March 23, 1954 J. LUCKHARDT 2,672,919

ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Filed Aug. 15, 1952 6 Sheets-Sheet 1

Fig. 1.

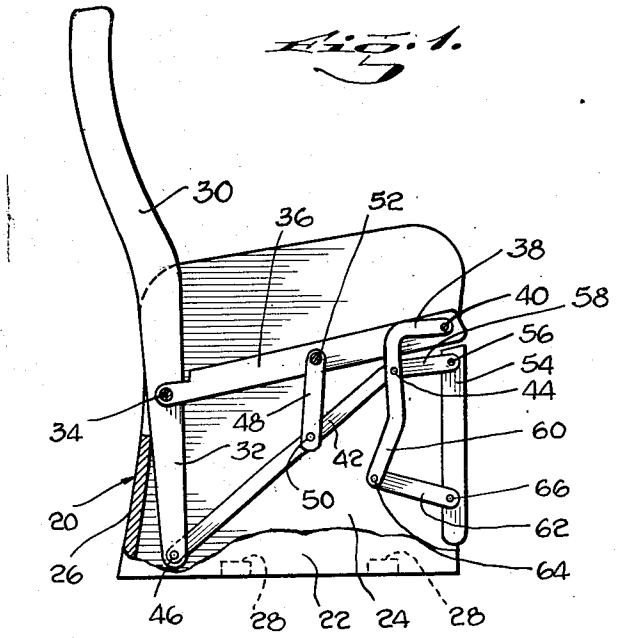
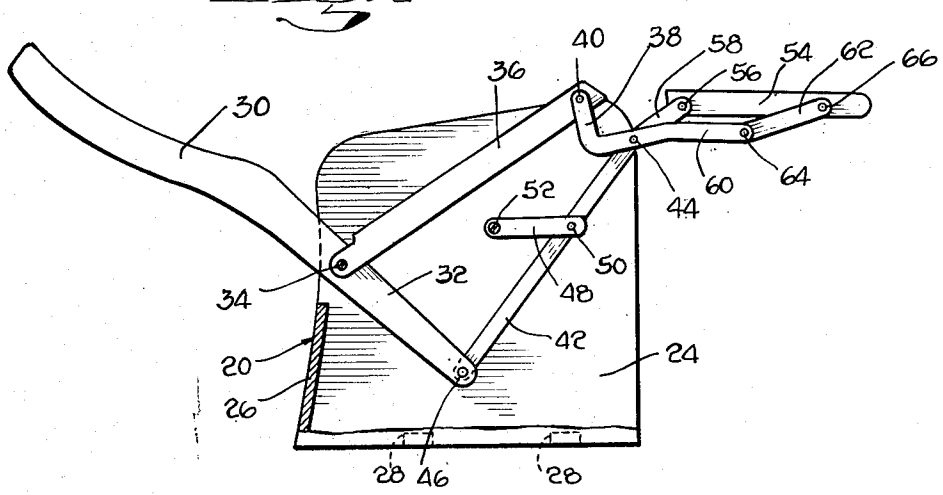


Fig. 2



INVENTOR
JOHANNES LUCKHARDT
BY
ATTORNEY

March 23, 1954 J. LUCKHARDT 2,672,919

ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Filed Aug. 15, 1952 6 Sheets-Sheet 2

Fig. 3.

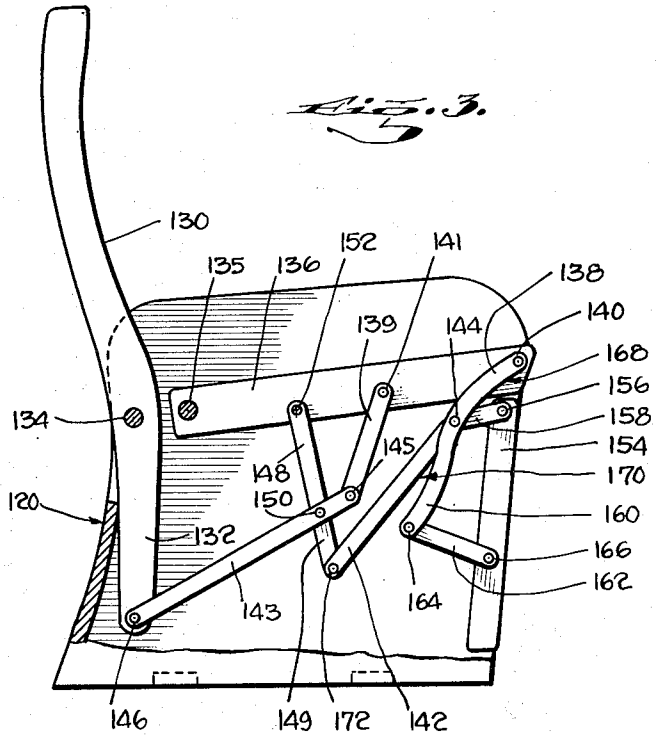
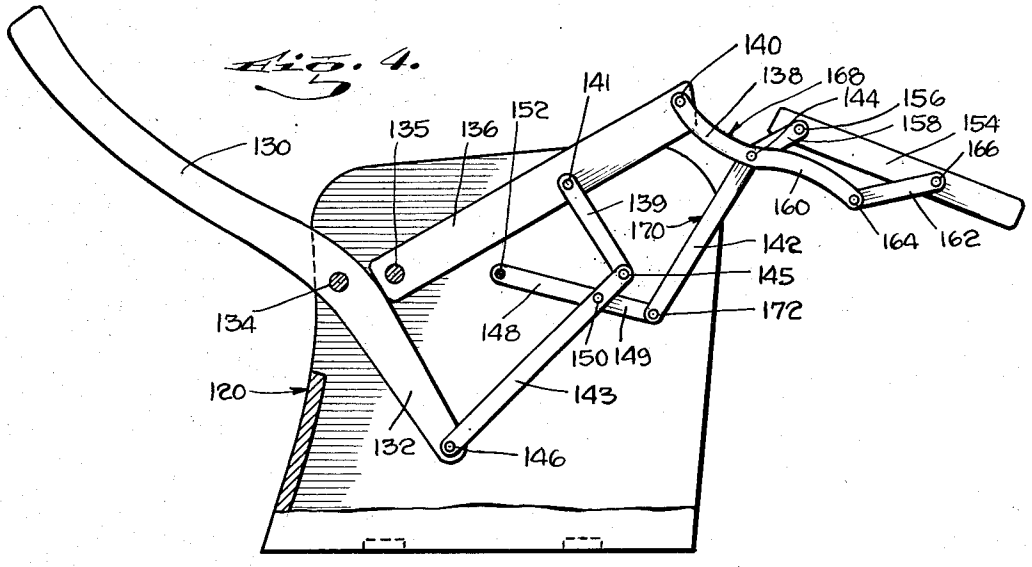


