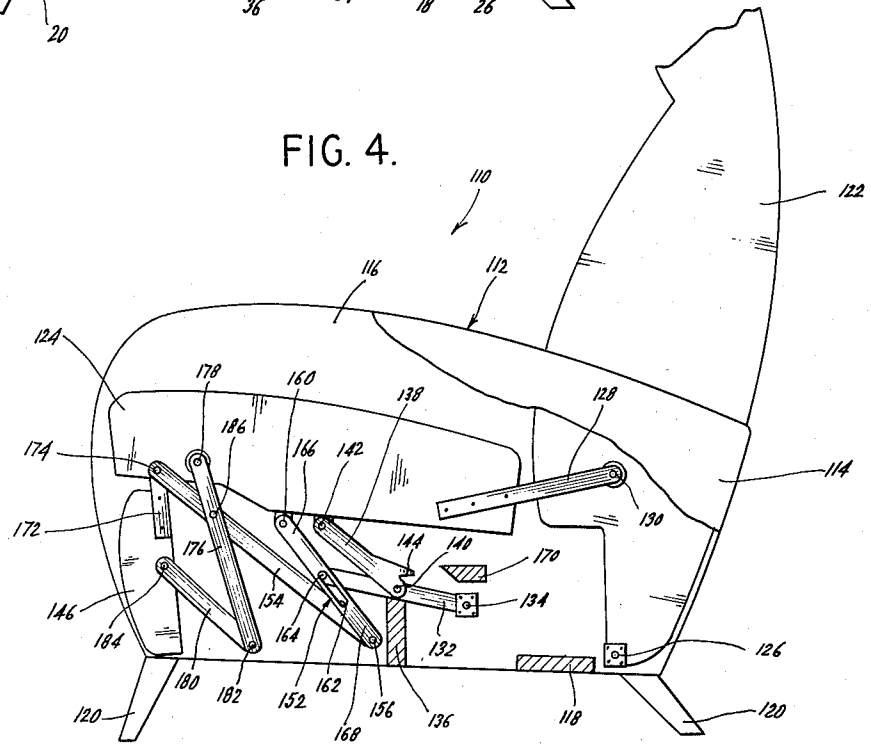


FIG. 4.



INVENTOR.

FRIDTJOF F. SCHLIEPHACKE

BY

Amster + Levy

ATTORNEYS

June 20, 1961 F. F. SCHLIEPHACKE 2,989,342

RECLINING CHAIR OF THE DOUBLE MOVEMENT TYPE

Filed Oct. 27, 1958 3 Sheets-Sheet 3

FIG. 5.

