UPHOLSTERED CHAIRS HAVING RECLINING BACKS

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UPHOLSTERED CHAIRS HAVING RECLINING BACKS

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5 Claims. (Cl. 297—403)

This invention relates to furniture and particularly to upholstered chairs having reclining backs.

Such chairs have been made with tall backs so as to provide for support for the sitter's head when in reclining position. Chairs with tall backs, however, do not have the appearance of the most popular upholstered chairs, which usually have short backs.

It is, therefore, a purpose of this invention to provide an upholstered chair that has a short back of usual height but which is provided with an improved head rest which is normally not seen from the front of the chair, but which may be moved to an extended or raised position to support the head when the chair is moved to reclining position. With such construction the chair does not look like a reclining chair but looks like a standard upholstered living room chair and can take the place of one, or act as such, whereas the ordinary reclining chair is an extra piece of furniture, in addition to the usual living room pieces.

Another object of this invention is to provide in a chair of the character described, a disappearing headrest which can be moved from a position at the rear of the chair back and therefrom, face饲养地, to a position spaced above the chair back, forwardly of its first position, projecting forwardly of the front of the chair back and facing forwardly.

Yet another object of this invention is to provide in a chair of the character described, highly improved means to releaseably lock the headrest in its up or in use position.

A still further object of this invention is to provide a chair of the character described, having a headrest which may be locked in a pair of upwardly extended positions of use, one more tilted forwardly than the other, for use when reclining and when it is desired to look in a more downwardly direction, as when looking at television.

A further object of this invention is to provide a chair of the character described, in which the headrest is connected to the chair back by a pair of cross-over pivoted levers, one pivoted to the chair back and connected to the headrest by a link, and the other pivoted to the headrest and connected by a link to the chair back.

A still further object of this invention is to provide a disappearing headrest mechanism in which the locking engagement of the headrest may be released by pushing the headrest forwardly from locked position and then rearwardly.

Yet a further object of this invention is to provide a strong, durable and compact disappearing headrest for a chair, which shall be relatively inexpensive to manufacture, easy to manipulate, smooth in operation, and yet comfortable and efficient in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction and of arrangement of parts, which will be exemplified in the construction hereinafter appearing, and of which the scope of invention will be indicated in the appended claims.

In the accompanying drawings in which is shown various illustrative embodiments of this invention:

FIG. 1 is a perspective view of a chair provided with a headrest embodying the invention, with parts broken away and in cross section, and showing the headrest in raised position of use;

FIG. 2 is a side elevational view of the lever and linkage mechanism at one end, controlling the headrest in the position of FIG. 1;

FIG. 3 is a view similar to FIG. 2, but showing the headrest in its lowered or disappeared position of non-use;

FIG. 4 is a rear, elevational view of the structure shown in FIG. 3;

FIG. 5 is a detail view of the locking mechanism in the position when the headrest is beginning to be moved forwardly to release the locking mechanism;

FIG. 6 is a view similar to FIG. 5 but showing the forwardly pushed position of the headrest for releasing the locking mechanism;

FIG. 7 is a view similar to FIG. 6 but showing the position of the locking mechanism as the headrest is being swung back after pushing the backrest forwardly to the position of FIG. 6;

FIG. 8 is a view similar to FIG. 7 but showing the position of the locking mechanism in fully released position;

FIG. 9 is a view similar to FIG. 1 but illustrating a modified construction in position of the headrest tilted to a more forward position;

FIG. 10 is a view similar to FIG. 2 and illustrating one end of the mechanism of FIG. 9;

FIG. 11 is a view similar to FIG. 2 and illustrating another modification; and

FIG. 12 is a view similar to FIG. 11, but showing the headrest in partially downwardly swung position.

Referring now in detail to the drawing, 10 designates a chair embodying the invention. The chair 10 may have a supporting frame 11, a seat 12, side arms 13, and a chair back or backrest 14. The back 14 may be movable from upright to reclining position, or the chair back may be fixed to the seat and be swingable therewith to reclinable position. The seat may be fixed or tiltable by usual well-known means.

The chair back 14 may be of usual height for upholstered chairs and not high backed, as is usual for reclining chairs. The reason reclining chairs have been made with high backs is to provide support for a person's head when reclining. An objection to a high back is that the chair then does not look like a usual low-backed chair which is preferable in the living room. The chair of the present construction, while being a reclining chair and having means, as will appear hereinafter, to support the person's head, yet will look like a standard upholstered living room chair and will not stand out, and it can be used as one of the living room pieces, and take the place of one, thereby obviating the necessity to purchase an extra piece of furniture when desiring a reclining chair.

