April 9, 1957 J. LUCKHARDT 2,788,058

MOVABLE RECLINING CHAIR WITH BACK-REST, SEAT AND LEG-REST

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Fig. 1.

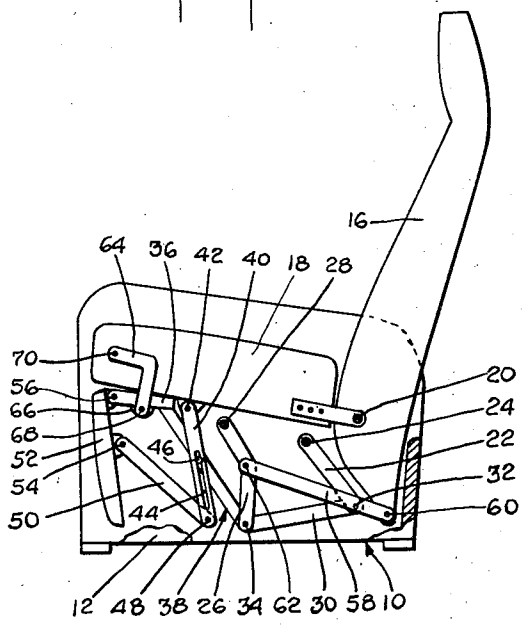
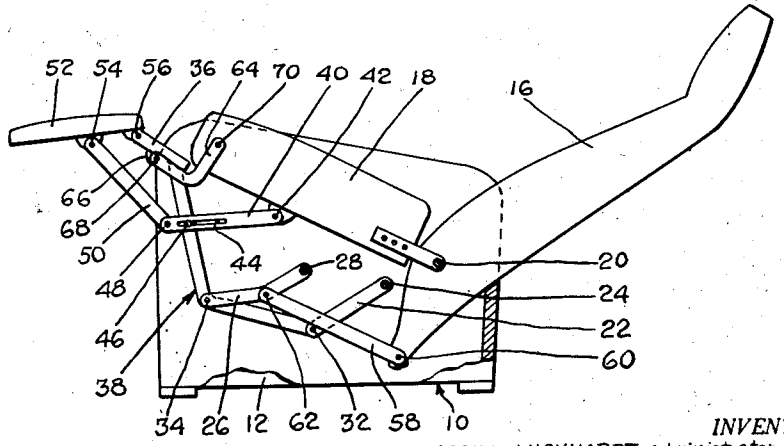


Fig. 2.



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Fig. 3.

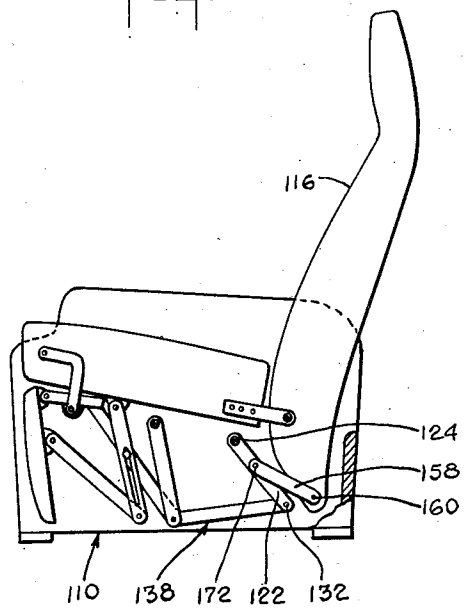
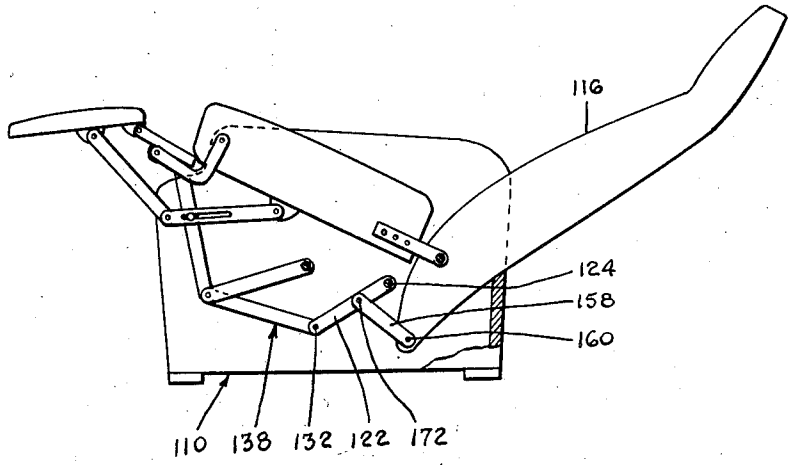


Fig. 4.



