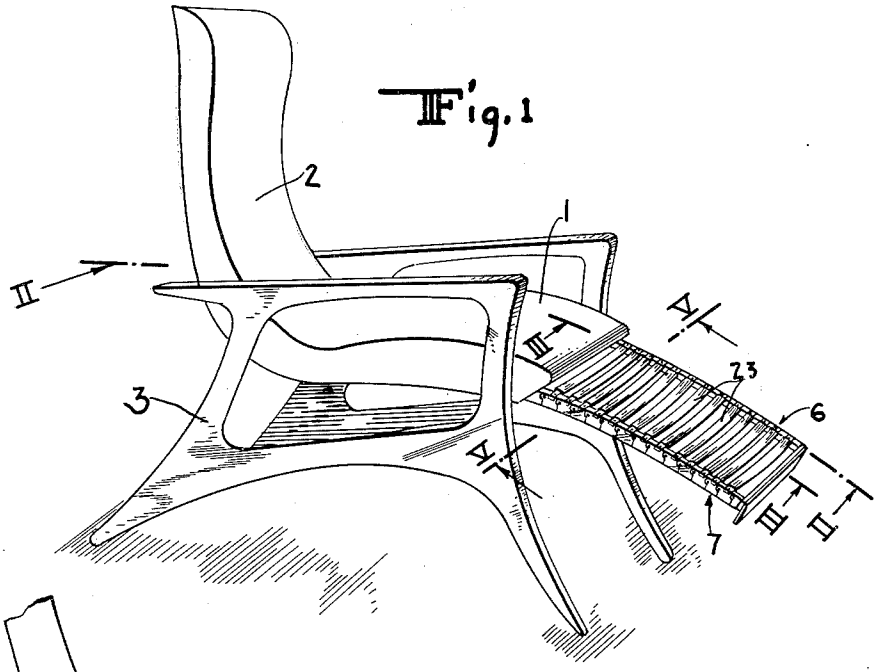
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EXTENSION LEG REST FOR CHAIRS AND THE LIKE

