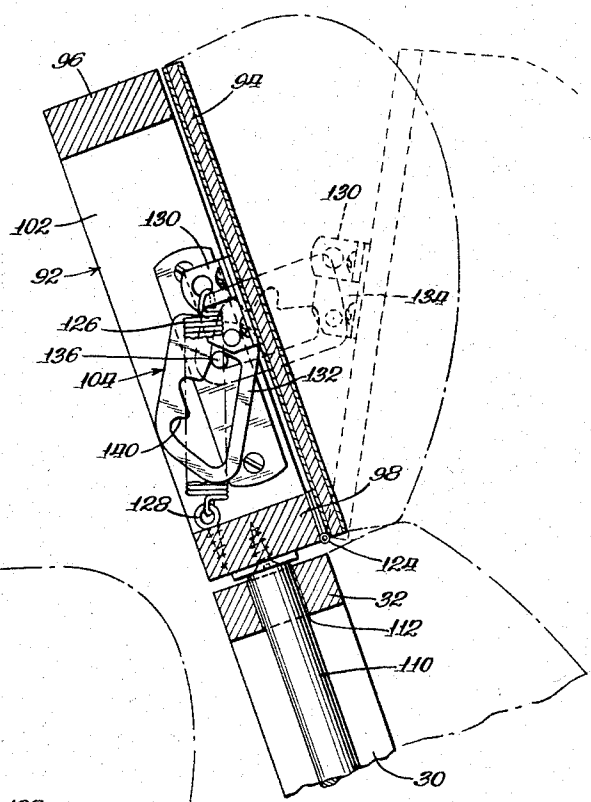
Jan. 20, 1959 J. S. PETERSEN ET AL 2,869,622

ADJUSTABLE HEAD REST

Filed Dec. 23, 1957

Fig. 1.



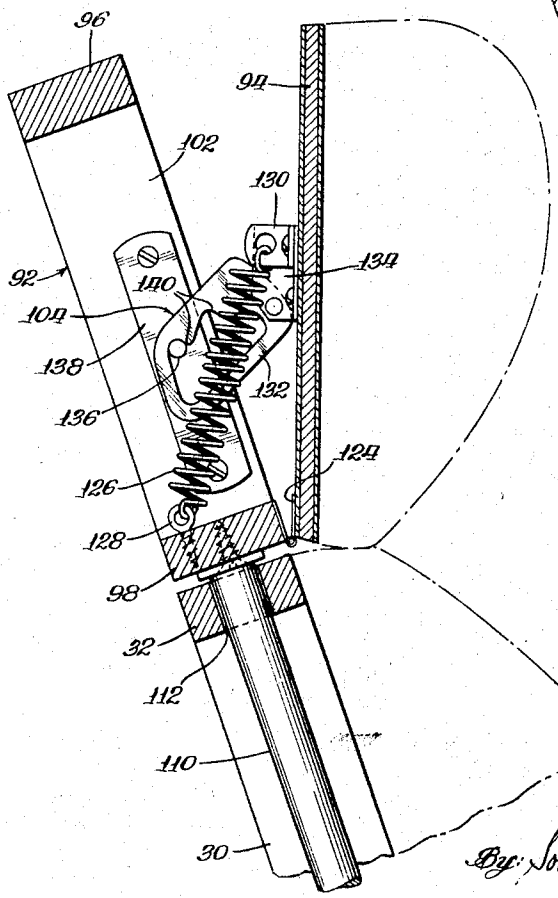


Fig. 2.

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ADJUSTABLE HEAD REST

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Original application April 15, 1955, Serial No. 501,664. Divided and this application December 23, 1957, Serial No. 704,548

1 Claim. (Cl. 155—177)

This invention relates to adjustable head rests for reclining chairs and is a division of application Serial No. 501,664, filed April 15, 1955.

It is the object of the invention to provide a head rest for reclining chairs or the like which can be adjusted manually to support the head of the occupant in an elevated position while the occupant reclines in the chair, as is desirable, for example, while reading in the reclined position, but which can be readily returned by the occupant to its normal position without requirng the occupant to move from his reclining position.

Other objects will become apparent as the invention is explained with reference to the following drawings which illustrate a preferred embodiment:

Figure 1 is a sectional view of the head rest showing its normal position in full lines and its extreme elevated or forward position in broken lines; and

Figure 2 is a view similar to Figure 1 but showing the head rest adjusted to a sustained, elevated position.

The novel head rest of the invention comprises a structural framework to which suitable upholstery is applied in accordance with design and functional requirements. It consists essentially of two parts, a wooden supporting frame **92** and a movable front panel **94** hinged at its lower edge to the supporting frame **92**, and bearing the upholstery padding for supporting the occupant's head. The supporting frame **92** includes upper and lower cross members **96** and **98** and suitable connecting members **102** which also provide partial support for a novel ratchet mechanism **104** for adjusting the two parts of the head rest relative to one another.

