Feb. 12, 1957 E. M. DECKER 2,781,082

UPHOLSTERED CHAIR WITH ADJUSTABLE HEAD REST

Filed Nov. 15, 1954 2 Sheets-Sheet 1

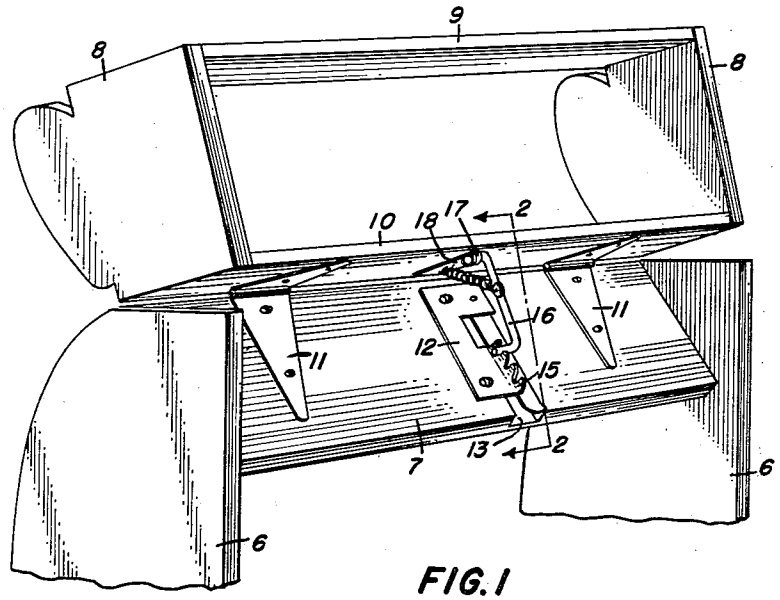


FIG. 1

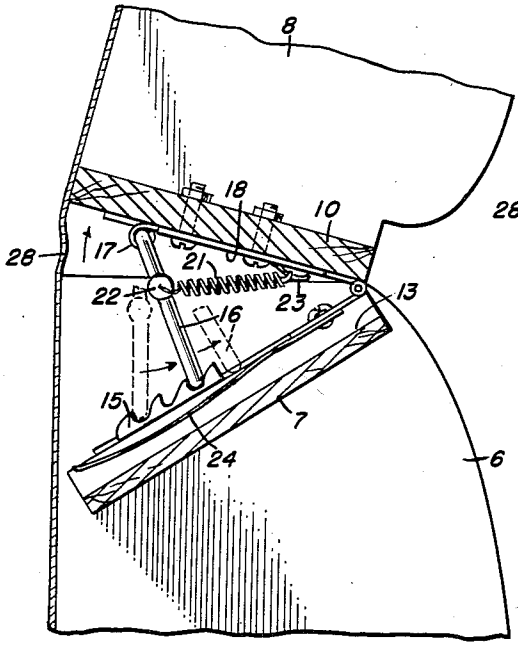


FIG. 2

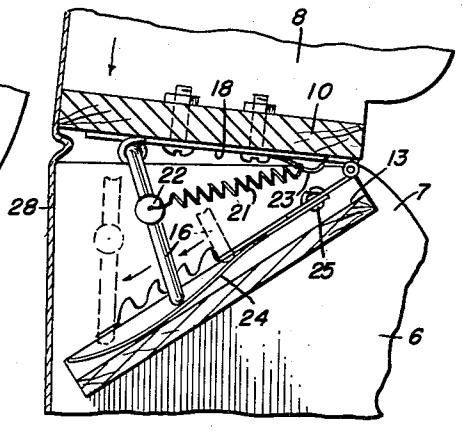


FIG. 3

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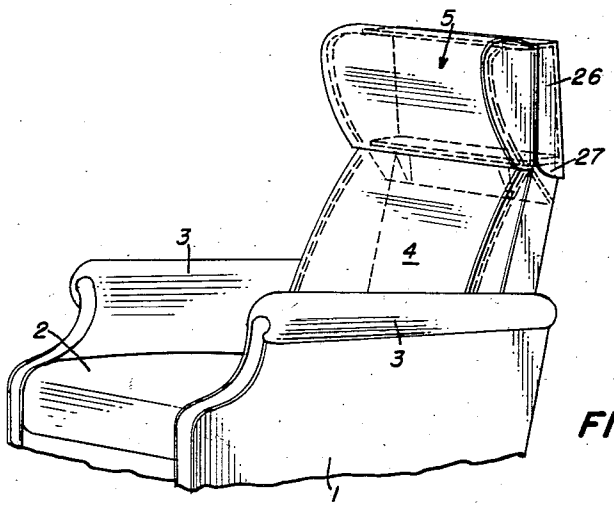