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Fig. 1



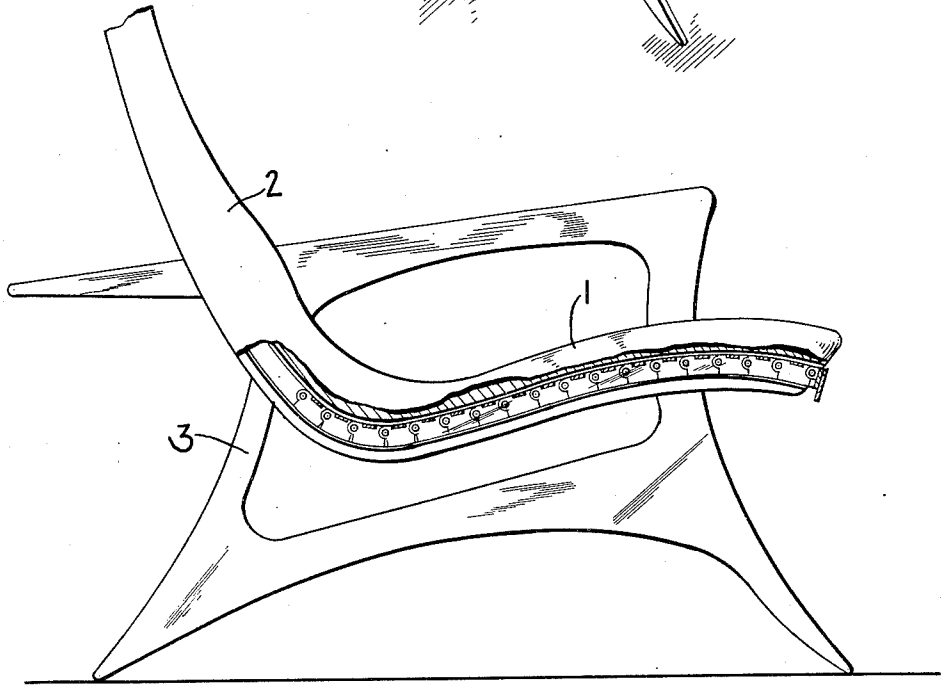


Fig. 2

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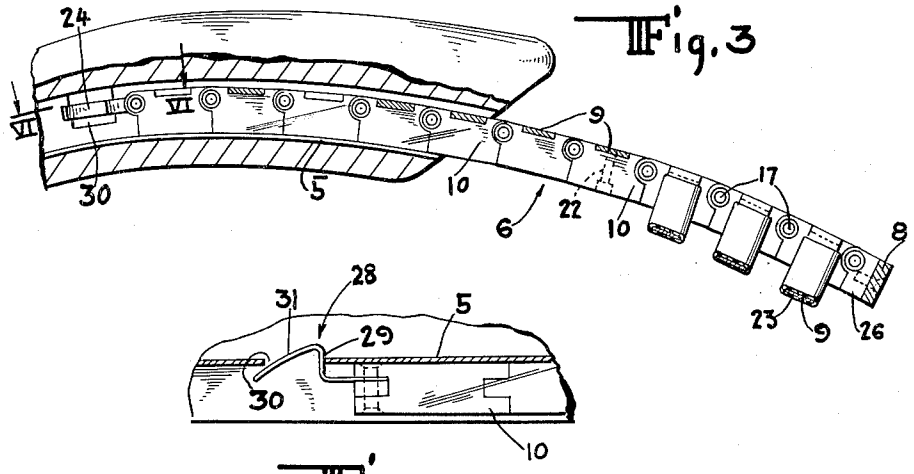


Fig. 3

Fig. 6

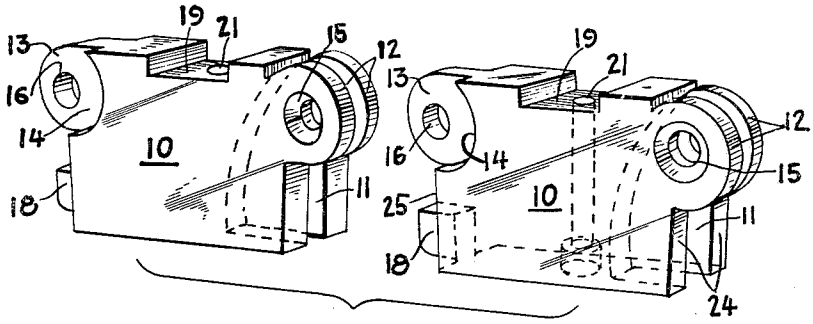


Fig. 4

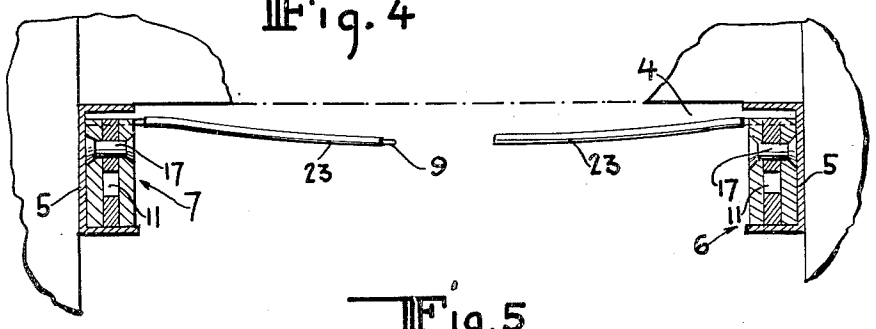


Fig. 5

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3,007,738
EXTENSION LEG REST FOR CHAIRS AND THE LIKE

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5 Claims. (Cl. 297—430)

This invention relates to an extension leg rest for chairs and the like, and particularly to such a leg rest which is designed to be housed out of sight within the body of a chair and to be pulled out into extended leg-supporting position when desired.

