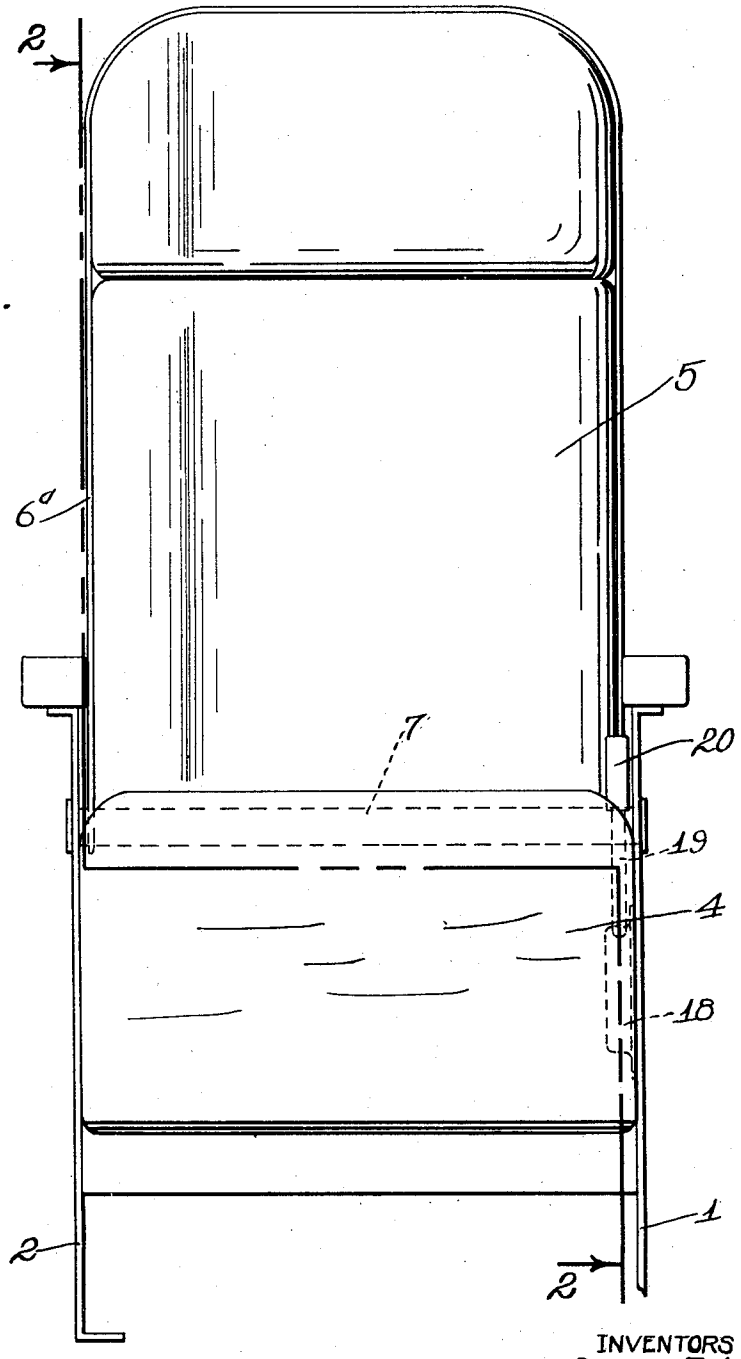
March 28, 1933. D. E. AUSTIN ET AL 1,903,253

CHAIR

Filed Aug. 4, 1930 3 Sheets-Sheet 1

Fig. 1.