FIG. 4

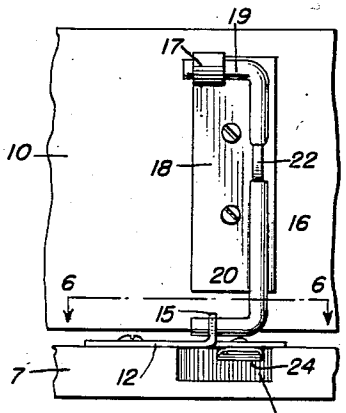


FIG. 5

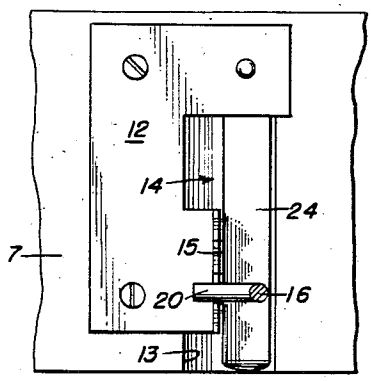


FIG. 6

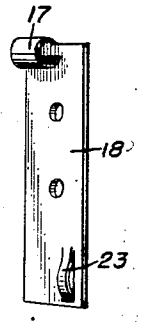


FIG. 7

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UPHOLSTERED CHAIR WITH ADJUSTABLE HEAD REST

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Application November 15, 1954, Serial No. 468,827

1 Claim. (Cl. 155—177)

The invention relates to new and useful improvements in an upholstered lounge chair equipped with a head rest.

An object of the invention is to provide a chair of the above type with means whereby the head rest may be adjusted to different set angular positions, which means is completely concealed within the upholstery on the chair and is shiftable to different set positions by hand pressure applied to the head rest.

A further object of the invention is to provide an adjustable head rest of the above type wherein the head rest is held in different set positions by an arm engaging a toothed rack bar and wherein said arm when it moves off the upper end of the rack bar will be returned to the lower end thereof for reengagement with the rack bar, all of which parts are concealed within the upholstery and operated by hand pressure applied to the head rest.

These and other objects will in part be obvious and will in part be hereinafter more fully disclosed.

In the drawings which show by illustration the preferred embodiment of the invention:

Figure 1 is a perspective view taken from the rear of the chair and showing the framework of the upper part of the back of the chair and the framework of the head rest which is hinged thereto.

Figure 2 is a sectional view on the line 2, 2 of Figure 1, to which has been added a portion of the upholstery covering showing the manner in which the operating parts for the head rest are concealed within the upholstery, said figure also showing the supporting arm for the head rest in different positions in broken lines.

Figure 3 is a view similar to Figure 2 but showing the arm for supporting the head rest on its return stroke in full lines and in broken lines in other positions.

Figure 4 is a view of the upper portion of the lounging chair showing the seat, the back, the arm rests and the head rest with the upholstery covering the same.

Figure 5 is a view from the rear showing the means for holding the head rest in different set positions.

Figure 6 is a view on the line 6—6 of Figure 5 and

Figure 7 is a perspective view of the plate attached to the frame of the head rest and having a lug formed therefrom for pivotally receiving the supporting arm and also a lug struck up from the plate to which the control spring is attached.

In Figure 4 of the drawing there is shown the upper portion of an upholstered lounging chair to which the improvements have been applied. The chair as illustrated in said figure includes a body structure 1 supporting a seat 2 and having side arms 3, 3 extending upwardly above the seat. Between the side arms is a back 4 and hingedly connected to the upper end of the back 4 is a head rest 5.

In Figure 1 a portion of the upper framework of the body is shown without any upholstery covering, said illustrated body portion includes side members 6, 6 and extending from one side member to the other is a cross board 7 which is rigidly secured to said side members. This cross board 7 inclines downwardly from the front side thereof to the rear side.

The head rest frame structure includes side members 8, 8 which are connected by a top board 9 and a bottom board 10. These boards 9 and 10 are rigidly connected to the side boards. The head rest framework is secured to the cross board 7 by hinges 11, 11. One leaf of each hinge is secured to the cross board 7 and the other to the underside of the cross board 10 of the head rest. Inasmuch as the cross board 7 inclines downwardly from front to rear and the pivot line of the hinges is at the upper end of the cross board this will provide ample space between the cross board 7 of the body and the cross board 10 of the head rest for means for holding said head rest in different set positions.