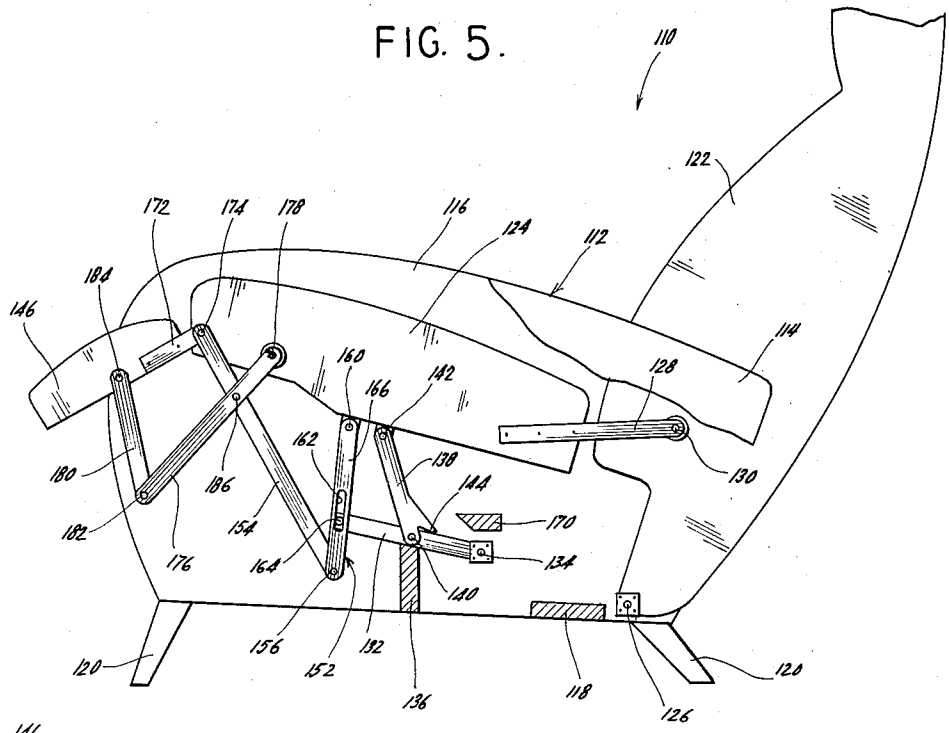
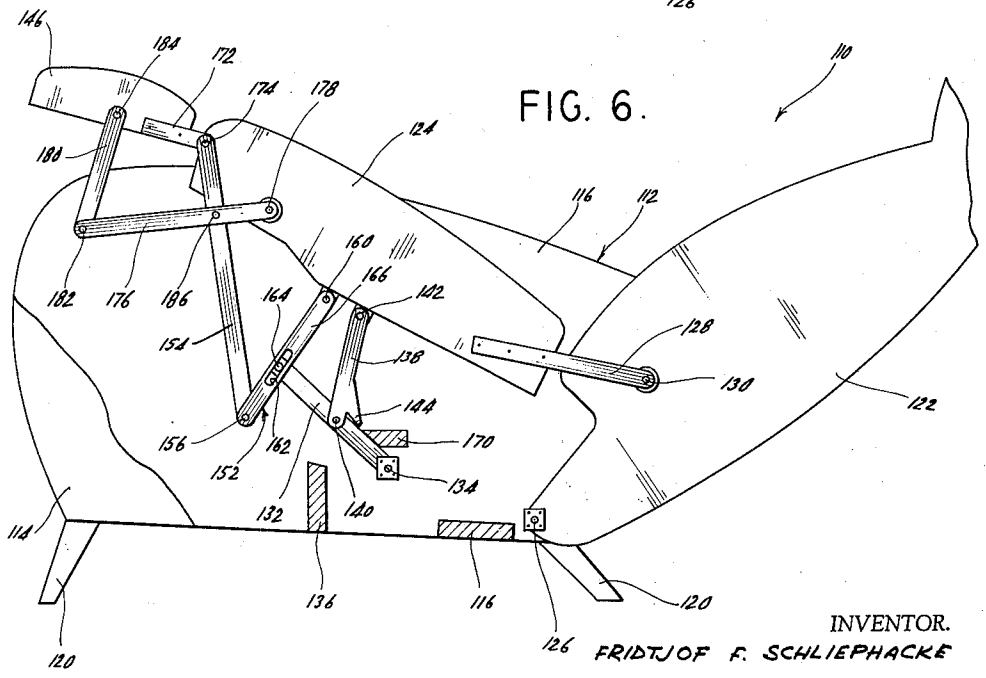


FIG. 6.



INVENTOR.
FRIDTJOF F. SCHLIEPHACKE
BY
Amster & Levy
ATTORNEYS

United States Patent Office 2,989,342 Patented June 20, 1961

2,989,342

RECLINING CHAIR OF THE DOUBLE MOVEMENT TYPE

Fridtjof F. Schliephacke, Hundekehlenstrasse 18, Berlin-Schmargendorf, Germany, assignor to Anton Lorenz, Boynton Beach, Fla.

Filed Oct. 27, 1958, Ser. No. 769,715
8 Claims. (Cl. 155—106)

This invention relates to improvements in reclining chairs and in particular to a new and improved leg-rest control structure and seat control structure for a reclining chair of the double-movement type.

The usual reclining chair incorporates a seat and a back-rest movably mounted on a support frame for movement between an upright sitting position and a rearwardly inclined reclining position. A leg-rest is generally included in the chair structure and is provided with a control and actuating linkage coupled to the seat and/or back-rest for coordinated movement of the leg-rest with the seat and back-rest. The leg-rest is normally disposed in a retracted position beneath the front end of the seat with the seat and back-rest in their upright sitting position, and is moved by the leg-rest linkage to an extended leg-supporting position forwardly of and substantially at the level of the seat when the seat and back-rest are moved to their reclining position.