Fig. 4.



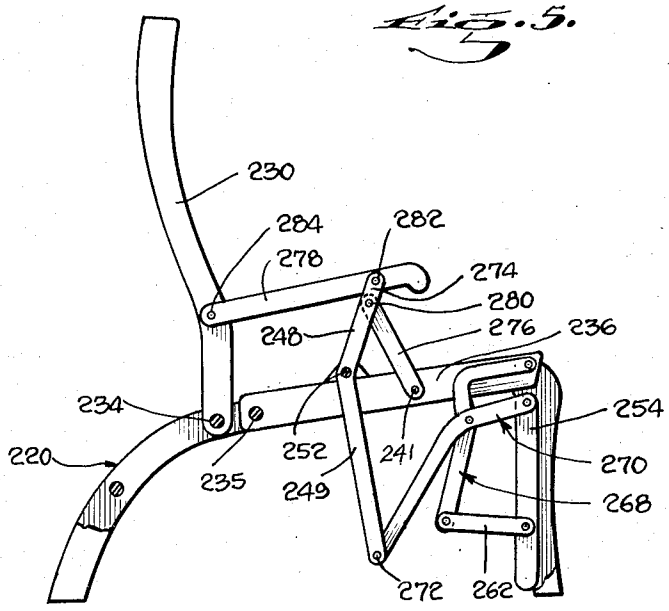
INVENTOR
JOHANNES LUCKHARDT
BY
ATTORNEY

March 23, 1954 J. LUCKHARDT 2,672,919

ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Filed Aug. 15, 1952 6 Sheets-Sheet 3

Fig. 5.



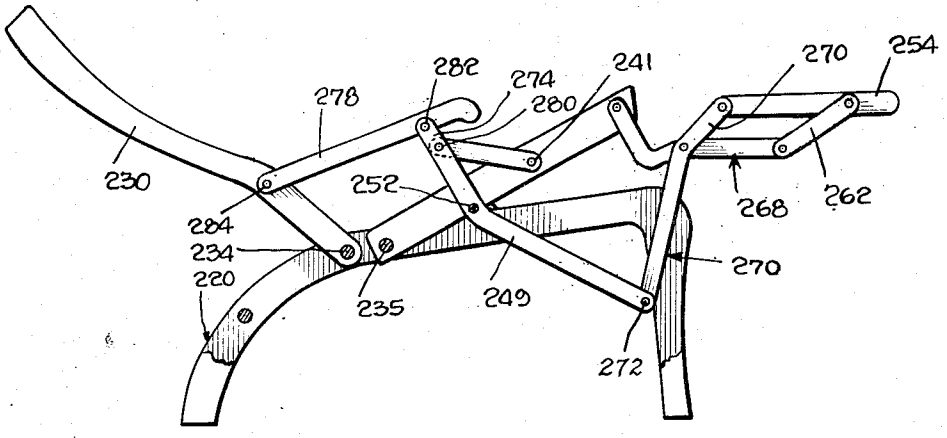


Fig. 6.

INVENTOR
JOHANNES LUCKHARDT
BY
ATTORNEY

March 23, 1954 J. LUCKHARDT 2,672,919

ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Filed Aug. 15, 1952 6 Sheets-Sheet 4

Fig. 7.

