CHAIR HAVING REVOLVABLE VERTICALLY ADJUSTABLE SEAT

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5 Claims. (Cl. 155—94)

This invention relates to chairs, and more particularly to office chairs having swiveled, vertically adjustable seats.

This application is a division of my application Serial No. 175,603, filed July 24, 1950, now Patent No. 2,673,590.

It is an object of the invention to produce a chair of the type indicated which will lend itself to construction with sheet-metal and metal tubing, which can be simply and economically manufactured, which will prove sturdy and durable in use, and which will possess a pleasing appearance. Another object of the invention is to provide an improved means for adjusting a chair-back horizontally with reference to the chair-seat.

In carrying out the invention in the preferred form, I provide for the chair a base having an upwardly projecting seat-supporting rod, the rod being adjustable with respect to the base to provide for adjustment of seat-height. The chair-seat includes a cross-member having a pair of sheet-metal bearing supports in which is mounted a sleeve bearing rotatably receiving the upper end of the seat-supporting rod. A chair-back includes a back-support having two general horizontal, parallel arms which are slidable received in the aforesaid cross member, and means are provided for releasably holding such arms in any desired position of adjustment.

The accompanying drawings illustrate the invention: Fig. 1 is a front elevation of a chair in which the invention is embodied; Fig. 2 is a fragmental side elevation of the chair, in partial section on the line 2—2 of Fig. 3; and Fig. 3 is a horizontal section on the line 3—3 of Fig. 2.

The chair illustrated in the drawing comprises a base 11 which slidably receives a vertical seat-supporting rod 19. A rod-height adjusting lock 40 maintains rod 19 at any selected position of vertical adjustment, to provide for height adjustment of a chair-seat supported on the rod 19. The structure of the base and rod-lock forms no part of the invention of the present application, for it constitutes features of the parent application Serial No. 175,603, filed July 24, 1950, from which application this application was required to be divided.

The chair-seat (see Fig. 2) desirably comprises a frame in the form of a sheet-metal stamping shaped to provide a generally horizontal floor 21 and an integral, downwardly extending, peripheral flange 22. Padding 23 for the seat is supported on the floor 21 and covered by a covering 24 of fabric or the like which extends downwardly over the flange 22 and around the lower edge thereof.

The frame 21—22 is supported on a cross member 25, which desirably is a box-like sheet-metal stamping having outwardly flanges 26 at the upper edges of its front and rear walls. The floor 21 rests on top of the cross member 25 and may be secured thereto through the medium of tongues 27 struck downwardly from the floor and embracing the outer edges of the flanges 26.

To the upper and lower sides of the bottom of the cross-member 25 are secured oppositely disposed, dished bearing supports 30, conveniently formed as sheet-metal stampings and provided with peripheral flanges secured to the bottom wall of the cross member by rivets 31. The bearing supports 30 are provided with aligned openings receiving a tubular member 32 in which a sleeve bearing 33 is in turn received. The upper end of the rod 19 extends through the sleeve bearing 33 to support the seat for rotation about the axis of the rod. The load on the seat is transmitted to the rod 19 through a pin 36 secured to the rod 19 and engaging with the flanged lower end of the sleeve bearing 33. A pin 36 extending through the upper end of the rod 19 above the upper end of the sleeve bearing 33 prevents removal of the seat from the rod.

The chair shown in the drawings comprises a back support 50 to which a back 51 of any desired type is secured in any convenient manner. The support 50 is desirably a length of metal tubing bent into a generally inverted U-shape and having its lower end portions 52 bent to extend forwardly in parallel relation. The horizontally extending portions 52 are slidable in the holes which receive them, thus permitting the back 51 to be adjusted forwardly and rearwardly of the seat. To hold the back support in any desired position of fore and aft adjustment, I may employ set screws 53 which extend through the bottom of the cross member 25 into clamping engagement with the back-support portions 52.

In assembling the chair described, the two bearing supports 30 are secured to the cross member 25, the sleeve bearing 33 is put in place, the rod 19 with the collar 34 secured to it is inserted into the sleeve bearing from below, and the pin 36 is put in place to prevent withdrawal of the rod. The stamping 21—22 with the tongues 27 bent downwardly to clear the flanges 26, is positioned on the cross member, and the tongues 27 are then bent into the positions shown in Fig. 2 to embrace the edges of the flanges 26 and secure the seat and cross member 25 together. The upholstery may be applied to the seat either before or after its assembly with the cross member 25.

The back and back support may be mounted on the seat either before or after the seat is applied to the base. In mounting the back support on the seat, the horizontal portions 52 of the support are passed forwardly through the holes in the rear side of the seat-flange 22 and through the aligned openings in the front and rear walls of the cross member 25. A transverse pin 58 may be provided in each of the horizontal portions 52 of the back support to prevent inadvertent withdrawal thereof from the cross member.

I claim as my invention:

1. In a chair of the type described, a base, a seat-supporting rod extending upwardly from said base, a seat provided with a sheet-metal cross-member having a lower wall of substantial horizontal extent, a pair of dished bearing supports having peripheral portions secured to the upper and lower faces of said lower wall and intermediate portions spaced vertically above and below said wall, and a sleeve bearing extending between said supports secured to said intermediate portions, said sleeve bearing receiving and being rotatable on the upper end of said rod.

2. In a swivel chair, a base, a seat-supporting rod extending upwardly from said base, a seat provided with a sheet-metal cross-member having a transversely extending lower wall, a pair of bearing plates secured to said lower cross-member wall and having intermediate por-
3. The invention set forth in claim 2 with the addition of a sleeve-like plate-supporting bearing extending between said intermediate plate-portions, said sleeve-bearing receiving and being rotatable on the upper end of said rod.

4. The invention set forth in claim 2 with the addition of abutment means carried by said rod and acting through one of said plates for holding said seat in desired elevation with respect to said rod.

5. The invention set forth in claim 2 with the addition that said front and rear walls are provided with two pairs of aligned openings, and a back support having parallel horizontal portions slidably received in said openings.

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