A recent development in reclining chairs has been the so-called "double movement" type chair in which the seat and back-rest are constructed to be moved through a first motion phase to an intermediate reclining position or semi-reclining position in which the occupant can repose in a relaxed but still partially upright attitude, and then through a second motion phase to a fully reclined position of complete relaxation. For this type of double-movement chair, a special leg-rest control linkage is required to bring the leg-rest to its extended position in the intermediate reclined position of the chair, and to maintain the leg-rest extended at the level of the front of the seat in the fully-reclined position of the chair.

It is an object of the present invention to provide in a reclining chair of the double-movement type, an improved seat control mechanism which will guide the seat to a first inclined position relative to the back-rest in the intermediate reclined position of the chair, and will then automatically guide the seat to a further inclined position relative to the back-rest in the fully-reclined position of the chair.

Another object of the invention is the provision of a leg-rest control and actuating linkage for a double movement reclining chair of the character described, which is adapted to move the leg-rest to a first extended leg-supporting position in response to movement of the seat and back-rest to their intermediate reclined position, and is also adapted to move the leg-rest to a second extended leg-supporting position in response to further movement of the seat and back-rest to their fully-reclined position.

A further object of the invention is the provision of a reclining chair of the character described in which the seat control mechanism and leg-rest control and actuating mechanism are inter-related for cooperative automatic action in coordinating movement of the leg-rest with movement of the seat.

According to my invention, I provide a reclining chair of the double-movement type in which the back-rest is pivotally mounted on the support frame and the seat is pivotally connected to the back-rest for rearward movement when the back-rest is tilted rearwardly. A seat

control assembly is provided to tilt the seat as the latter is moved rearwardly, this assembly including a first guiding link pivoted on the support and normally resting in a substantially horizontal position, and a second guiding link connecting the first guiding link to the seat. When the back-rest is tilted from the upright sitting position to the intermediate tilted position, the first guiding link remains in its horizontally-disposed position, acting as a fixed portion of the support and the second guiding link pivots upwardly and rearwardly on the first guiding link to incline the seat as it is moved rearwardly with the back-rest. The intermediate reclining position is determined by engagement of the second guiding link with the first guiding link in such a manner that the two guiding links are locked together. The seat is then guided in a second path of movement from the intermediate reclining position to the fully-reclined position, this second path of movement being provided by pivoting movement of the first guiding link about its pivotal connection to the support.

The leg rest of the reclining chair is controlled by a leg-rest linkage comprising a lever pivotally mounted intermediate its ends on the first guiding link and connected at one end to the seat for pivotal movement of the lever when the seat is moved rearwardly. The other end of the lever is connected to the leg-rest through intermediate linkage means for raising the leg-rest to its extended position in response to movement of the seat to its intermediate reclining position. The connection of the lever to the first guiding link is a pin-and-slot connection arranged to permit upward sliding movement of the lever relative to the first guiding link, as the lever is raised with the seat.

The above brief description will be more fully appreciated and additional objects and advantages of the invention will become apparent during the course of the following specification, when taken in connection with the accompanying drawings which illustrate several illustrative embodiments of the invention, and in which:

FIG. 1 is a side elevational view of a double movement type of reclining chair made in accordance with the invention and shown in its upright, sitting position, with portions thereof broken away or shown in section to reveal constructional details;

FIG. 2 is a similar side elevational view of the chair shown in FIG. 1, but illustrating the chair in its intermediate or semi-reclined position;

FIG. 3 is a side elevation similar to FIGS. 1 and 2, but showing the chair in its fully-reclined position;

FIG. 4 is a side elevational view of another embodiment of reclining chair made in accordance with the invention and incorporating a modified leg-rest control structure, the chair being shown in its upright sitting position;

FIG. 5 is a side elevation of the chair shown in FIG. 4, but illustrating the intermediate or semi-reclining position of the structure; and

FIG. 6 is a side elevational view similar to FIGS. 4 and 5, but showing the chair illustrated therein in its fully-reclined position.