As shown in the drawings, the head rest is mounted atop the back rest **30** of a reclining chair for movement of the entire head rest away from the top of the back rest as an extension thereof. The movable mounting of the head rest on the back rest, the mechanical linkage which produces the described movement, and the thrust rod **110** which transmits the movement of the linkage to the head rest through the back of the chair, are all fully described in the parent application Serial No. 501,664, and form no part of the subject matter claimed herein.

The forward selectively adjustable part of the head rest comprises essentially the panel **94**, which is co-extensive with the head rest frame **92** and pivoted to the latter by means of a pair of hinges **124** at the bottom edges of the two members. The movable panel **94** forms the base for upholstery, the outline of which is indicated by broken lines in the drawings. A helical spring **126**, connected between a screw eye **128** secured to the lower cross member **98** of the head rest frame, and to an angle bracket **130** secured to the head rest panel **94**, normally maintains the two parts of the head rest together, as indicated by the full line portion of Figure 1.

The forward, pillow portion of the head rest may be elevated from or moved forwardly from its supporting frame **92** against the action of the spring **126** and maintained at one of two elevated positions by means of a ratchet member **132** which is pivoted to an angle bracket **134** secured, along with the spring bracket **130**, to the movable panel **94** of the head rest.

The ratchet member **132** is in the form of a closed loop which encompasses a pin **136** secured to a metal plate **138** fixed to the central member **102** of the head rest frame **92**. On its upper inside edge, the ratchet member is provided with two pin-engaging shoulders **140** for sustaining the swingable front part of the head rest at either of the two elevated positions. More remotely from the ratchet pivot, the inside, pin-engaging surface of the ratchet member is disposed at an obtuse angle to the line of the pin-engaging shoulders **140** so that, as the front or pillow portion of the head rest is drawn farther forwardly than the full-line, sustained position of Figure 2, the ratchet member is cammed upwardly about its pivot to the broken line position of Figure 1. In the latter position, as will be apparent from the drawing, the pin-engaging shoulders **140** are disposed well above the pin **136**. The spring **126** is preferably very strong in relation to the weight of the ratchet member and in relation to the mass or inertia of the pillow portion of the head rest, so that when the head rest is abruptly released from its forwardmost position, it will return under force of the spring **126** to the full line position of Fig. 1 without intermediate reengagement of the shoulders with the pin **136**.

To assure the return of the parts to the closed position shown in full lines in Fig. 1 without re-engagement of the ratchet shoulders with the pin, the ratchet member is preferably proportioned to make the best use of its inertia. Referring particularly to the broken line position of Fig. 1, it will be seen that the bulk of the mass of the ratchet member, which may be stamped or cut from plate stock, is disposed above a line extending between the pivot of the ratchet and the abutment pin **136**. More importantly, its center of gravity is disposed in that position above a tangent to the arcuate path of its pivot at the pivot, this tangent being taken to be the line of action of the force exerted upon the ratchet member by the panel **94** when the latter is abruptly released and allowed to recede under full force of the spring **126**. Thus the force exerted on the ratchet member by the moving panel **94** produces a moment opposed to that caused by gravity, and enhances the effectiveness of the spring **126** which would otherwise depend solely upon producing a rearward acceleration sufficient to move the ratchet shoulders rearwardly out of the range of the pin **136** before the acceleration due to gravity caused their re-engagement.

The abrupt return of the forward, pillow portion of the head rest has the further advantage of neutralizing the effect of friction at the ratchet pivot, inasmuch as the momentum accumulated by the ratchet on the return movement of the head rest under the action of the spring **126** forcibly returns it to the full line position of Fig. 1 as the panel **94** contacts the support frame **92**. The shock of the return of the panel **94** against the frame **92** is cushioned in part by the entrapment of air within the frame **92**, which is covered on its rear side with upholstery material, as will be understood.

The foregoing arrangement for extending the head rest automatically as an incident to the reclining of the back of the chair assures the proper placement of cushion support for the head of the occupant, and the provision for uninterrupted return of the movable pillow portion of the head rest to its normal closed position permits its independent adjustment by the chair occupant without direct manipulation of the ratchet mechanism and without requiring movement of the occupant out of the reclining position.

The features of the invention believed to be new and patentable are set forth in the appended claim.

We claim:

A head rest for the back of a reclining chair or the like comprising a pillow part pivoted at its lower end to a support secured to the chair back, a spring connected between the pillow part and said support for normally maintaining said pillow part in an extreme rearward position on said support, a pin on said support and a ratchet pivoted to said pillow part and having shoulders engageable by gravity with said pin for maintaining said pillow part at various positions forwardly of said extreme rearward position against the force of said spring, means on said ratchet for preventing disengagement thereof from said pin and for limiting forward movement of said pillow part against said spring to an extreme forward position beyond the forwardmost sustained position determined by said shoulders, the force of said spring and the distribution of mass of said ratchet member relative to the line of action of the force exerted thereon by the pillow part being such that when said pillow part is abruptly released from said extreme forward position, the spring returns it to said extreme rearward position without re-engagement of said shoulders and pin.

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