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Fig. 5.

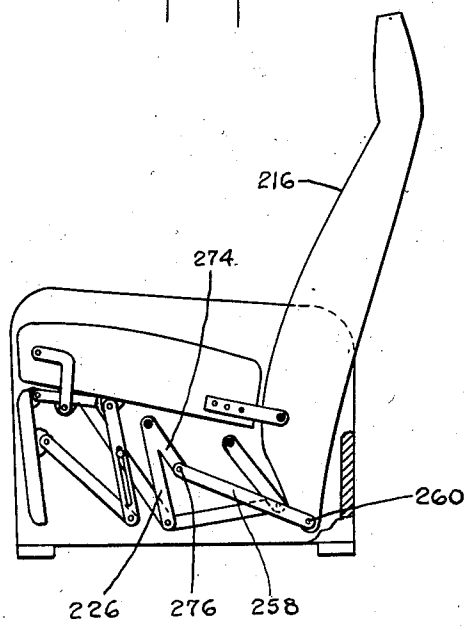
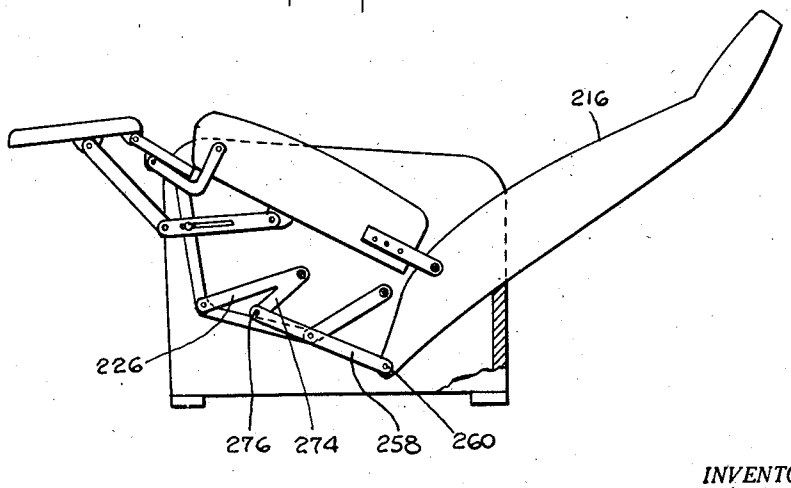


Fig. 6.



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Fig. 7.

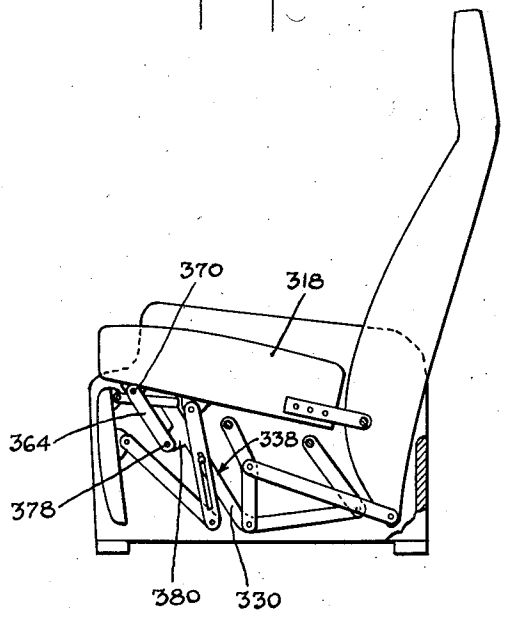
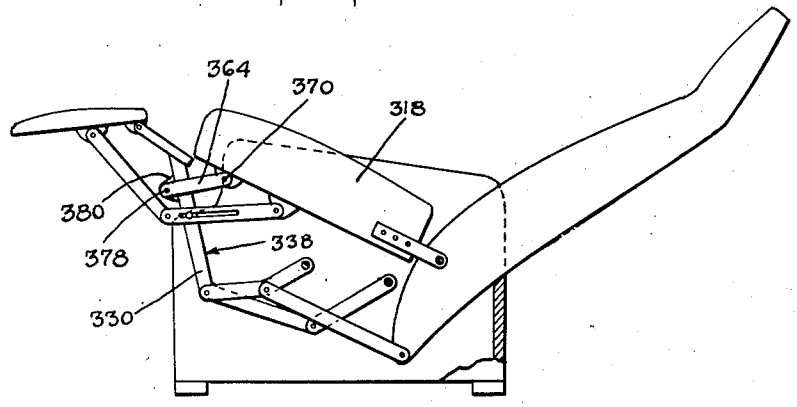


Fig. 8.