Referring in detail to the drawings, and particularly to FIGS. 1 to 3, there is shown an embodiment of reclining chair made in accordance with the invention, in which the leg-rest is connected directly to the front end of the seat. This chair, designated generally by the reference numeral **10**, includes a support frame **12** having opposed side walls **14** and **16** rigidly connected by suitable cross

bars or braces 18, and preferably raised above the floor level by legs 20 of any suitable type.

A body-supporting structure which includes a back-rest 22 and seat 24, is movably mounted on the support frame 12 between the side walls 14 and 16. The back-rest 22 is mounted at its lower end to a fixed portion of the support 12 by a pivot 26 for rearward tilting movement about said pivot 26 to reclining positions. The seat 24 has rigid arms 28 extending rearwardly therefrom and connected to the back-rest 22 by a pivot 30 at a point spaced well above the back-rest pivot 26, so that the seat is drawn rearwardly by the back-rest when the latter is pivoted rearwardly.

To cause the seat 24 to tilt or incline as it moves rearwardly in response to rearward pivoting movement of the back-rest 22, a seat control assembly is provided, this assembly including a first guide link 32 pivoted at one end to a fixed portion of the support frame at 34. In the sitting position of the chair shown in FIG. 1, the first guide link 32 extends forwardly from its pivot 34 in a substantially horizontal direction, and rests upon a fixed stop member 36 which may be in the nature of one of the support frame cross braces. In any event, the fixed stop member 36 prevents the first guide link from pivoting downwardly past its position shown in FIG. 1, and supports the seat 24 in its position.

The seat control assembly also includes a second guide link 38 pivotally mounted by pivot 40 on the center of the first guide link 32 at a point above the stop member 36. At its top end, the second guide link 38 is connected to the seat 24, at approximately the center thereof, by a pivot 42. In the sitting position of the chair shown in FIG. 1, the second guide link 38 is inclined upwardly and forwardly from its lower pivot 40.

It will be apparent that when the back-rest 22 is pivoted rearwardly and the seat 24 is drawn in a rearward direction by the connecting arm 28, the second guide link will pivot in a clockwise direction about the pivot 40, raising the central portion of the seat relative to the rear end thereof which is moving downwardly with the back-rest, and causing the seat to assume a rearwardly inclined position, shown in FIG. 2. To limit such upward pivoting movement of the second guide link 38 on the first guide link 32, the former is provided with a rearwardly-projecting ear 44 adjacent its lower end, the ear 44 being positioned to engage the top surface of the first guiding link 32 when the chair reaches its position of FIG. 2, thereby locking the guiding links together to initiate a second movement of the chair, as will be presently described.

The reclining chair of FIGS. 1–3 also includes a leg-rest 46 pivotally mounted on the front end of the seat 24 for movement from a retracted position beneath the seat, shown in FIG. 1, to various extended positions forwardly of the seat for supporting the legs, as shown in FIGS. 2 and 3. The leg-rest is carried by a hanger bar 48, the free end of which is pivotally connected at 50 to the front end of the seat 24. Actuating means are also provided to cause the leg-rest to pivot upwardly about its pivot 50 to the various extended positions in response to movement of the body-supporting means to the reclined positions. Such actuating means includes a lever 52 and a connecting link 54 pivotally jointed at their ends by a pivot 56. The front or free end of the connecting link 54 is pivoted at 58 to the leg-rest hanger arm 48, while the top or free end of the lever 52 is pivotally connected at 60 to the seat 24, forwardly of the pivot 42.

Intermediate its end pivotal connections 56 and 60, the lever 52 is provided with an elongated longitudinal slot 62 which slidably receives a pin 64 affixed to the front end of the first guide link 32. By means of the pin 64 and slot 62, the lever 52 is mounted intermediate its ends on the first guide link 32 for pivotal movement about the pin 64. The elongated slot 62 also permits sliding movement of the lever 52 relatives to the first guide link 32 so that the lever may rise with the seat during its pivotal movement.

It will be observed that when the seat 24 is moved rearwardly with the back-rest 22, it will carry with it the top end of the lever 52 through its connection 60, thereby causing the upper arm 66 of the lever 52 to pivot rearwardly about pivot pin 64, and correspondingly causing the lower lever arm 68 to move forwardly. This forward pivoting movement of the lower lever arm 68 about the pivot pin 64 thrusts the connecting link 54 forwardly and upwardly, thereby raising the leg-rest to its first extended leg-supporting position, shown in FIG. 2.