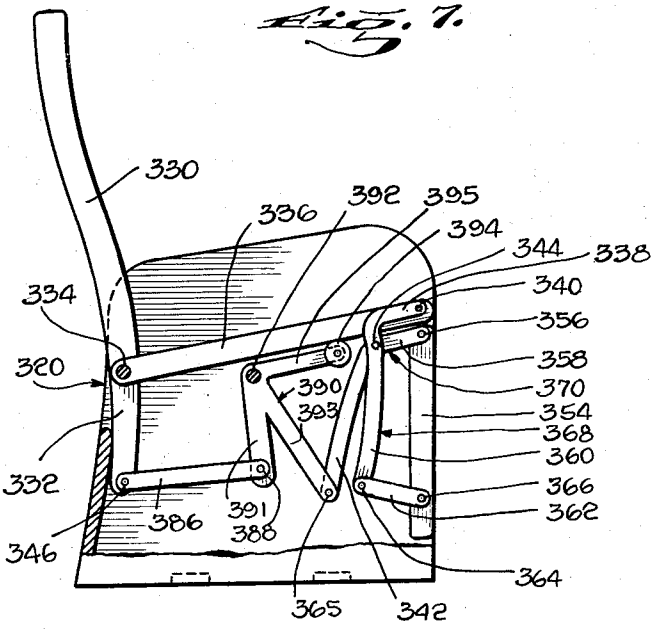
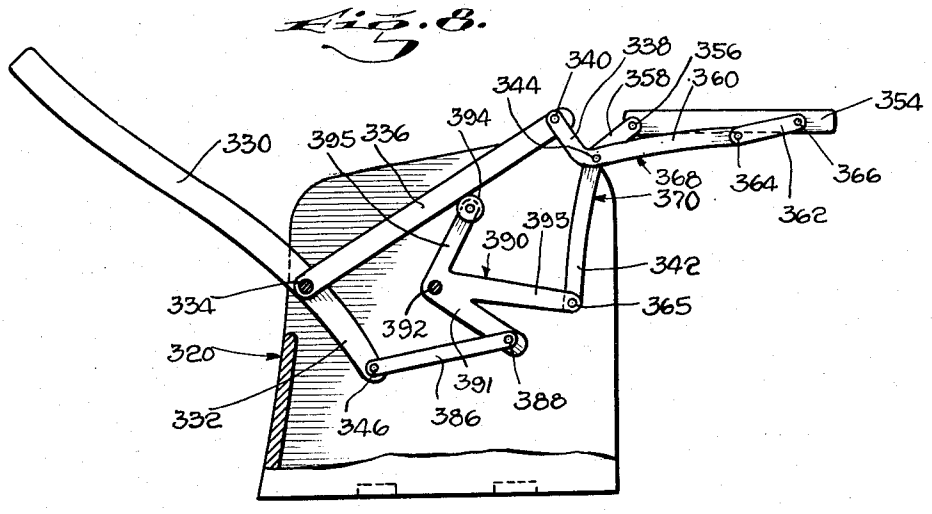


Fig. 8.



INVENTOR
JOHANNES LUCKHARDT
BY
ATTORNEY

March 23, 1954 J. LUCKHARDT 2,672,919

ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Filed Aug. 15, 1952 6 Sheets-Sheet 5

Fig. 9.

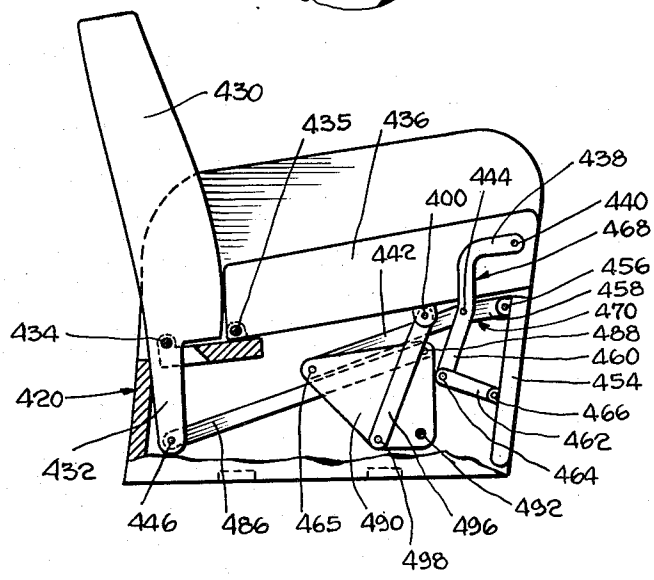
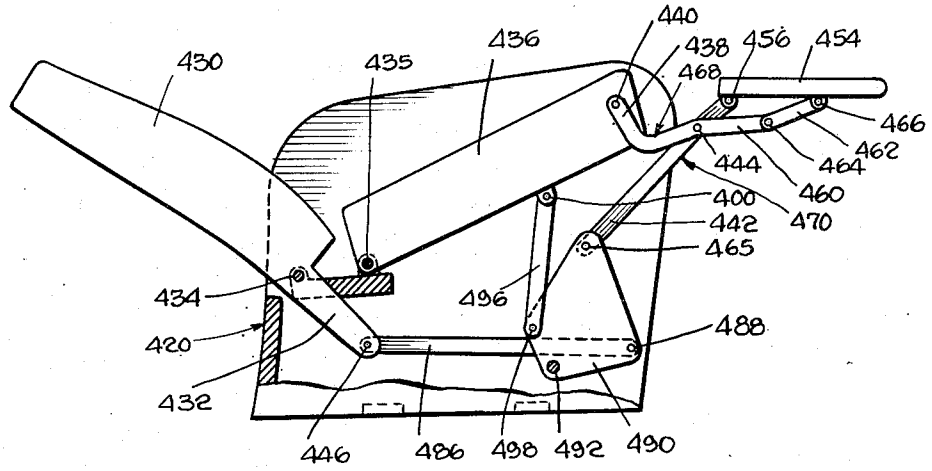


Fig. 10.



INVENTOR
JOHANNES LUCKHARDT
BY
ATTORNEY

March 23, 1954 J. LUCKHARDT 2,672,919

ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Filed Aug. 15, 1952 6 Sheets-Sheet 6

Fig. 11.