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United States Patent Office 2,788,058 Patented Apr. 9, 1957

2,788,058

MOVABLE RECLINING CHAIR WITH BACK-REST, SEAT, AND LEG-REST

Johannes Luckhardt, deceased, late of Berlin-Dahlem, Germany, by Wassili Luckhardt, administrator, Berlin-Dahlem, Germany, assignor to Norman P. Martin and Otto L. Walter, as trustees of Theta Trust, Lake Worth, Fla.

Application April 21, 1955, Serial No. 502,964

10 Claims. (Cl. 155—106)

This invention relates to articles of furniture and more particularly to articles of repose for supporting the body of a person, wherein a back-reset, seat and leg-rest are movable in a predetermined relationship relative to a support.

An object of the invention is to provide an article of repose of above described type with an advantageous mechanism for controlling the movements of the leg-rest in dependence on movements of the back-rest.

Another object of the invention is to improve on the construction of articles of repose as now ordinarily made.

Other objects and structural details of the invention will be apparent from the following description when read in conjunction with the accompanying drawings forming part of this specification, wherein:

Fig. 1 is a side elevational view of a reclining armchair according to the invention, a portion of a side wall being broken away,

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

Fig. 3 is a side elevational view of another embodiment of an armchair according to the invention, a portion of a side wall being broken away,

Fig. 4 is a side elevational view of the armchair of Fig. 3, wherein however the movable members of the chair are in the reclined position,

Fig. 5 is a side elevational view of a further embodiment of an armchair according to the invention, a portion of a side wall being broken away,

Fig. 6 is a side elevational view of the armchair of Fig. 5, wherein however the movable members of the chair are in the reclined position,

Fig. 7 is a side elevational view of still another embodiment of an armchair according to the invention, a portion of a side wall being broken away, and

Fig. 8 is a side elevational view of the armchair of Fig. 7, wherein however the movable members of the chair are in the reclined position.

Referring now to Figs. 1 and 2, **10** generally indicates a support having side walls **12** and **14** connected with each other in any suitable way.

A back-rest **16** and a seat **18** are swingably mounted on said support **10** at **20**. The upper end of a first link or guiding link **22** is swingably mounted on a transverse rod **24** mounted on the support **10**. The upper end of a second link or guiding link **26** is swingably mounted on a transverse rod **28** carried by the support **10**. A bent bar **30** is pivoted to the lower ends of said links **22** and **26** at **32** and **34** respectively. The upper end of said bent bar **30** is rigidly connected with a board **36** extending across the chair. Said bent bar **30** and the board **36** rigid therewith form a third link or controlling link generally indicated by **38** of a linkage to be described hereinafter. The bent bar **30**, the first link **22** and the second link **26** are arranged substantially in the center of the chair.

The upper end of another link or arm **40** (in some of the claims referred to as "fifth link") is pivotally connected with the seat **18** at **42**. Said link **40** having a slot **44** slidably engaged with a pivot **46** arranged on the link **38**. The lower end of the link **40** is pivoted at **48** to one end of a link or bar **50** (in some of the claims referred to as "fourth link"), the other end of which is pivoted to an intermediate point of a leg-rest **52** at **54**. The upper end of the leg-rest **52** is pivoted at **56** to the cross board **36** of the link **38**.

The movements of the linkage **22, 26, 38, 40, 50, 52** described above are controlled in dependence on the movements of the back-rest **16** by means of a connecting link **58** pivoted to a lower extension of the back-rest **16** at **60** and to an intermediate point of the link **26** at **62**.

On each side of the chair another connecting link **64** (only one being shown) is pivoted to a lug **66** of the cross board **36** at **68** and to the seat **18** at **70**. The pivot **70** is well above the lower surface of the seat **18**.

The connecting link **64** controls the movements of the seat **18** in dependence on the movements of the linkage **22, 26, 38, 40, 50, 52** and thus through the connecting link **58** in dependence on the movements of the back-rest **16**.

Fig. 1 illustrates the movable members of the chair in the sitting position. Upon a rocking of the back-rest **16** about its pivot **20** the movable members of the chair are brought into the position shown in Fig. 2 by means of the linkage described above. In said reclined position of Fig. 2 the cross board **36** being propelled forwardly covers the space between the front end of the seat and the rear end of the leg-rest created by the forward propelling of the leg-rest.

The embodiment of a reclining chair shown in Figs. 3 and 4, is substantially the same as that shown in Figs. 1 and 2. According to Fig. 3 however the connecting link **158** is pivoted at **160** to the back-rest **116** and at **172** to the first link **122** intermediate the pivotal connections **124** and **132** of the latter to the support **110** and the link **138** respectively.