The operation of the reclining chair may be seen by a comparison of the chair positions shown in FIGS. 1 to 3. When the chair occupant is seated in the chair in the upright sitting position illustrated in FIG. 1, and wishes to move the chair structure to a reclining position, he exerts his weight rearwardly against the back-rest 22, causing the back-rest to pivot rearwardly about its pivot 26. This rearward pivoting movement of the back-rest draws the seat 24 rearwardly at the seat pivot 24. As the seat moves rearwardly, it carries with it the top end of the second guide link 38 at the pivotal connection, 42, causing the link 38 to pivot in an upward and rearward direction about its lower pivot 40. The second guide link 38, which was forwardly inclined in the sitting position of FIG. 1 is thus moved to a more upstanding vertical position, as shown in FIG. 2, to raise the forward portion of the seat 24 as the latter moves rearwardly, and thereby bring the seat to the intermediate inclined position shown in FIG. 2. It will be appreciated that the initial path of movement of the seat 24 is a compound movement, the rear end of the seat being lowered by the back-rest, and the front portion of the seat being raised by the first guide link 38.

It will also be observed that during the initial motion phase of the seat 24 and back-rest 22 from the sitting position to the intermediate tilted position, the first guide link 32 remains immovable in its horizontally-disposed position resting upon the stop member 36. The second guide link 38 pivots upwardly on the immovable first guide link 40, the latter, in this initial motion phase, acting as a fixed portion of the support frame. The initial motion phase is terminated by engagement of the ear 44 of the second guide link 38 with the upper edge of the first guide link 32, such engagement preventing further rearward pivoting movement of the second guide link 38 relative to the first guide link 32, and in effect rigidly joining the two guide links. Thus, the engagement of the ear 44 with guide link 32 defines the intermediate or semi-reclined position of the chair, as shown in FIG. 2.

In the movement of the body-supporting members from the upright sitting position to the intermediate reclining position, the leg-rest control linkage is effective to raise the leg-rest 46 from its retracted position of FIG. 1 to an extended position forwardly of the seat, shown in FIG. 2. This is accomplished by rearward movement of the seat 24 relative to the intermediate pivotal mount 64 of the lever 52. The seat in moving rearwardly with the back-rest, exerts a rearward pull upon the upper lever arm 66 at the pivotal connection 60, and since the first guide link 32 remains immovable during this motion phase, the lever 52 turns about its intermediate pivot 64, thereby thrusting its lower arm 68 in a forward and upward direction. The lower lever arm 68 thus moves the connecting link 54 in a forward and upward direction, raising the leg-rest 46 to its extended position of FIG. 2.

It will be appreciated that when the seat 24 is moved rearwardly by the back-rest 22, its forward end is also raised by action of the second guide link 38 so that the seat carries the lever 52 upwardly with it, in addition to moving the lever in a rearward direction. This upward movement of the lever 52 would raise the front end of the first guide link 32 through the pivot pin 64, were it not for the provision of the elongated slot 62 in the lever 52.

The slot **62** allows the lever **66** to slide upwardly relative to the first guide link **32**, the slot **62** sliding along the pin **64**, so that while the pin **64** is located at the top end of the slot **62** in the sitting position of FIG. 1, the pin is located near the lower end of the slot in the intermediate semi-reclined position of FIG. 2.

Upon conclusion of the first phase of movement, the occupant may return the chair to the sitting position of FIG. 1 by shifting his weight forwardly, or he may apply further rearward pressure against the back-rest to bring the chair to the fully-reclined position shown in FIG. 3.

When the chair occupant, in the intermediate position of FIG. 2, applies further pressure against the back-rest **22**, the latter will pivot further rearwardly about the pivot **26**. This pivoting movement of the back-rest will draw the seat further rearwardly and since the second guide link is restrained by the ear **44** from further rearward pivoting movement relative to the first guide link **32**, further movement of the seat control linkage is limited to pivoting movement of the first guide link **32** about its pivot **34**. The front guide link **32** thus pivots upwardly, so that it rises from the support member **36**. The first guide link **32**, in such upward pivoting movement, carries upwardly the rigidly-held upstanding second guide link **38**, thereby raising the seat to the further inclined position shown in FIG. 3.