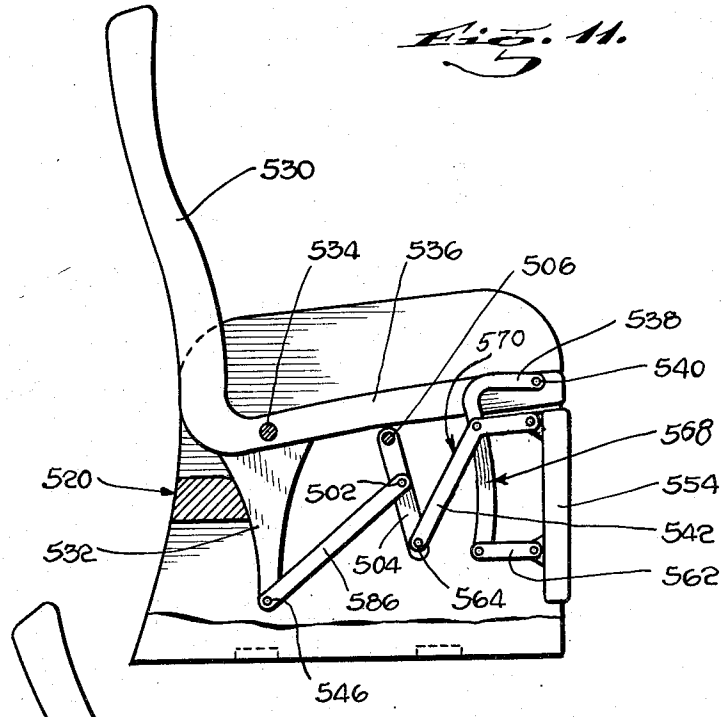
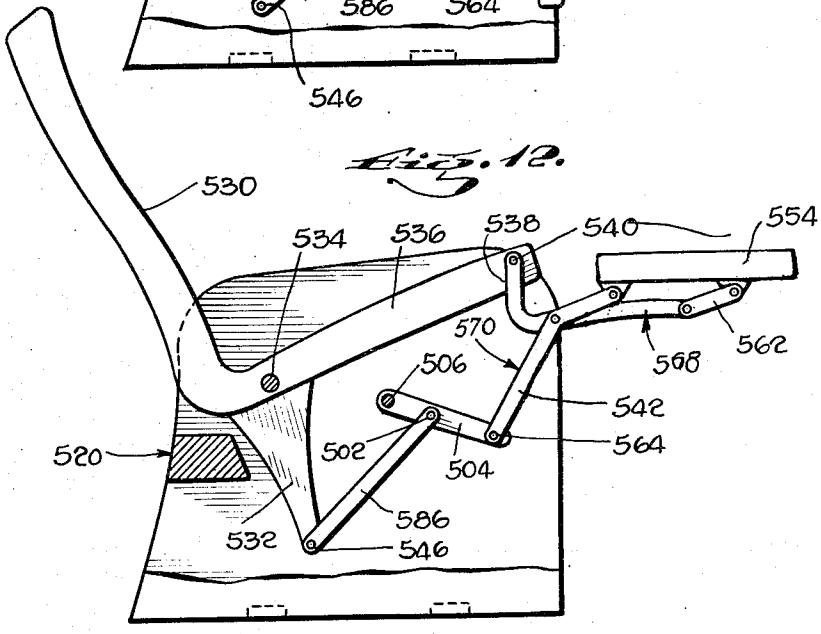


Fig. 12.



INVENTOR
JOHANNES LUCKHARDT
BY
ATTORNEY

Patented Mar. 23, 1954 2,672,919

UNITED STATES PATENT OFFICE

2,672,919

ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Johannes Luckhardt, Berlin-Dahlem, Germany, assignor, by mesne assignments, to Norman P. Martin and Otto L. Walter, as trustees

Application August 15, 1952, Serial No. 304,501

17 Claims. (Cl. 155—106)

1

This invention relates to articles of furniture and more particularly to a leg-rest-control arrangement for use in an article of repose for supporting the body of a person, wherein stationary link means of a constrained linkage are included in a support and wherein a back-rest-structure and a seat-structure form movable link-means of the movable link-means of said constrained linkage.

An object of the present invention is to provide a leg-rest control arrangement by means of which on the one hand the leg-rest is swung upwardly and on the other hand is advanced forwardly when the back-rest and seat of the article of repose are moved from the sitting position into a reclined position, so that the supporting portion of the leg-rest in the elevated position of the latter is extended to such a degree that a full support of the legs of a tall person resting on the article of repose is assured.

Another object of the present invention is to improve on the construction of articles of repose for supporting the body of a person as now customarily made.

The above mentioned objects and advantages, as well as other objects and advantages, will be more fully disclosed in the following specification, reference being had to the accompanying drawings forming part of this specification, wherein:

Fig. 1 is a side elevational view of an adjustable reclining chair including a leg-rest control arrangement according to the invention, a portion of a side wall of the frame being broken away,

Fig. 2 is a side elevational view of the chair similar to the chair shown in Fig. 1, wherein, however, the movable members of the chair are in a reclined position,

Figs. 3 and 4 are side elevational views of a different embodiment of an adjustable reclining chair, wherein the movable members are in a sitting and reclining position respectively, a portion of a side wall being broken away,

Figs. 5 and 6 are side elevational views of a further embodiment of an adjustable reclining chair with the movable members in two different positions, a portion of the frame being broken away,

Figs. 7 and 8 are another side elevational view each of a different embodiment of an adjustable reclining chair, wherein the movable members are in a sitting and reclining position respectively, a portion of a side wall being broken away,

Figs. 9 and 10 are further side elevational

2

views of a different embodiment of an adjustable reclining chair, wherein the movable members are in a sitting and reclining position respectively, a portion of a side wall being broken away,

Figs. 11 and 12 are still another elevational view each of a different embodiment of an adjustable reclining chair, wherein the movable members are in a sitting and reclining position respectively, a portion of a side wall being broken away.

