Jan. 27, 1942. C. C. DICKSON 2,271,330

CHAIR

Original Filed April 20, 1938

Fig. 3

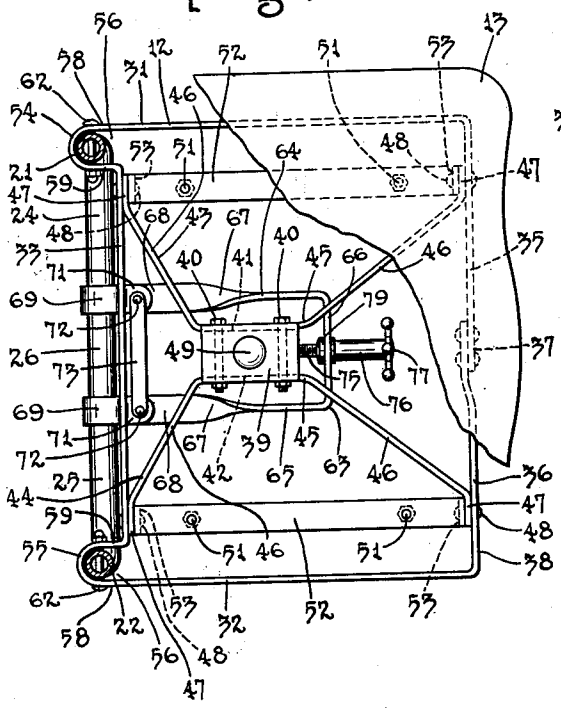


Fig. 1

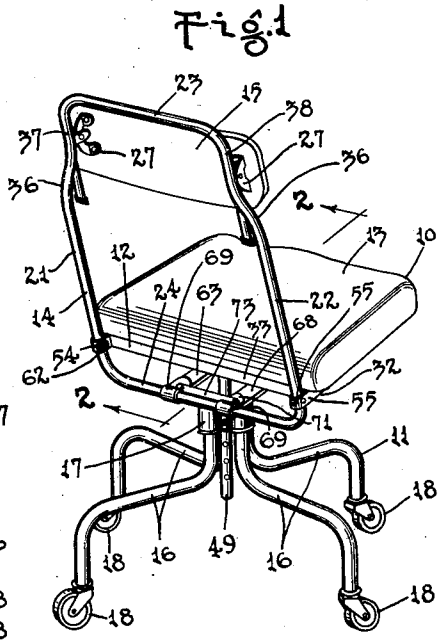
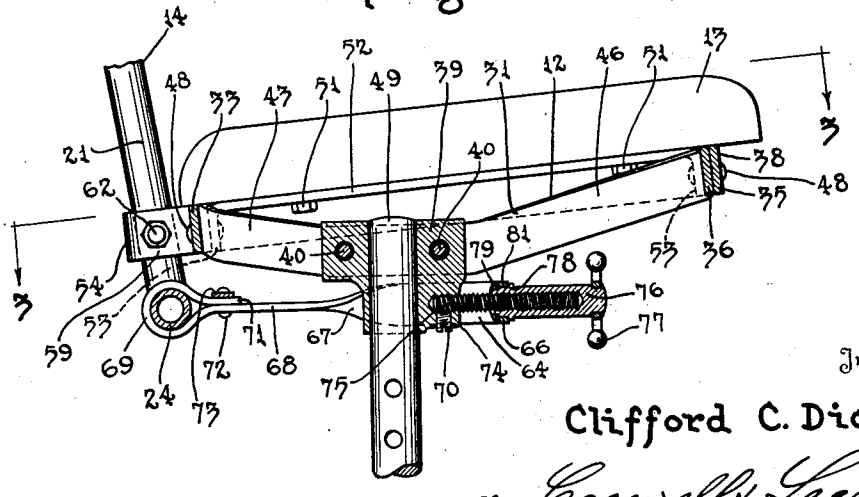


Fig. 2



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UNITED STATES PATENT OFFICE

2,271,330

CHAIR

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Original application April 20, 1938, Serial No. 203,054. Divided and this application November 15, 1939, Serial No. 304,536

6 Claims. (Cl. 155—161)

My invention relates to chairs and particularly to chairs having a back rest, and has for an object to provide a construction by means of which the back rest may be easily and quickly adjusted in a back and forth direction.