The upward pivoting movement of the first guide link **32** continues until said link engages a blocking member **70** which is rigidly connected to the support frame **12** above the pivot **34**. The blocking member **70** prevents any further rearward movement of the body supporting structure, and its engagement with the first guide link **38** defines the fully-reclined position of the chair, shown in FIG. 3, in which the seat and back-rest are arranged at a more obtuse angle relative to each other than in the semi-reclined position.

In moving from the intermediate semi-reclined position to the fully-reclined position, the seat **24** moves a short distance rearwardly relative to the first guide link **32**, thereby causing the top lever arm **66** to pivot further rearwardly about the pivot pin **64** and raising the leg-rest **46** to a further extended position. In this further extended position, which occurs in the fully-reclined position of the chair, the leg rest **26** is located at the level of the front end of the seat **24**, with its top surface on the same plane as the seat top surface.

Referring now specifically to FIGS. 4 to 6, there is shown a further embodiment of reclining chair which is similar to that shown in FIGS. 1 to 3, except that the leg-rest is provided with a different type of control linkage. For convenience, similar structural elements in the embodiment of FIGS. 4 to 6 are designated by the same reference numerals as those in FIGS. 1 to 3, as part of a "100" series.

The reclining chair **110** again includes a support frame **112** having side walls **114**, **116** connected by cross braces **118** and supported by depending legs **120**. The body-supporting unit comprises a back-rest **122** mounted by pivot **126** on the support frame **112**, and a seat **124** having rigid arm **128** pivotally connected to the back-rest **122** at **130**.

The seat control assembly comprises the first guide link **132** mounted on the support frame by pivot **134** and normally maintained in the horizontally-disposed position shown in FIG. 4, resting upon the stop member **136**. The lower end of the second guide link **138** is pivoted at **140** to the first guide link **140**, while the upper end of the second guide link is pivoted to the seat **124** at a point **142** located forwardly of the lower pivot **140** so that in the sitting position the second guide link **138** is inclined forwardly and upwardly. The second guide link **138** has an integral ear **144** positioned to engage the first guide link **132** in the intermediate semi-reclined position, for blocking the relative movement between the two guide links.

For actuation of the leg-rest **146**, the chair again is provided with a lever **152** pivotally mounted intermediate its ends on the front end of the first guide link **132**, this pivotal mount being accomplished by a pivot pin **164** extending through an elongated slot **162** in the lever **152**. Again, connecting link **154** is provided to connect the lever **152** with the leg-rest control mechanism, the rear end of connecting link **154** being pivoted at **156** to the lower lever arm **168**.

A stop member **170** rigidly mounted on the support frame **112** is again located above the first guide link pivot **134** to engage said first guide link **132** and define the limit of the fully-reclined position.

The aforementioned parts of the chair **110** illustrated in FIGS. 4 to 6 are identical to those of the chair **10** shown in FIGS. 1 to 3 and previously described. Modified means are, however, provided to support the leg-rest **146** and guide the latter for movement between its retracted position and its extended positions.

The leg-rest **146** has a rigid extension arm **172** which is pivotally connected to the end of connecting link **154** by a pivot **174**. A depending link **176** is mounted at its top end on a forward portion of the seat **124**, at **178**, and at its bottom end is connected to a control link **180** by pivot **182**. The control link **180** is pivotally connected to the leg-rest **146** at point **184** which is spaced from the other leg-rest pivot **174**. The depending link **176** crosses the connecting link **154** and is pivotally connected thereto at its crossing-over point by pivot **186**.

The movement of the seat **124** and back-rest **122** to the intermediate semi-reclined position of FIG. 5 and then to the fully-reclined position of FIG. 6 is identical to the movements described in connection with the structure of FIGS. 1 to 3. As the back-rest **122** is pivoted rearwardly, the seat is drawn in a rearward direction, causing the second guide link **138** to pivot upwardly upon the immovable first guide link **132**, in turn raising the forward portion of the seat **124** to bring the seat to an inclined position. At the intermediate semi-reclined position the ear **144** on the second guide link engages the first guide link **132**, thereby blocking further relative movement of the two guide links, and as the back-rest is pivoted to the fully-inclined position, the first guide link **132** pivots upwardly about pivot **134**, further tilting the seat through the rigidly-held second guide link **138**.