This means for supporting the head rest in different set positions includes a plate 12 which is secured to the upper face of the cross board 7. There is a slot 13 in the cross board and the plate at one side overhangs the slot. The plate is notched or cut away at 14. The lower portion of the plate is turned upwardly and formed into a toothed rack 15. This toothed rack is directly over the slot 13. A supporting arm 16 is pivotally connected by a lug 17 to a plate 18 attached to the underface of the cross board 10 of the head rest. This plate 18 is more clearly shown in Figure 7 of the drawings. The lug 17 is an extension of the plate and curled back upon itself to form a cylindrical bearing member for the upper laterally bent portion 19 of the arm 16. This arm 16 has a laterally bent portion 20 which is adapted to engage between the teeth of the rack bar 15. The teeth of this rack bar 15 incline upwardly to a limited extent so that when the portion 20 of the arm engages between the teeth it will be held from downward movement along the rack and serve as a positive means for supporting the head rest in a set position.

A spring 21 is attached at its lower end to the arm 16 by inserting the end of the spring through an opening in a flat section 22 of the arm 16. The upper end of the spring is attached to the lug 23, which is struck up from the plate 18 near the lower end thereof. This spring tends to swing the arm in a counter-clockwise direction (Fig. 2) about it pivotal support. If one applies the hand pressure to the head rest for tilting it to another angular position the spring will cause the arm to slide from one tooth to the next tooth as shown in full lines and broken lines in Figure 2 of the drawings.

When the head rest has been tilted forward to its extreme position as shown in Figure 2, then a hand pressure on the head rest to swing it slightly further on its pivot will cause the arm to pass off from the rack bar and into the opening 14. The weight of the head rest will cause the arm to move down through the opening into engagement with a leaf spring 24 which is rigidly attached at 25 to the underside of the plate 12. The arm will slide along the leaf spring which is engaged thereby as shown in Figure 3 and when it reaches the lower end of the rack bar which is the dotted line position of the arm in Figure 3 the leaf spring will force it upwardly so that when the head rest is pressed forward the arm will move up onto the rack and in between the teeth of the rack.

Assuming that the head rest is adjusted to a set position so that the arm engages between the lowermost teeth on the rack, a light pressure on the head rest will cause the same to tilt to a further angle and the arm will move over the second tooth from the bottom and into the pocket between the next two teeth. It is noted that there are three set positions for the head rest indicated in the rack bar but it is obvious that this rack bar may be made longer and provided with more teeth so that the head rest may be shifted to more set positions. When the head rest is set with the arm in the upper pocket between the teeth on the rack bar and it is desired to adjust it to a rear position then the head rest is moved forward so that the arm will leave

the rack bar, pass through the slot into engagement with the leaf spring and the weight of the head rest itself will cause the arm to move down the leaf spring to the lower end of the rack bar and the spring will raise the arm and head rest so that on a forward movement of the head rest said arm will move up onto the rack bar and into the first pocket.

When the upholstery is applied to the head rest there is a plate **26** attached to the side members **8** of the head rest which is covered by the upholstery and extends downwardly at **27** so as to overlap the upper end portion of the back and thus it is that the mechanism for adjusting the head rest is concealed from the sides of the chair. The upholstery at the back of the chair extends upwardly onto the head rest as indicated at **28** and thus the mechanism for adjusting the head rest is further concealed.

It is noted that this improved means for supporting the head rest is simple in construction and can be wholly concealed within the upholstery as there are no levers, push buttons or the like necessary for bringing about the adjustment of the head rest. This is accomplished by simply applying hand pressure against the head rest.

It is obvious that minor changes in the details of construction may be made without departing from the scope of the invention as set forth in the appended claim.

I claim:

An upholstered lounging chair comprising a body structure including connected seat, arms and back all of which

are covered by upholstery, said back having adjacent its upper end a rearwardly inclined frame member, a head rest having at its lower side a transverse frame member, hinges connecting said members, a plate carried by said back frame member, said plate having a portion at one side thereof turned upwardly and shaped to form a rack bar overlying a groove in the back frame member, said plate being cut away at the upper end of the rack bar to expose the groove beneath the rack bar, a flat spring disposed in said groove and extending beyond the lower end of said plate, an arm pivoted to the head rest member having a lower lateral portion engaging said rack and a spring connected to said arm for swinging said lower arm lateral portion downwardly to provide positive engagement with the rack bar as the head rest is moved toward the front of the chair, said lower arm portion moving off the rack bar at the upper end thereof and through the slot into said groove and into engagement with the flat spring upon return movement to the lower end of the rack bar.

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