Another object of the invention resides in providing a chair in which the back rest may be adjusted while the operator is seated on the chair.

A still further object of the invention resides in providing a chair in which the back rest becomes automatically locked in adjusted position.

A feature of the invention resides in providing a construction for adjusting the back rest of a chair including a threaded member disposed at the forward portion of the chair and immediately below the seat thereof.

Another object of the invention resides in providing a construction which will not interfere with the standard of the chair.

A still further object of the invention resides in providing a construction which may be made of bar metal.

A feature of the invention resides in providing a construction having a yoke formed from a bar bent to provide two legs pivoted to the back rest frame and straddling the standard and a cross bar connected thereto.

An object of the invention resides in providing a screw fixed relative to the standard and issuing forwardly therefrom, and in providing a threaded sleeve rotatable relative to the cross bar and threaded on said screw for moving the yoke relative to the standard.

Other objects of the invention reside in the novel combination and arrangement of parts and in the details of construction hereinafter illustrated and/or described.

In the drawing:

Fig. 1 is a perspective view of a chair illustrating an embodiment of my invention.

Fig. 2 is a fragmentary sectional view taken on line 2—2 of Fig. 1 and drawn to a greater scale.

Fig. 3 is a plan sectional view taken on line 3—3 of Fig. 2.

This application for patent is a division of my copending application for patent for chairs, Serial Number 203,054 filed April 20, 1938.

For the purpose of illustrating the application of my invention, I have shown in the drawing a chair adapted to be used as a stenographer's chair and which is indicated in its entirety by the reference numeral 10. This chair consists of a base 11, a seat frame 12, and a seat 13 mounted thereon. Extending upwardly from the seat frame 12 and connected to it at the rearward portion thereof is a vertical frame 14 which supports a back rest 15. The back rest 15 is adjustable in a back and forth direction and the construction by means of which this is accomplished constitutes the principal feature of this invention. The various parts of the chair 10 will now be described in detail.

The base 11 may be constructed in any desired manner. In the form of the chair shown, four tubular legs 16 are illustrated which are connected to a socketed head 17. These legs have attached to them casters 18 which rest upon the floor. The head 17 is secured by a construction to be presently described to a frame 12 which carries the seat 13.

The vertical frame 14 consists of two vertical frame members 21 and 22, a cross frame member 23 at the upper portions of the frame members 21 and 22 and a cross frame member 24 at the lower portions of the frame members 21 and 22. The frame 14 is constructed from a single length of any suitable tubular material which is bent to form the various members referred to. The ends of the tubular material are welded together, the joint being preferably formed in the cross frame member 23. The vertical frame members 21 and 22 are constructed with reverse bends 36 near their upper ends which form off-sets 37 and 38, in the said frame members which are disposed inwardly of the major portions of the said frame members. The frame members 21 and 22 are attached to the frame 12 by a construction to be presently described in detail.

The back rest 15 may be constructed in any suitable manner and has attached to it two brackets 27 which are pivotally connected to suitable supports carried by the vertical frame members 21 and 22 of frame 14. This back rest may be raised and lowered by means of any suitable construction, which not forming a feature of the instant invention has not been shown in detail in the drawing.