As the seat **124** is moved rearwardly from the sitting position of FIG. 4 to the intermediate semi-reclined position of FIG. 5, it exerts a rearward pulling force on the upper arm **166** of lever **152**, causing the lever to pivot about the pivot pin **164**, whereby its lower arm **168** moves the connecting link **154** in a forward and upward direction. Since the leg-rest **146** is not connected directly to the seat in this instance, it is guided to the first extended position of FIG. 5 directly by the connecting link **154**, the links **176** and **180** supporting the forward end of the leg-rest and maintaining it in a substantially level attitude.

When the body-supporting structure is moved to the fully-reclined position of FIG. 6, the connecting link **154** is moved further upwardly relative to the seat **124** by the lever **152**, and the leg-rest **146** is further extended until it is substantially at the level of and co-planar with the front end of the fully-reclined seat.

While several preferred embodiments of my invention have been shown and described herein, it is apparent that numerous additions, changes, and omissions may be made in such embodiments without departing from the spirit and scope of the invention.

What is claimed is:

1. A reclining chair comprising a support, a back-rest and a seat movably mounted on the support for movement through a first motion phase from a sitting position to an intermediate position and for further movement through a second motion phase to a fully-reclined position, seat control means for inclining said seat relative to said back-rest in both of said motion phases, a leg-rest, and leg-rest control means for moving the leg-rest from a retracted position to an extended position

forwardly of said seat during said first motion phase, said seat control means including a guide member movably mounted on said support and resting in an inactive position during said first motion phase, guide means mounted on said guide member and movable thereon during said first motion phase to raise the forward portion of the seat, and means for moving said guide member out of said inactive position during said second motion phase, said leg-rest control means including a drive link pivotally mounted on said guide member, means coupling said drive link to said seat for actuation of said drive link by movement of said seat during the first motion phase, means coupling said drive link to said leg-rest for movement of the leg-rest to its extended position by said drive link during said first motion phase, and lost motion means operative to permit said drive link to turn about said guide member and rise with the seat during the first motion phase while the guide member remains in its inactive position, said drive link moving with said guide member during said second motion phase to maintain said leg-rest substantially in said extended position.

2. A reclining chair comprising a support, a back-rest pivotally mounted on the support and a seat pivotally connected to the back-rest for movement therewith through a first motion phase from a sitting position to an intermediate semi-reclined position and for further movement through a second motion phase to a full-reclined position, seat control means for inclining said seat relative to said back-rest in both of said motion phases, a leg-rest, and leg-rest control means for moving the leg-rest from a retracted position beneath the seat to an extended position forwardly of the front end of the seat during said first motion phase, said seat control means including a guide member pivotally mounted on the support and resting in an inactive and immovable position during said first motion phase, a guide link pivotally mounted on the guide member and connected to the seat, said guide link turning on said inactive guide member during the first motion phase to raise the forward portion of the seat, and means for raising said guide member about its pivot on the support during said second motion phase, said leg-rest control means including a lever pivotally mounted intermediate its ends on said guide member, one arm of said lever being pivoted to said seat for actuation of said lever by movement of said seat as the seat is moved rearwardly by the back-rest during the first motion phase, and means coupling the other arm of said lever to said leg-rest for movement of the leg-rest by said lever to its extended position during said first motion phase, said lever rising with said seat during said second motion phase to maintain the leg-rest substantially in its extended position, the pivotal mount of said lever on said guide member comprising a slide connection constructed and adapted to permit said lever to be carried upwardly with the seat relative to the stationary guide member as the lever turns about its pivotal mount on said guide member during the first motion phase.

3. A reclining chair according to claim 2 in which said slide connection is a pin and slot connection between the lever and the guide member.

4. A reclining chair according to claim 2 in which said lever contains an elongated longitudinal slot intermediate its ends and said guide member has a pivot pin at its free end, the pivot pin extending through said slot and being slidable therein.