An object of the invention is to provide a leg rest which has one-way flexibility, being rigidly self supporting in any desired extended position while being flexible in the opposite sense to permit housing within a pocket or recess having the curved profile of the seat and lower back of a body-fitting lounging and/or reclining chair.

A further object is to provide a leg rest made up from a plurality of strong rigid metallic sections articulated together by means of hinge joints which, when the leg rest is extended, are stopped at their limit of travel in one direction while retaining complete freedom of swinging through a substantial arc in the opposite direction.

Another object is to provide certain improvements in the form, construction and arrangement of the several parts whereby the above named and other objects may effectively be attained.

A practical embodiment of the invention is shown in the accompanying drawings, wherein,

FIG. 1 represents a perspective view of a lounging chair provided with the leg rest of this invention, in extended position;

FIG. 2 represents an elevation, partly in section along the line II—II of FIG. 1, showing the leg rest in fully housed or retracted position;

FIG. 3 represents a detail section through the leg rest and adjacent part of the chair seat, on the line III—III of FIG. 1, parts being broken away;

FIG. 4 represents, on a larger scale, an exploded perspective view of two links with their crossbars and hinge bolt omitted;

FIG. 5 represents a transverse section on the line V—V of FIG. 1, parts being broken away, and

FIG. 6 represents a detail horizontal section on the line VI—VI of FIG. 3.

Referring to the drawings, it will be seen that the present extension leg rest is designed particularly for use in connection with a lounge or reclining chair in which the seat **1** and back **2** are built as a single unit, smoothly integrated through a curved part to provide continuous and comfortable support for the user's body. The unitary seat and back are mounted, preferably by means adapted to permit "reclining" movement, on arm and leg frames **3**, but the details of such mounting means constitute no part of the present invention and so may be assumed to be of any known and suitable type.

The seat **1** and lower part of the back **2** are provided with a wide continuous pocket (or, if the bottom is open, a recess) **4** bounded laterally by channel-shaped tracks **5** which run from the front edge of the seat at least to a point in the lower part of the back, the tracks **5** being uniformly spaced apart and firmly fixed in the seat-back unit with a clear space between them.

The extension leg rest comprises side members **6, 7**, a front bar **8** and a plurality of crossbars **9**. Each side member is made up of a series of links **10**, and each link is in the form of a block having one end slotted, as shown at **11**, with lugs **12** of semi-circular outline projecting

from the upper part of said end and separated by the slot **11**, while a single lug **13** of semi-circular outline projects from the upper part of the opposite end. The body of the block adjacent each lug **13** is provided with semi-circular recesses **14** on each side and all the lugs are drilled to form bores **15, 16**, concentric with the semi-circular outlines of the lugs and of the recesses **14**, to receive hinge bolts (or rivets) **17**. The lateral thickness of the lug **13** is such that it will fit freely between the lugs **12** of an adjacent block, and each lug **13** is preferably thicker than any one lug **12** so that the strength of the single and double lugs is somewhat equalized. On the end of each block below the drilled lug **13** is a small projecting guide finger **18** having the same thickness as the lug **13** and adapted to fit freely in the slot **11** of an adjacent block, below the lugs **12** thereof. In the upper surface of each block is formed a transverse channel **19**, properly proportioned to receive an end of a flat crossbar **9**, the block being vertically drilled as shown at **21** to accommodate a bolt or screw **22** which engages said end of the crossbar. The crossbars, as shown in FIG. 5, are slightly bowed downward and it has also been found desirable to cover them with a protective coating **23** of rubber-like material or other suitable synthetic plastic which gives the leg rest a smoother and softer feel and appearance than the bare metal.