The frame 12 is best shown in Fig. 3, and is constructed from a single bar of metal which is bent to provide two longitudinally extending frame members 31 and 32, a rearwardly extending cross frame member 33 and two forwardly extending cross frame member sections 35 and 36 which are joined together at 37 to form a single front cross member 38. At the center of the frame is provided a block 39 which is constructed with grooves 41 and 42 on opposite sides thereof. Two brackets 43 and 44 are attached to the block 39 and have parallel portions 45 which are re-

ceived within the grooves 41 and 42. Attachment is accomplished by means of two bolts 40 which extend jointly through the block 39 and through the parallel portion of the brackets 43 and 44. The brackets 43 and 44 have diagonally extending legs 46 which terminate in ears 47, attached to the cross frame members 33 and 38 by means of rivets 48. The block 39 has secured to it a vertically extending standard 49 which is rotatably mounted in the head 17 forming a part of the base 11.

The seat 13, of the chair, has attached to the underside thereof, by means of bolts or rivets 51, two longitudinally extending bars 52. These bars have outwardly extending ears 53 formed thereon which overlie the ears 47 of brackets 43 and 44 and which are attached to the frame 12 by means of the rivets 48, previously referred to.

The vertically extending frame 14 is pivotally mounted on the frame 12 in the following manner: At the joinder of the cross frame member 33 and the longitudinal frame members 31 and 32 are formed two loops 54 and 55. These loops are constructed with spaced portions 58 and 59 which provide spaces 56 therebetween. The vertical frame members 21 and 22 are arranged within said spaces and are pivoted to the frame 12 by means of bolts 62 which pass through the portions 58 and 59 of the loops 54 and 55 and through the said upright frame members. These bolts are so positioned that the lowermost cross frame member 24 is situated somewhat below the frame 12, as shown in Fig. 2.

The invention proper utilizes a yoke 63 (Fig. 3) which is constructed from a bar bent to provide two longitudinally extending legs 65 and 64 and a cross bar 66 connecting the same. The legs 64 and 65 are twisted, as designated at 67, to cause the outer portions 68 of the same to lie in the same plane. The extreme ends of the portions 68 are looped as indicated at 69 to form hinge members which encircle the tubular cross frame member 24 of the frame 14. The looped portions 69 are constructed at their extreme ends with tongues 71 which overlie the portions 68 where the same are confined to the same plane. The tongues 71 are secured to the portions 68 by means of rivets 72 which prevent hinge members 69 from opening up.

To maintain the two hinge members 69 in proper spaced relation a link 73 is employed which extends across the portions 68 of yoke 63 and which is secured thereto by means of the rivets 72. The yoke 63 is disposed beneath the brackets 43 and 44 of the frame 12 and straddles the block 39 and standard 49. The block 39, as best shown in Fig. 2, is formed at the lowermost and forward portion of the same with an outwardly projecting boss 74. This boss is threaded to receive a screw 75 which projects forwardly from said boss in a substantially horizontal position. This screw is held from rotation with reference to the boss 74 by means of a set screw 70 also threaded into said boss and engaging said screw. Threaded on the screw 75 is a sleeve 76 which has attached to its outer end a handle or knob 77 by means of which the said sleeve may be rotated. This sleeve is constructed at its other end with a shoulder 78 and has attached to its extreme end a collar 79 spaced from the shoulder 78. The cross bar 66 of the yoke 63 is formed with a hole 81 which receives the end of the spindle 76 and is held from longitudinal movement with respect to said spindle by means of shoulder 78 and collar 79. In the construction of the yoke 63 enough play is allowed in the hole 81 and between shoulder 78 and collar 79 so that compensation for swinging movement of the yoke 63 due to the oscillation of frame 14 about the bolt 62 is had.

The method of using the invention is obvious. While the occupant is seated upon the seat 13, the knob 77 may be readily rotated to rotate the sleeve 76. This causes the yoke 63 to move rearwardly and forwardly with reference to the block 39 and standard 49, which causes the seat frame 14 to swing about the pivots formed by the bolts 62. The back rest 15 is thus moved forwardly and rearwardly to adjust the position of the same with respect to the body of the user. As the yoke is moved with respect to the frame 14 the said yoke swings about the cross member 24 as a pivot, the hinge members 69 accommodating such movement.