Referring now to Figs. 1 and 2, 20 generally indicates the support of an adjustable reclining armchair. Said support 20 comprises the side walls 22 and 24 connected with each other by the rear wall 26 and a pair of cross-bars 28. The arm-rests of the chair are included in the side walls thereof. A back-rest 30 including a downward extension 32 is swingably mounted on the support 20 at 34. The rear end of a seat 36 is swingably mounted on the support at 34 in coaxial alignment with the pivotal connection between the back-rest 30 and the support 20. The upper end of a curved front connecting link 38 is pivoted to the front end of the seat 36 at 40. A lower connecting link 42 is pivoted to the said front connecting link 38 at 44. The rear end portion of said lower connecting link 42 is pivoted to the downward extension 32 of the back-rest 30 at 46. The lower end of a guiding link 48 is pivoted to the lower connecting link 42 at 50; the upper end of said guiding link 48 is pivoted to the support 20 at 52.

Thus, the constrained linkage of the chair shown in Fig. 1 includes the portion of the support between the pivots 34 and 52 as its stationary link and the downward extension 32 of the back-rest-structure, the lower connecting link 42, the front connecting link 38, the seat 36 and the guiding link 48 as its movable links.

According to the invention the upper end of a leg-rest 54 is pivoted at 56 to a forward extension 58 of the lower connecting link 42. According to the embodiment shown in Fig. 1 said forward extension 58 is integral with the lower connecting link 42, however, if desired, this member 58 could be rigidly connected with the lower connecting link 42 in a different way, for example by means of screws. The front connecting link 38 has a downward extension 60 projecting beyond the pivotal connection 44 of the front connecting link 38 with the lower connecting link 42. According to the embodiment shown in Fig. 1 this downward extension 60 is integral with the front connecting link 38; however, if desired, the mem-

ber 60 can be rigidly connected with the front connecting link 38 in a different way, for example by screws or the like. The rear end of a controlling link 62 is pivoted to said downward extension 60 of the front connecting link 38 at 64. The front end of said controlling link 62 is pivoted to the leg-rest 54 at 66.

The lower connecting link 42 with its forward extension 58 and the front connecting link 38 with its downward extension 60 form a scissor-like device, the pivotal connection 44 of which is offset rearwardly relative to the pivotal connection 40 between the front connecting link 38 and the seat 36. The pivotal connection 40 between the front connecting link 38 and the seat 36 is arranged near the front end of the latter and the pivotal connection 56 between the forward extension 58 of the lower connecting link 42 and the leg-rest 54 is located near to the lower edge of the seat 36.

Thus, when the movable back-rest 30 and seat 36 of the chair shown in Fig. 1 are brought into a reclined position as shown in Fig. 2, the leg-rest control arrangement connected with the link system of the chair causes a lifting of the leg-rest 54 into the elevated position shown in said Fig. 2; at the same time, owing to the scissorlike device 38, 60 and 58, 42 included in said leg-rest control arrangement, the distance between the pivots 40 and 56 is increased, so that the leg-rest 54 is advanced to such an extent, that it may properly support the legs of a tall person.

According to the embodiment shown in Figs. 3 and 4, the leg-rest control arrangement includes a separate mechanism pivotally connected with links of the constrained linkage of the chair.

According to Figs. 3 and 4, the back-rest 130 having a downward extension 132 is pivotally connected with the support 120 at 134. The rear end of the seat 136 is pivotally connected with the support 120 at 135. The lower connecting link 143 pivoted at its rear end with the downward extension 132 at 146 is pivotally connected with the lower end of the front connecting link 139 at 145. The upper end of said front connecting link 139 is pivoted at 141 to the seat 136. A guiding link 148 pivoted at its upper end to the support 120 at 152 is pivotally connected with the lower connecting link 143 at 150. Said guiding link 148 includes an extension 149 projecting downwardly beyond the pivotal connection 150.

The scissorlike device of the leg-rest control according to said embodiment of said Figs. 3 and 4 includes two double-armed levers 168 and 170 pivotally connected with each other at 144. The upper arm 138 of the double-armed lever 168 is pivoted to the front end of the seat 136 at 140. The lower arm 160 of said double-armed lever 168 is pivoted to the rear end of the controlling link 162 at 164. The front end of said controlling link 162 is pivoted to the leg rest 154 at 166. The forwardly extending arm 158 of the double-armed lever 170 is pivoted to the upper portion of the leg-rest 154 at 156. The other arm 142 of said double-armed lever 170 is pivotally connected with the downward extension 149 of the guiding link 148 at 172. Again, the pivot 144 between the elements 168 and 170 of the scissorlike device of the leg-rest control arrangement is rearwardly offset relative to the pivotal connection 140 between the upper end of the double-armed lever 168 and the seat 136; furthermore, the pivotal connection 156 between the leg-rest 154 and the forwardly extending arm 158 of the double-armed lever 170 is located below and near to the lower surface of the seat 136.

When the movable members of the chair are brought into the reclined position shown in Fig. 4, the leg-rest 154 is lifted and advanced into the position shown in said Fig. 4.