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CHAIR

Filed Aug. 4, 1930 3 Sheets-Sheet 2

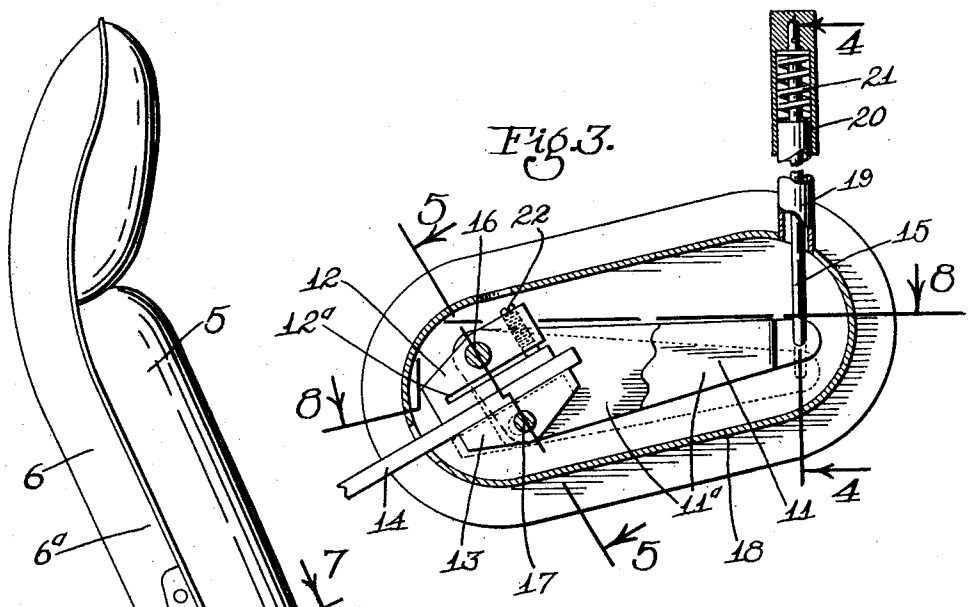


Fig. 3.

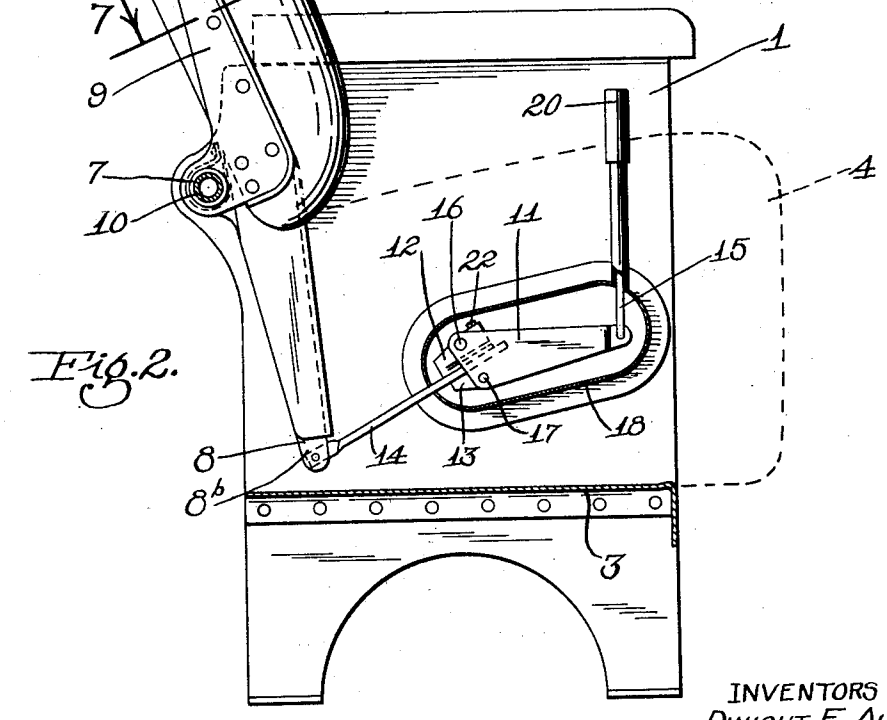


Fig. 2.

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CHAIR

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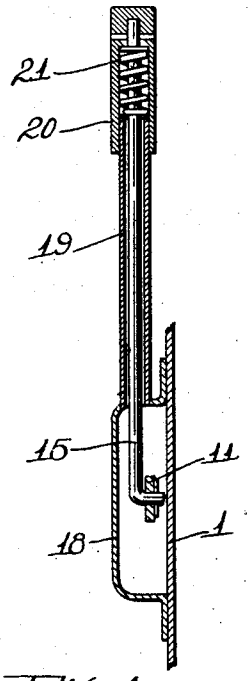


Fig. 4.