The advantages of my invention are manifest. An extremely simple and practical construction is provided whereby the back rest may be moved in a back and forth direction. The knob for operating the mechanism is centrally located and is disposed at the forward portion of the seat frame so that the same is readily accessible. By means of my invention adjustment may be made while the occupant is seated on the seat. By the use of the particular yoke an extremely inexpensive construction is provided. By employing a threaded sleeve the threads are concealed and injury to the person or the clothing of the user is prevented. With my invention the back rest becomes locked in any of its adjusted positions due to the threaded member for adjusting the same.

Changes in the specific form of my invention, as herein disclosed, may be made within the scope of what is claimed without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to protect by Letters Patent is:

I claim:

1. In a chair, a supporting standard, a seat frame connected thereto, a pivoted back rest frame extending upwardly therefrom, two longitudinal members pivotally connected to the back rest frame and straddling said standard, a cross member connected to said longitudinal members forwardly of said standard, a screw fixed relative to said standard and projecting forwardly therefrom, and a threaded member screwed upon said screw and engaging the cross member for swinging said back rest frame in a forward direction.

2. In a chair, a supporting standard, a seat frame connected therewith, a pivoted back rest frame extending upwardly therefrom, a yoke having two legs straddling said standard, and a cross bar connected thereto, said legs being pivoted to the back rest frame, a screw fixed relative to said standard and projecting forwardly therefrom, a threaded sleeve screwed upon said screw, means for restraining axial movement of the screw relative to said cross bar, and means at the end of the sleeve for rotating the same.

3. In a chair, a supporting standard, an attaching member carried by the upper end of the standard, a seat frame attached to the attaching member, a pivoted back rest frame extending upwardly from the seat frame, a yoke having two legs straddling the attaching member and a cross bar connected thereto, said legs being pivoted to the back rest frame, a screw attached to said attaching member and projecting forwardly therefrom, and a threaded member screwed upon said screw and engaging the cross

bar for swinging the back rest frame in a forward direction.

4. In a chair, a supporting standard, a seat frame connected thereto, a back rest frame including vertical frame members and a cross frame member connected thereto and disposed at the lowermost portion thereof, means for pivoting said vertical frame members to said seat frame at a locality above said cross frame member, a yoke constructed from flat bar metal having two legs straddling said standard and a cross bar connected thereto and arranged with said cross bar and adjoining portions of said legs disposed vertically, said legs having quarter twists therein to cause the ends thereof to lie in a common plane, means attached to the ends of said legs for pivoting the same to the cross frame member of the back rest frame, and threaded means cooperating with said cross bar of the yoke, and a member fixed relative to the standard for moving the yoke longitudinally of the seat frame to procure forward movement of the back rest frame.

5. In a chair, a supporting standard, a seat frame connected thereto, a back rest frame extending upwardly from said seat frame, pivot means for pivoting said back rest frame to said seat frame, said back rest frame having a cylindrical cross frame member extending below said seat frame, a yoke constructed from ribbon material and having two spaced legs straddling said standard and a cross bar connected thereto, said legs having quarter twists therein intermediate the ends thereof, the ends of said legs being wrapped around said cross frame member to pivotally connect said yoke thereto, and threaded means acting between said cross member of said yoke and a member fixed relative to the seat frame for moving said yoke relative to said standard to procure forward movement of the back rest frame.

6. In a chair, a supporting standard, a seat frame connected thereto, a back rest frame extending upwardly from said seat frame, pivot means for pivoting said back rest frame to said seat frame, said back rest frame having a cylindrical cross frame member extending below said seat frame, a yoke constructed from ribbon material and having two spaced legs straddling said standard and a cross bar connected thereto, said legs having quarter twists therein intermediate the ends thereof, the ends of said legs being wrapped around said cross frame member to pivotally connect said yoke thereto, threaded means acting between said cross member of said yoke and a member fixed relative to the seat frame for moving said yoke relative to said standard to procure forward movement of the back rest frame, and a link connected to the ends of the legs of said yoke for restraining spreading thereof.

CLIFFORD C. DICKSON.