Fig. 3 illustrates the sitting position of the movable members of the chair while Fig. 4 illustrates the extreme reclined position thereof.

According to the embodiment of a reclining armchair shown in Figs. 5 and 6, again the mechanism of the chair is substantially the same as that of the chair shown in Figs. 1 and 2. However according to Figs. 5 and 6 the second link **226** has a rearward extension **274** rigid therewith and the connecting link **258** being pivoted to the back-rest **216** at **260** is pivoted to said extension **274** of the link **226** at **276**.

Fig. 5 illustrates the sitting position of the movable members of the chair and Fig. 6 illustrates the movable members of the chair in the extreme reclined position.

The embodiment of an armchair shown in Figs. 7 and 8 is with respect to its mechanism substantially similar to that shown in Figs. 1 and 2. However according to Figs. 7 and 8 the connecting link **364** is pivoted to the seat **318** at **370** at a point near to the lower surface of the seat **318**. The other end of said connecting link **364** is pivoted at **378** to a bracket **380** arranged on the bar **330** forming a portion of the link **338**.

The low arrangement of the pivot **370** eliminates damage to the upholstery by the connecting link **364** during relative movements by the said link and the seat.

Fig. 7 illustrates the movable members of the chair in the sitting position while Fig. 8 illustrates said members in the extreme reclined position.

Preferred embodiments of the invention have been described, but it is understood that this disclosure is for the purpose of illustration and that various changes in shape and proportion 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.

Suitable stops for limiting the sitting and extreme reclined positions may be provided on the chair and/or locking means may be arranged for holding the movable members of the chair in any desired position.

What is claimed is:

1. An article of repose for supporting the body of a person, comprising: a support; body supporting means including a seat and a back-rest movably mounted on said support; a linkage including a first link, a second link, a third link, a fourth link, a fifth link, and a leg-rest, said first link and said leg-rest being pivoted to said third link at opposite ends thereof, said second link being pivoted to said third link at an intermediate point thereof, said third link and said fifth link being in pivotal and slidable connection with each other at intermediate points thereof, said fourth link being pivoted to said fifth link and said leg-rest at points remote from the connections of said third link with said fifth link and said leg-rest, said first link and said second link of said linkage being pivoted to spaced points of said support, and said fifth link of the linkage being pivoted to said seat; first connecting means engaged with one of said links of the linkage and the structure of said back-rest for effecting movements of said linkage in coordination with movements of said back-rest and second connecting means engaged with one of said links of the linkage and said structure of said seat for effecting movements of said seat in coordination with movements of said linkage and said back-rest.

2. In an article of repose as claimed in claim 1, said first connecting means being engaged with said second link and the structure of the back-rest.

3. In an article of repose as claimed in claim 1, a rearwardly extending projection rigid with said second link, and said first connecting means being engaged with said projection of said second link and the structure of the back-rest.

4. In an article of repose as claimed in claim 1, said first connecting means being engaged with said first link and the structure of the back-rest.

5. In an article of repose as claimed in claim 1, said first connecting means being in the shape of a link pivoted to one of said links of the linkage and said structure of the back-rest.

6. In an article of repose as claimed in claim 1, said second connecting means being engaged with said third link and said seat.

7. In an article of repose as claimed in claim 1, said second connecting means being in the shape of a link pivoted to one of said links of the linkage and said structure of the seat.

8. In an article of repose as claimed in claim 1, said first connecting means being engaged with said second link at a point intermediate its ends and the structure of said back-rest, and said second connecting means being in the shape of a link pivoted to said third link and to the structure of said seat at a point substantially above the lower surface thereof.

9. In an article of repose as claimed in claim 1, said second connecting means being in the shape of a link pivoted to said third link of the linkage and to said seat at a point near the lower surface thereof.

10. A leg-rest control arrangement for use in an article of repose for supporting the body of a person wherein body supporting means including a seat and a back-rest are movably mounted on a support, said leg-rest control arrangement comprising: an arm for pivotal connection with the seat, a controlling link crossing said arm and being in pivotal and slidable connection with the latter, a guiding link for pivotal connection with the support, said guiding link being pivoted to said controlling link at one side of said pivotal and slidable connection, a connecting link for pivotal connection with the seat, said connecting link being pivoted to said controlling link at the other side of said pivotal and slidable connection, a leg-rest swingably mounted on said controlling link at said other side of said pivotal and slidable connection, and a bar pivoted to said arm and to said leg-rest at points remote from said pivotal and slidable connection and remote from the pivotal connection between said leg-rest and said controlling link.

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