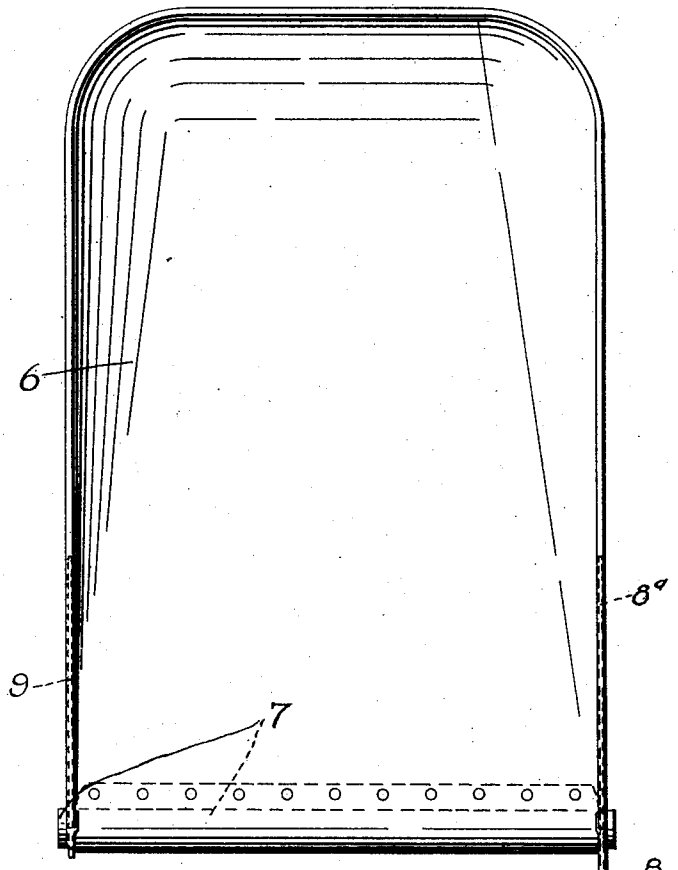


Fig. 6.

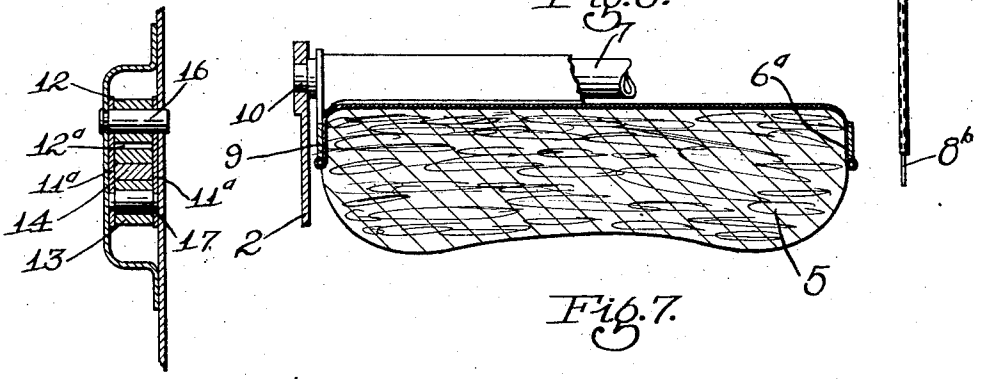


Fig. 7.

Fig. 5.

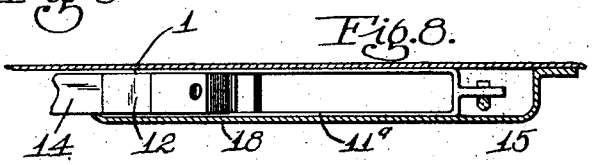


Fig. 8.

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Patented Mar. 28, 1933 1,903,253

UNITED STATES PATENT OFFICE

DWIGHT E. AUSTIN, PERCY R. BISSELL, AND EDWARD W. CRUTCHFIELD, OF LOS ANGELES, CALIFORNIA

CHAIR

Application filed August 4, 1930. Serial No. 472,796.