The chair 10 is provided with a disappearing headrest 15 connected to the rear of the upper end thereof, a cross board 16 in an upright plane. Attached to the rear of board 16 at the ends thereof, are a pair of symmetrical, angle-shaped brackets 17 (only one of which is illustrated), each of which has a vertical flange 18 connecting said board and fixed thereto by screws 19, and a rearwardly projecting flange 20.

Pivoted to the lower end of each flange 20 near flange 18 as at 29, is a link 30.

Pivoted to each link 30, as at 31, is one end of a lever 32. The other end of the said lever 32 is pivoted as at 33, to one end of a bar 34. The bars 34 at the two ends are fixed to the ends of the headrest 15.

Said headrest has end walls 40 interconnected by transverse frame members 41, carrying the usual upholstery 42.
Pivoted to the rear upper end of each flange 20, rearwardly of pivot 29, as on pivot 43 (FIG. 3), is one end of a lever 44 crossing and interpoled to lever 20 at 45. Pivoted to the opposite end of lever 44, at 46, is one end of link 47, the opposite end of which is pivoted to, as at 48, to bar 34.

It will be noted that link 30 is at the outer side of flange 20. Lever 32 has fingers 32a, 32b at the ends thereof, the latter being in opposite directions from the main plane of the lever, carrying the pivots 31, 33, respectively. Lever 44 is at the inner side of flange 20 and has an outwardly offset finger 44a carrying the pivot 43, and crossing the plane of the central portion of lever 32, as shown in FIG. 4. The main portion of lever 44 is located at the inside of the central portion of lever 32. Finger 32b is in the plane of lever 47, whereas finger 32a is substantially in the plane of flange 20.

It will now be understood that the headrest 15 may be moved from the non-use position of FIG. 3 to the in-use position of FIGS. 1 and 2. As shown in FIG. 3, the headrest 15 extends downwardly and faces rearwardly and is located at the rear of the chair back 14. When swung upwardly, the headrest is spaced above the upper end of the back 15, faces to the front, and is located above the back frame in the plane thereof or slightly forward thereof.

The offset finger 44a of lever 44 is longitudinally curved as shown in FIGS. 2 and 3 to accommodate offset fingers 32c of lever 32 when the headrest is swung downwardly to the non-use position.

Releasable means is provided to lock the headrest in upwardly swung position of use. To this end there is fixed to the outer side of each flange 20, a bracket 22. Said bracket has an arm 23 fixed to said flange by screws or rivets 24, a web 25 extending at right angles to arm 23, and an arm 26 parallel to and spaced from said flange and connected thereto by a fixed cross pin 27 located near the upper edge of said flange in spaced parallel relation to flange 18.

Pivoted to an intermediate portion of link 30 as at 50 is a bell crank shaped latch 51 having one arm 52 extending in a line with said link, and a second arm 53 extending at an angle therefrom. Said arm 53 is formed with a curved hook-shaped tooth 54. Fixed to the arm 53 is a stop pin 55, the function of which will be explained hereinafter. Also pivoted to the arm 53, as at 55, is a pawl 56 which hangs by gravity. When the headrest is swung upwardly from the position of FIG. 3 to the position of FIG. 2, the fixed pin 27 engages the tooth 54 thereby swinging the latch 51 in a counter-clockwise or nodding motion of the spring 59. As the tooth 54 passes the lock pin 27, said pin will engage the lower end 56a of said latch and swing said latch in a counter-clockwise direction until it contacts the pin 54, as shown in FIG. 5 of the drawing. Thereafter the headrest may be pulled back to cause the tooth 54 to firmly engage the pin 27, and the headrest is then in locked position as shown in FIG. 2 of the drawing.

To release the headrest, the latter is first pushed forwardly causing the bell-crank 51 to swing upwardly in a counter-clockwise direction and thereby raising the bell-crank latch 51 and the tension of the spring 59. The pawl 56 will then by-pass the pin 27 and again the spring 59 will pull the latch 51 down.

The headrest may then be pushed or swung backwardly causing the pin 27 to push to the lower end of the latch toward the point of the tooth 54. The bell-crank will again swing downwardly or in a clockwise direction by pin 27, as shown in FIG. 7 of the drawing, until the tooth 54 by-passes the pin 27 and again the spring 59 will pull the latch 51 down to the position shown in FIG. 8, thereby permitting the headrest to be swung all the way down to the position of FIG. 3, which is the disapppeared non-use position of the headrest.

In FIGS. 9 and 10 there is shown a modified construction in which the headrest may be locked in two upwardly swung positions, one in a position similar to the position of FIG. 2, and the other being the position of FIG. 10, where the headrest is tilted forwardly and upwardly relative to the chair back 14. Such position is desirable at times, for example, when watching television.