According to the embodiment shown in Figs. 5 and 6, the separate leg-rest control arrangement 268, 270, 262, 254, corresponding to the separate leg-rest control arrangement described above in connection with Figs. 3 and 4 is pivotally connected at 272 with a downward extension 249 of a guiding link 248 pivoted to a lug of the support 220 at 252. The guiding link 248 is integral with an intermediate connecting link 274 of a chain of connecting links including the front connecting link 276, said intermediate connecting link and a top connecting link or arm-rest 278. The lower end of the front connecting link 276 is pivoted to the seat 236 at 241. The other end of said front connecting link 276 is pivoted to the intermediate connecting link 274 at 280. The upper end of the intermediate connecting link 274 is pivoted to the top connecting link 278 at 282. The rear end of said top connecting link 278 is pivoted to the back-rest 230 at 284. Said back-rest is pivoted to the support 220 at 234 at a point remote from the pivotal connection 235 between the seat 236 and the support 220. The elevated and advanced position of the leg-rest 254, when the back-rest and seat of the chair are brought into a reclined position, may be readily gathered from Fig. 6.

According to the embodiment shown in Figs. 7 and 8, the leg-rest control arrangement according to the invention is applied to a different kind of an adjustable reclining chair. The back-rest 330 and seat 336 are pivoted to the support 320 at 334. The rear end of a connecting link 386 is pivoted at 346 to a downward extension 332 of the back-rest 330. The front end of said connecting link 386 is pivoted at 388 to a controlling member, generally indicated by 390. Said controlling member 390 being pivoted to a support 320 at 392 has three arms 391, 393 and 395. A roller 394, journalled on the arm 395 of the controlling member 390, is in engagement with the seat 336 for controlling the movements of the latter. The leg-rest control arrangement comprises the two double-armed levers 368 and 370 pivotally connected with each other at 344, so as to form a scissorlike device. The upper arm 338 of the double-armed lever 368 is again pivoted to the seat 336 at 340. The forwardly extending arm 358 of the double-armed lever 370 is pivotally connected with the upper end of the leg-rest 354 at 356. The other arm 342 of said double-armed lever 370 is pivoted to the arm 393 of the controlling member 390 at 365. A controlling link 362 is pivoted to the arm 360 of the double-armed lever 368 at 364, and to the leg-rest 354 at 366. Again the pivots 340, 344, 356 are arranged at the corners of a triangle, the pivot 344 being rearwardly offset relative to the pivot 340 and the pivot 356 being below and near to the lower surface of the seat 336.

When the back-rest 330 and seat 336 are brought into the reclined position shown in Fig. 8, the leg-rest 354 is lifted and moved away from the front end of the seat 336, as shown in Fig. 8.

According to the embodiment shown in Figs. 9 and 10, the chair comprises a back-rest 430 pivoted to the support 420 at 434. The rear end of a connecting link 486 is pivoted to the downward extension 432 of the back-rest 430 at 446.

The front end of said connecting link 486 pivoted at 488 to a controlling member 490 is swingably mounted on the support 420 at 492. Said controlling member 490 is in the shape of a plate. The lower end of a link 496 is pivoted to said controlling member 490 at 498. The upper end of said link 496 is pivoted to the seat 436 at 400. The rear end of the seat 436 is pivoted to the support at 435.

The upper arm 438 of the double-armed lever 468 of the leg-rest control is swingably mounted on the front end of the seat 436 at 440. The forwardly extending end 458 of the double-armed lever 470 pivotally connected with the double-armed lever 468 at 444 is in pivotal connection with the upper end of the leg-rest 454 at 456. The other arm 442 of said double-armed lever 470 is pivoted to the controlling member 490 at 465. A controlling link 462 is pivoted to the leg-rest 454 at 466 and to the lower arm 460 of the double-armed lever 468 at 464.

Thus, the leg-rest control arrangement again includes the scissorlike device 468, 470, and when the back-rest and seat are brought into the reclined position shown in Fig. 10, the leg-rest 454 is elevated and moved away from the seat 436.

According to the embodiment shown in Figs. 11 and 12, the leg-rest control arrangement 568, 570, 562, 554 is applied to a chair, wherein the back-rest 530 and the seat 536 are rigidly connected with each other so as to form a unit swingably mounted on the support 520 at 534. A downward extension 532 rigidly connected with said unit 530, 536 is pivoted at 546 to the rear end of a connecting link 586. The front end of said connecting link 586 is pivoted at 502 to a link 504 swingably mounted on the support 520 at 506. The rearwardly extending arm 542 of the double-armed lever 570 of the leg-rest control arrangement is pivoted at 564 to the link 504. The upper arm 538 of the double-armed lever 568 is pivoted to the front end of the seat 536 at 540.

A rocking of the back-rest-seat unit 530, 536 from the sitting position shown in Fig. 11 into the reclined position shown in Fig. 12 causes an elevation and forward movement of the leg-rest 554 into the position shown in said Fig. 12 by means of the leg-rest control arrangement 568, 570, 562, described above.

The chairs of all embodiments may be provided with stops for limiting the extreme sitting position and extreme reclined position.

Furthermore, locking means may be arranged on the chairs for holding the movable members thereof in a desired position.