Our invention relates to chairs, and particularly to adjustable back chairs, adapted particularly for use in passenger carrying vehicles. It will be noted, however, that the adjustable back chairs herein disclosed are not limited in their use to passenger carrying vehicles.

The objects of this invention are: first, to provide an adjustable back chair in which the back may be shifted to and held rigidly in substantially any desired position from a substantially upright position to a greatly reclined position; second, to provide a chair of this class in which the back may be held in any intermediate position between its extreme forward and reclined positions; third, to provide a chair of this class in which the means for holding the back in the various back supporting positions holds the back the more tightly in such back supporting positions as the back of the chair is forced backwardly by the occupant of the chair; fourth, to provide a back controlling means for chairs of this class which is within convenient reach of the occupant and by which, with slight manual force, the back of the chair may be released and shifted by the back of the occupant, or otherwise, into any desired position; fifth, to provide a chair of this class whereby the back of the chair may be tilted or shifted forwardly by merely gripping the upper portion of the chair back and drawing the same forwardly; sixth, to provide a chair of this class whereby the chair back may be shifted to its various back supporting positions smoothly and without noise or effort; seventh, sition from and at one side only of such frame; tenth, to provide a novel sheet metal shell for the chair back for supporting the back cushion; and, eleventh, to provide a relatively light sheet metal back forming shell in combination with a simple, compact, but rigid frame for supporting the shell rigidly.

With these and other objects in view, as will appear hereinafter, our invention consists of certain novel features of construction, combination and arrangement of parts and portions, as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon which form a part of this application in which:

Figure 1 is a fragmentary front elevational view of our adjustable back chair in one form of construction; Fig. 2 is a partial side elevational and partial sectional view thereof taken at 2—2 of Fig. 1; Fig. 3 is an enlarged fragmentary sectional view of the back positioning means shown in Fig. 2; Fig. 4 is an enlarged fragmentary sectional elevational view thereof, taken through 4—4 of Fig. 3, but showing more completely the manual control means; Fig. 5 is a fragmentary sectional view thereof taken through 5—5 of Fig. 3; Fig. 6 is a front elevational view of the back of the chair separate and apart from the supporting and positioning means; Fig. 7 is a transverse sectional view of the back taken through 7—7 of Fig. 2; and Fig. 8 is a fragmentary sectional view of the back posi-

its pivotal axis, a pair of opposed friction jaws supported from the lever and pivotally mounted relative thereto and to each other, a friction member connected to the lower portion of the back and extending forwardly therefrom and with its free end between the jaws, and means for shifting the free end of the lever.

7. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion on and adjacent to the back end of the supporting means, a locking lever pivotally mounted at the side of the supporting means forwardly of the back and extending forwardly from its pivotal axis, a pair of opposed friction jaws supported from the lever and pivotally mounted relative thereto and to each other, a friction member connected to the lower portion of the back and extending forwardly therefrom and with its free end between the jaws, an operating rod reciprocally mounted in a vertical direction at the forward portion and inner side of the supporting means, said rod being connected at its lower end to the free end of the lever, and a spring means disposed so as to retain yieldably said rod in a raised position.

8. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion adjacent to the back of the seat, a locking lever pivotally mounted on the supporting means, a pair of opposed friction jaws supported from the lever and pivotally mounted relative thereto and to each other, a friction member connected to the lower portion of the back and extending between the friction jaws, and means in connection with one of the jaws for adjusting the friction member engaging face thereof with respect to its pivotal axis.

9. In a chair having a seat, a tiltable back, and supporting means therefor, the combination with said back of a lever arm extending therefrom, a friction rod pivotally connected therewith, a lever mounted on the supporting means, a pair of pivotally mounted opposed friction jaws carried by said lever and receiving said friction rod therebetween, said friction jaws disposed so that angular shifting of the lever causes variation of the space between said friction jaws.

10. In a chair having a seat, a tiltable back, and supporting means therefor, the combination with said back of a lever arm extending therefrom, a friction rod pivotally connected therewith, a lever mounted on the supporting means, a pair of pivotally mounted opposed friction jaws carried by said lever and receiving said friction rod therebetween, said friction jaws disposed so that angular shifting of the lever causes variation of the space between said friction jaws and means yieldably shifting said lever in a direction tending to force said friction jaws tightly into engagement with said friction rod.