Thus, the linkage connecting the headrest of FIGS. 9 and 10 with the chair back 14 are substantially the same as the linkages for which construction of the construction being that the bell-crank 51 of FIG. 2 is replaced by a bell-crank 51a having two teeth, 54a and 54b, which may be engaged by the lock pin 27. Thus, when the pin 27 engages the first tooth 54a, the headrest 15 of FIGS. 9 and 10 will be in upright position, similar to the position shown in FIGS. 1 and 2. However, the headrest may be swung forwardly until the pin 27 will engage the second tooth 54b, and in such position, the headrest will be locked in the position shown in FIG. 10, being tilted forwardly and upwardly relative to the backrest 14, so that the person reclining in the chair can have his head tilted forwardly so that he can watch television.

In FIGS. 11 and 12 there is shown another modification embodying the invention. In said figures, the chair back 14 is the same as in FIGS. 1 and 2, and includes a similar cross-bar 16, supporting a pair of brackets 17. The headrest 15 of FIGS. 11 and 12 includes an angle-shaped vertically extended side bracket 70, each having a flange 71 fixed to the headrest and a flange 72 extending rearwardly at right angles thereto, when the headrest is in raised position. Each flange 72 is formed with a longitudinal slot 73. Pivoted to the flange 20 of bracket 17 is a link 30b similar to link 30, and pivoted thereto as at 31a is a lever 32a, the outer end of which is pivoted as at 33a to the lower end of flange 72 of member 70. Also pivoted to flange 20 as at 43 is a lever 74 pivoted mediatly the ends thereof to an intermediate portion of lever 32a by a pivot 75. At the upper end of lever 74 is a pivot 76, headrest passing through the slot 73. Thus, as the headrest 15b is raised, the pin 76 will slide down the slot 73 to the position shown in FIG. 11. The structure of FIG. 11 may be provided with releasable locking mechanism similar to the locking mechanism of structure of FIGS. 1 and 2, When the headrest 15b of FIG. 11 is released, it may be swung rearwardly as illustrated in FIG. 2. The pin 76 then slides along the slot 73. Of course the headrest 15b may be swung all the way down to depending position where it is hidden back in the back of the chair back 14.

It will thus be seen that the invention is characterized in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiments above set forth, it is to be understood that the matter set forth above or shown in the accompanying drawings is merely illustrative and is not to be interpreted in a limiting sense, the scope of the invention being delineated in the appended claims.

Having thus described the invention, what we claim as new and desire to secure by Letters Patent is:

1. In combination, a chair back, a headrest, control means for swingably mounting the headrest on said chair back for movement from a retracted position behind the chair back, to an extended position spaced above the chair back, said control means comprising a pair of links pivotally mounted at spaced adjacent points on the chair back, a second pair of links connected to spaced points on the headrest, means interconnecting said links for coordinated movement thereof, a bell crank pivotally mounted on one link of said first pair of links, a fixed member on said chair back and a spring urging the rotation of said bell crank in the direction of the headrest.
2. In combination, a chair back, a headrest, control means for swingably mounting the headrest on said chair back for movement from a retracted position behind the chair back, to an extended position spaced above the chair back, said control means comprising a pair of links pivotally mounted at spaced points on the chair back, a second pair of links connected to spaced points on the headrest, means interconnecting said links for coordinated movement thereof, a bell crank pivotally mounted on one link of said first pair of links, a fixed member on said chair back, a spring urging the rotation of said bell crank in the direction of said fixed member, said bell crank having a tooth positioned to engage said fixed member for releasably locking said headrest in extended position, and a pawl pivot to said bell crank and adapted to sweep the space inside the tooth.

3. In combination, a chair back, a headrest, control means for swingably mounting the headrest on said chair back for movement from a retracted position behind the chair back, to an extended position spaced above the chair back, said control means comprising a link pivotally connected to the chair back, a first lever pivotally connected at one end to the chair back, a second lever pivotally connected at one end to said link and crossing the first lever and being pivotally interconnected thereto, and connecting means operatively connecting the other end of said second lever to the headrest, a bell crank pivotally mounted on said link, a fixed member of the chair back, and a spring urging the rotation of said bell crank in the direction of said fixed member, said bell crank having a tooth positioned to engage said fixed member for releasably locking said headrest in extended position.

4. The combination according to claim 3 in which said connecting means comprises an additional link pivotally connected at one end to said second lever and at the other end to said headrest.

5. The combination according to claim 3 in which said connecting means comprises a pin-and-slot coupling between the second lever and the headrest.

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