I have described preferred embodiments of my invention, but it is understood that this disclosure is for the purpose of illustration and that various omissions or changes in shape, proportion and arrangement of parts, as well as the substitution of equivalent elements for those, herein shown and described may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

What I claim is:

1. A leg-rest control arrangement, for use in an article of repose for supporting the body of a person wherein stationary link-means of a constrained linkage are included in a support and wherein a back-rest-structure and a seat-structure form movable link-means of the movable link-means of said constrained linkage; said leg-rest control arrangement comprising: a first double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at intermediate point thereof, in a scissorlike arrangement, the upper arm of said first double-armed lever being swingably mounted on said seat-structure near the front end of the latter, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers and below said pivotal connection between the seat and the upper arm of said first double-armed lever, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, and a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the pivotal connection between the seat and the upper arm of the first double-armed lever being above the pivotal connection between the leg-rest and the forwardly projecting arm of the second double-armed lever and above the other before mentioned pivotal connections of said two double-armed levers when the seat is in its sitting position, and the other arm of said second double-armed lever being connected with a movable link-means of said constrained linkage so as to participate in movements of the latter whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

2. In a leg-rest control arrangement as claimed in claim 1, the pivotal connection between the seat and the upper arm of the first double-armed lever and the pivotal connection between the leg-rest and the forwardly projecting arm of the second double-armed lever being substantially in vertical alignment with each other when the seat is in its sitting position.

3. In a leg-rest control arrangement as claimed in claim 1, the pivotal connection between the forwardly extending arm of the second double-armed lever and the leg-rest being located near to the lower edge of the seat-structure.

4. In a leg-rest control arrangement as claimed in claim 1, said other arm of the second double-armed lever being rigid with the movable link-means of the constrained linkage.

5. In a leg-rest control arrangement as claimed in claim 1, said other arm of the second double-armed lever being pivotally connected with the movable link-means of the constrained linkage.

6. An article of repose for supporting the body of a person, comprising in combination: a support, a constrained linkage having stationary link-means and a plurality of movable links, said stationary link-means being included in said support, said movable links including a seat-member, a back-rest member, guiding means and a chain of connecting links including a first connecting link at one end of the chain and a second connecting link at the other end of the chain, said guiding means being connected to said support and engaged with at least one connecting link of said chain of connecting links, said first connecting link being pivoted to said back-rest member, said second connecting link being pivoted to the front portion of said seat-member, means pivotally connecting at least one of said back-rest and seat-members with said support, a first

double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at an intermediate point thereof, in a scissor-like arrangement, the upper arm of said first double-armed lever being swingably mounted on the front portion of said seat-member, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, and a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the other arm of said second double-armed lever being connected with a movable link of said constrained linkage so as to participate in movements of the latter whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

7. In an article of repose as claimed in claim 6, said other arm of the second double-armed lever being pivotally connected with a movable link of said constrained linkage.

8. An article of repose for supporting the body of a person, comprising in combination: a support, a constrained linkage having stationary link-means and a plurality of movable links, said stationary link-means being included in said support, said movable links including a seat-member, a back-rest member including a downward extension projecting below the plane of said seat-member, guiding means and a chain of connecting links including a lower connecting link at one end of the chain and a front connecting link at the other end of the chain, said two connecting links being pivotally connected with each other, said guiding means being connected to said support and engaged with at least one connecting link of said chain of connecting links, said lower connecting link being arranged below the plane of the seat-member and being pivoted to said downward extension of the back-rest member, said front connecting link being pivoted to the front portion of said seat-member, means pivotally connecting at least one of said back-rest and seat-members with said support, said front connecting link having a downward extension projecting downwardly beyond the pivotal connection of the front connecting link with the lower connecting link, said lower connecting link having a forward extension projecting forwardly beyond the pivotal connection of the lower connecting link with the front connecting link, a leg-rest swingably mounted on said forward extension of the lower connecting link, and a controlling link pivotally connected at its rear end with said downward extension of the front connecting link and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forward extension of the lower connecting link whereby the distance between the pivot on the end of said forward extension of the lower connecting link and the pivot at the front portion of the seat-member is increased when the members of the article are moved from a sitting position into a reclined position.

9. An article of repose for supporting the body of a person, comprising in combination: a support, a constrained linkage having stationary link-means and a plurality of movable links, said stationary link-means being included in said support, said movable links including a seat-member, a back-rest member including a downward extension projecting below the plane of said seat-member, a guiding link and a chain of connecting links including a lower connecting link at one end of the chain and a front connecting link at the other end of the chain, at least one of said connecting links being arranged below the plane of the seat-member, said guiding link being pivoted to said support at one point and being connected with at least one connecting link of said chain of connecting links at another point remote from the first mentioned point, said lower connecting link being pivoted to said downward extension of the back-rest-member, said front connecting link being pivoted to the front portion of said seat-member, means pivotally connecting at least one of said back-rest and seat-members with said support, a first double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at an intermediate point thereof, in a scissorlike arrangement, the upper arm of said first double-armed lever being swingably mounted on the front portion of said seat-member, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, and a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the other arm of said second double-armed lever being pivotally connected with the structure of said guiding link so as to participate in movements of the latter whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

10. An article of repose for supporting the body of a person, comprising in combination: a support, a constrained linkage having stationary link-means and a plurality of movable links, said stationary link-means being included in said support, said movable links including a seat-member, a back-rest member, a guiding link and a chain of connecting links including a top connecting link at one end of the chain and a front connecting link at the other end of the chain, at least one of said connecting links being arranged above the plane of the seat-member, said guiding link being pivoted to said support at one point and being connected with at least one connecting link of said chain of connecting links at another point remote from the first mentioned point, said top connecting link being pivoted to said back-rest member, said front connecting link being pivoted to the front portion of said seat-member, means pivotally connecting at least one of said back-rest and seat-members with said support, a first double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at an intermediate point thereof, in a scissorlike arrangement, the upper arm of said first double-

armed lever being swingably mounted on the front portion of said seat-member, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, and a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the other arm of said second double-armed lever being pivotally connected with the structure of said guiding link so as to participate in movements of the latter whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