11. In a chair having a seat, a tiltable back, a supporting means therefor, the combination with said back, of a lever arm extending therefrom, a friction rod pivotally connected therewith, a lever pivotally mounted on the supporting means, a pair of pivotally mounted opposed friction jaws carried by said lever and receiving said friction rod therebetween, the axis of one friction jaw coinciding and the axis of the other friction jaw offset with respect to the fulcrum axis of said lever, said friction rod tending to maintain the operating portions of said friction jaws in parallel disposed relation during movement of said lever whereby movement thereof causes variations of the space between said friction jaws.

12. In a chair having a seat, a tiltable back, and supporting means therefor, the combination with said back, of a lever arm extending therefrom, a friction rod pivotally connected therewith, a lever pivotally mounted on the supporting means, a pair of pivotally mounted opposed friction jaws carried by said lever and receiving said friction rod therebetween, the axis of one friction jaw coinciding and the axis of the other friction jaw offset with respect to the fulcrum axis of said lever, said friction rod tending to maintain the operating portions of said friction jaws in parallel disposed relation during movement of said lever whereby movement thereof causes variation of the space between said friction jaws and means yieldably shifting said lever in a direction tending to force said friction jaws tightly into engagement with said friction rod.

In testimony whereof, we have hereunto set our hands at Inglewood, California, this 28th day of June, 1930.

DWIGHT E. AUSTIN.
PERCY R. BISSELL.
EDWARD W. CRUTCHFIELD.

mitting the back to be shifted forwardly without material resistance.

The jaw 12 may be split, as indicated by 12*a*, for the purpose of taking up wear between the engaging surfaces of the jaws and the tongue 14. As adjusting screw 22 may be provided in the jaw 12 for separating the portions at the opposite sides of the slot 12*a*, as shown.

Though we have shown and described a particular construction, combination and arrangement of parts and portions, we do not wish to be limited to this particular construction, combination and arrangement, but desire to include in the scope of our invention the construction, combination and arrangement set forth in the appended claims.

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

1. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion adjacent to the back of the seat, a friction rod connected to the lower portion of the back and extending forwardly, a locking lever pivotally mounted on the supporting means, and a pair of opposed friction jaws pivotally mounted relative to each other on the lever and receiving therebetween one end of the friction rod, the shifting of the lever causing angular shifting of the jaws relative to the lever and causing variation of the space between the jaws.

2. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion adjacent to the back of the seat, a friction rod connected to the lower portion of the back and extending forwardly, a locking lever pivotally mounted on the supporting means, a pair of opposed friction jaws pivotally mounted relative to each other and carried by the lever and receiving therebetween one end of the friction rod, the shifting of the lever causing angular shifting of the jaws relative to the lever and causing variation of the space between the jaws, a control rod mounted on the supporting means and connected with one end of the locking lever for shifting the same, and a spring disposed between the collar on the control rod and the supporting means so as to shift said control rod in a direction tending to force the jaws tightly into engagement with the friction rod.

3. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally mounted at its lower portion on the supporting means back of the seat, a friction rod connected to the lower portion of the back and extending forwardly, a locking lever pivotally mounted on the supporting means, a pair of opposed friction jaws pivotally mounted relative to each other and carried by the lever and receiving therebetween one end of the friction rod, the shifting of the lever causing angular shifting of the jaws relative to the lever and causing variation of the space between the jaws, a control rod connected with one end of the locking lever for shifting the same, said control rod being mounted on the supporting means at one side of the seat, and a spring disposed between the collar on the control rod and the supporting means so as to shift said control rod in a direction tending to force the jaws tightly into engagement with the friction rod.

4. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion adjacent to the back of the seat, a locking lever pivotally mounted on the supporting means, a pair of opposed friction jaws supported from the lever and pivotally mounted relative thereto and to each other, and a friction member connected to the lower portion of the back and extending between the friction jaws, the line passing through the pivotal axes of the jaws being normally positioned at an angle to the portion of the friction member positioned between the jaws, said line passing through the pivotal axes of the jaws being shiftable to a position substantially normal to the portion of the friction member between the jaws when the locking lever is shifted to its unlocking position.

5. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion adjacent to the back of the seat, a locking lever pivotally mounted on the supporting means, a friction jaw supported from the lever and pivotally mounted relative thereto and on an axis coincident with the pivotal axis of the lever, a second friction jaw pivotally mounted on the lever in opposed relation to the first jaw, and a friction member connected to the lower portion of the back and extending between the friction jaws, the line passing through the pivotal axes of the jaws being normally positioned at an angle to the portion of the friction member positioned between the jaws, said line passing through the pivotal axes of the jaws being shiftable to a position substantially normal to the portion of the friction member between the jaws when the locking lever is shifted to its unlocking position.

6. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion on and adjacent to the back end of the supporting means, a locking lever pivotally mounted at the side of the supporting means forwardly of the back and extending forwardly from

its pivotal axis, a pair of opposed friction jaws supported from the lever and pivotally mounted relative thereto and to each other, a friction member connected to the lower portion of the back and extending forwardly therefrom and with its free end between the jaws, and means for shifting the free end of the lever.

7. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion on and adjacent to the back end of the supporting means, a locking lever pivotally mounted at the side of the supporting means forwardly of the back and extending forwardly from its pivotal axis, a pair of opposed friction jaws supported from the lever and pivotally mounted relative thereto and to each other, a friction member connected to the lower portion of the back and extending forwardly therefrom and with its free end between the jaws, an operating rod reciprocally mounted in a vertical direction at the forward portion and inner side of the supporting means, said rod being connected at its lower end to the free end of the lever, and a spring means disposed so as to retain yieldably said rod in a raised position.

8. In a chair of the class described, a supporting means, a seat in connection therewith, a back pivotally supported from said supporting means with its lower portion adjacent to the back of the seat, a locking lever pivotally mounted on the supporting means, a pair of opposed friction jaws supported from the lever and pivotally mounted relative thereto and to each other, a friction member connected to the lower portion of the back and extending between the friction jaws, and means in connection with one of the jaws for adjusting the friction member engaging face thereof with respect to its pivotal axis.

9. In a chair having a seat, a tiltable back, and supporting means therefor, the combination with said back of a lever arm extending therefrom, a friction rod pivotally connected therewith, a lever mounted on the supporting means, a pair of pivotally mounted opposed friction jaws carried by said lever and receiving said friction rod therebetween, said friction jaws disposed so that angular shifting of the lever causes variation of the space between said friction jaws.

10. In a chair having a seat, a tiltable back, and supporting means therefor, the combination with said back of a lever arm extending therefrom, a friction rod pivotally connected therewith, a lever mounted on the supporting means, a pair of pivotally mounted opposed friction jaws carried by said lever and receiving said friction rod therebetween, said friction jaws disposed so that angular shifting of the lever causes variation of the space between said friction jaws and means yieldably shifting said lever in a direction tending to force said friction jaws tightly into engagement with said friction rod.

11. In a chair having a seat, a tiltable back, a supporting means therefor, the combination with said back, of a lever arm extending therefrom, a friction rod pivotally connected therewith, a lever pivotally mounted on the supporting means, a pair of pivotally mounted opposed friction jaws carried by said lever and receiving said friction rod therebetween, the axis of one friction jaw coinciding and the axis of the other friction jaw offset with respect to the fulcrum axis of said lever, said friction rod tending to maintain the operating portions of said friction jaws in parallel disposed relation during movement of said lever whereby movement thereof causes variations of the space between said friction jaws.

12. In a chair having a seat, a tiltable back, and supporting means therefor, the combination with said back, of a lever arm extending therefrom, a friction rod pivotally connected therewith, a lever pivotally mounted on the supporting means, a pair of pivotally mounted opposed friction jaws carried by said lever and receiving said friction rod therebetween, the axis of one friction jaw coinciding and the axis of the other friction jaw offset with respect to the fulcrum axis of said lever, said friction rod tending to maintain the operating portions of said friction jaws in parallel disposed relation during movement of said lever whereby movement thereof causes variation of the space between said friction jaws and means yieldably shifting said lever in a direction tending to force said friction jaws tightly into engagement with said friction rod.

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