While the upper and lower surfaces of the blocks may be substantially flat and parallel the end surfaces **24** below the lugs **12** and the end surface **25** below the lug **13** are designed to lie in planes which pass through the axes of the bores **15, 16**, respectively, and which are not quite parallel but would intersect on a line some distance below the leg rest. This arrangement permits the leg rest to curve slightly downward when extended, as clearly appears in FIG. 3, while becoming rigid against any further downward bending as soon as the respective surfaces **24** and **25** of adjacent blocks come into contact. Although the lugs **12** and **13** are described as "semi-circular" in outline it will be noted that the upper surface of the block, at each end, is slightly cut away so that the arc outlining each lug extends through more than 180° (e.g., 200°—220°). This results in the formation of a gap (40°–80°) between the ends of the upper surfaces of adjacent blocks when assembled and in their down-curved position (FIG. 3), permitting flexibility in the same degree by upward hinging movement of the blocks around the bolts **17**. Such a degree of upward flexibility is ample to permit the back rest to conform to the upward curvature of the inner portions of the tracks, as shown at the left of FIG. 2.

The blocks are, in general, identical but the front block **26** on each side is shown as being of reduced size and drilled to receive a bolt or screw which holds in place a flat, more or less vertical, front strip **8**. Such a strip may serve as a convenient handle for sliding the leg rest in and out, while also giving a finished appearance to the leg rest. At or near the rear end of either side member **6, 7** (or both of them) one of the blocks carries a spring latch **28** having a surface **29** adapted to engage positively one side of an aperture **30** in the corresponding side track and having a beveled surface **31** adapted to engage, and be moved by, the opposite side of said aperture, all as shown in FIGS. 3 and 6. The latch and aperture are so placed that the surface **29** will stop the outward sliding movement of the leg rest at a predetermined permissible maximum, while retaining in the track several links (e.g., 4 or 5) to provide strong support by cantilever action for the extended portion. When the leg rest is pushed in, the beveled surface **31** of the latch will easily ride up onto the flat vertical side of the track, and the spring action of the latch in this deformed position may help to hold the slide frictionally in selected intermediate positions. The leg rest can be removed entirely, if desired,

by manually releasing the latch from its locking position (FIG. 6).

One or more crossbars may be omitted from the links which are designed to stay in the track so long as the leg rest retains sufficient lateral rigidity to prevent the side members from leaving their tracks; or all links may carry crossbars, the normally unused ones being available as replacements for those which are subjected to the greatest wear.

It will be understood that various changes can be made in the form, construction and arrangement of the several parts without departing from the spirit and scope of the invention.

What we claim is:

1. An extension leg rest assembly for chairs comprising, a pair of rigid continuous tracks of laterally open channel section extending rearwardly under the chair seat from points adjacent the front edge of said seat, said tracks including portions curved in vertical planes to present an upwardly concave profile, and a leg rest having side members in engagement with said tracks and crossbars extending between said side members, each side member being constituted by a plurality of blocks articulated together for free hinging movement in an upward direction and provided with interengaging surfaces for rigidly arresting such movement in the downward direction at a predetermined point, and each crossbar having its ends fixed to corresponding blocks in the respective side members.

2. A leg rest assembly according to claim 1 in which

said interengaging surfaces are end surfaces and in which the planes of the end surfaces of each block intersect below the said block.

3. A leg rest assembly according to claim 1 in which each block intermediate the front and back end blocks of the side mmebers has substantially parallel upper and lower surfaces, a pair of drilled lugs separated by a vertical slot at one end, a drilled lug at the other end, all said lugs being adjacent the upper surface of the block and extending no further upward than the level of said upper surface, and relatively inwardly slanted end surfaces considered in the downward direction.

4. A leg rest assembly according to claim 1 in which the crossbars are metallic and have at least a major portion of their leg-supporting area covered by a shofter material.

5. A leg rest assembly according to claim 4 in which said softer material is selected from the group consisting of natural and synthetic rubber and synthetic plastics.

References Cited in the file of this patent

UNITED STATES PATENTS

270,724	Baldwin	Jan. 16, 1883
508,938	Hamilton	Nov. 21, 1893
523,011	Schade	July 17, 1894
2,526,623	Maurer	Oct. 24, 1950
2,558,722	Almoslino	July 3, 1951
2,628,368	Gordon et al.	Feb. 17, 1953
2,661,940	Rollins	Dec. 8, 1953