11. An article of repose for supporting the body of a person, comprising in combination: a support, a back-rest-structure pivoted to said support, a seat-structure pivoted to said support, a controlling member swingably mounted on said support, a connecting link pivoted at one of its ends to said back-rest-structure and at its other end to said controlling member, means positioned between said swingable controlling member and said seat-structure to effect movement of said seat-structure in coordination with said controlling member, a first double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at an intermediate point thereof, in a scissorlike arrangement, the upper arm of said first double-armed lever being swingably mounted on the front portion of said seat-structure, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, and a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the other arm of said second double-armed lever being pivoted to said swingable controlling member so as to participate in movements of the latter whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

12. In an article of respose as claimed in claim 11, said means positioned between the controlling member and the seat-structure including a roller journalled on said controlling member and engaged with said seat-structure.

13. In an article of repose as claimed in claim 11, said means positioned between the controlling member and the seat-structure including a second connecting link pivoted at one of its ends to said controlling member and at its other end to said seat-structure.

14. An article of repose for supporting the body of a person, comprising in combination: a support, a unit including a back-rest and a seat rigid with each other, said unit being swingably mounted on said support, a first double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at an intermediate point thereof, in a scissor-like arrangement, the upper arm of said first double-armed lever being swingably mounted on the seat portion of said unit near the front end thereof, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers and below said pivotal connection between the seat-portion of the unit and the upper arm of the first double-armed lever, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the pivotal connection between the seat-portion of the unit and the upper arm of the first double-armed lever being above the pivotal connection between the leg-rest and the forwardly projecting arm of the second double-armed lever and above the other before mentioned pivotal connections of said two double-armed levers when the unit is in its sitting position, and controlling means positioned between said unit and the other arm of said second double-armed lever so as to effect movements of the latter in coordination with said unit whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

15. An article of repose for supporting the body of a person, comprising in combination: a support, a unit including a back-rest and a seat rigid with each other, said unit being swingably mounted on said support, a downward extension on said unit projecting downwardly below the plane of the seat, a first double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at an intermediate point thereof, in a scissorlike arrangement, the upper arm of said first double-armed lever being swingably mounted on the seat portion of said unit near the front end thereof, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers and below said pivotal connection between the seat-portion of the unit and the upper arm of the first double-armed lever, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the pivotal connection between the seat-portion of the unit and the upper arm of the first double-armed lever being above the pivotal connection between the leg-rest and the forwardly projecting arm of the second double-armed lever and above the other before mentioned pivotal connections of said two double-armed levers when the unit is in its sitting position, and controlling

means positioned between said downward extension of the unit and the other arm of said second double-armed lever so as to effect movements of the latter in coordination with said unit whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

16. An article of repose for supporting the body of a person, comprising in combination: a support, a unit including a back-rest and a seat rigid with each other, said unit being swingably mounted on said support, a controlling member swingably mounted on said support, a connecting link pivoted at one of its ends to said unit and at its other end to said swingable controlling member, a first double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at an intermediate point thereof, in a scissor-like arrangement, the upper arm of said first double-armed lever being swingably mounted on the seat portion of said unit near the front end thereof, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers and below said pivotal connections between the seat-portion of the unit and the upper arm of the first double-armed lever, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, and a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the pivotal connection between the seat-portion of the unit and the upper arm of the first double-armed lever being above the pivotal connection between the leg-rest and the forwardly projecting arm of the second double-armed lever and above the other before mentioned pivotal connections of said two double-armed levers when the unit is in its sitting position, and the other arm of said second double-armed lever being pivoted to said swingable controlling member so as to participate in movements of the latter whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

17. An article of repose for supporting the body of a person, comprising in combination: a support, a unit including a back-rest and a seat rigid with each other, said unit being swingably mounted on said support, a downward extension on said unit projecting downwardly below the plane of the seat, a controlling member swingably mounted on said support, a connecting link pivoted at one of its end to said downward extension of the unit and at its other end to said swingable controlling member, a first double-armed lever, a second double-armed lever, said two double-armed levers being pivotally connected with each other at an intermediate point thereof, in a scissorlike arrangement, the upper arm of said first double-armed lever being swingably mounted on the seat-portion of said unit near the front end thereof, one arm of said second double-armed lever projecting forwardly beyond the pivotal connection between said two double-armed levers and below said pivotal connection between the seat-portion of the unit and the upper arm of the first double-armed lever, a leg-rest swingably mounted on said forwardly projecting arm of said second double-armed lever, and a controlling link pivotally connected at its rear end with the lower arm of said first double-armed lever and at its front end with said leg-rest at a point remote from the pivotal connection between said leg-rest and said forwardly projecting arm of the second double-armed lever, the pivotal connection between the seat-portion of the unit and the upper arm of the first double-armed lever being above the pivotal connection between the leg-rest and the forwardly projecting arm of the second double-armed lever and above the other before mentioned pivotal connections of said two double-armed levers when the unit is in its sitting position, and the other arm of said second double-armed lever being pivoted to said swingable controlling member so as to participate in movements of the latter whereby the distance between the pivots on the ends of said upper arm of the first double-armed lever and said forwardly projecting arm of the second double-armed lever is increased when the members of the article are moved from a sitting position into a reclined position.

JOHANNES LUCKHARDT.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,227,597	Luckhardt et al.	Jan. 7, 1941
2,604,141	Maurer	July 22, 1952