5. A reclining chair comprising a support, a back-rest pivotally mounted at its lower end on the support for rearward tilting movement, a seat pivotally connected at its rear end to a point on the back-rest above the pivotal mount of the latter for rearward movement of the seat in response to rearward tilting movement of the back-rest, said back-rest and seat being movable through a first motion phase from a sitting position to an intermediate semi-reclined position and through a second motion phase from said intermediate position to a fully-reclined position, seat control means for inclining said seat relative to said back-rest as the seat is moved rearwardly, a leg-rest, and leg-rest control means for moving the leg-rest from a retracted position beneath the seat to an extended position forwardly of the front end of the seat during said first motion phase, said seat control means including a first guide link pivotally mounted on the support and resting in an inactive and immovable position during said first motion phase, a second guide link pivotally mounted on the first guide link and pivotally connected to an intermediate point on the seat, said second guide link being forwardly and upwardly inclined for rearward and upward movement upon the stationary first guide link when the seat is moved rearwardly, whereby to raise the forward portion of the seat during the first motion phase, stop means engaging said first and second guide links at the intermediate semi-reclined position to block further rearward pivoting movement of the second guide link on the stationary first guide link and to cause said first guide link to turn about its pivotal mount on the support during said second motion phase, said leg-rest control means including a lever pivotally mounted intermediate its ends on said first guide link, means coupling one arm of said lever to said seat for actuation of said lever by rearward movement of said seat during the first motion phase, and means coupling the other arm of said lever to said leg-rest.

6. A reclining chair comprising a support, a back-rest pivotally mounted at its lower end on the support for rearward tilting movement, a seat pivotally connected at its rear end to a point on the back-rest above the pivotal mount of the latter for rearward movement of the seat in response to rearward tilting movement of the back-rest, said back-rest and seat being movable through a first motion phase from a sitting position to an intermediate semi-recline position and through a second motion phase from said intermediate position to a fully reclined position, seat control means for inclining said seat relative to said back-rest as the seat is moved rearwardly, a leg-rest, and leg-rest control means for moving the leg-rest from a retracted position beneath the seat to an extended position forwardly of the front end of the seat during said first motion phase, said seat control means including a first guide link pivotally mounted at its rear end on the support and resting in an inactive and immovable position during said first motion phase, a second guide link pivotally mounted on the first guide link and pivotally connected to an intermediate point on the seat, said second guide link being forwardly and upwardly inclined for rearward and upward movement upon the stationary first guide link when the seat is moved rearwardly, whereby to raise the forward portion of the seat during the first motion phase, stop means engaging said first and second guide links at the intermediate semi-reclined position to block further rearward pivoting movement of the second guide link on the stationary first guide link and to cause said first guide link to turn about its pivotal mount on the support during said second motion phase, said leg-rest control means including a lever, a pin and slot connection pivotally mounting an intermediate point of said lever on said first guide link, means coupling one arm of said lever to said seat for actuation of said lever by rearward movement of said seat during the first motion phase, and means coupling the other arm of said lever to said leg-rest, the pin and slot connection providing sliding movement of the lever on said first guide link whereby the lever is raised with the seat relative to the stationary first guide link during the first motion phase.

7. A reclining chair according to claim 6 in which the leg-rest control means also comprises an arm rigid with the leg-rest and pivotally mounted on the forward end of the seat, and a link connecting said arm to said other arm of the lever.

8. A reclining chair according to claim 6 in which the

leg-rest control means also includes a first link pivotally mounted on the forward end of the seat, a second link connecting the free end of said arm to a point on the leg-rest, and a third link pivotally connected at one end to a spaced point on the leg-rest and at its other end to said other arm of the lever, said third link crossing an intermediate portion of said first link and being pivotally connected to the latter at its crossing-over point.

References Cited in the file of this patent

UNITED STATES PATENTS

2,746,520	Ducrot	May 22, 1956
2,788,058	Luckhard	April 9, 1957
2,844,190	Lorenz	July 22, 1958
2,918,109	Schliephacke	Dec. 22, 1959
2,918,113	Lorenz	Dec. 22, 1959