



# UNITED STATES PATENT OFFICE.

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## CHAIR ADJUSTMENT.

SPECIFICATION forming part of Letters Patent No. 646,107, dated March 27, 1900.

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*To all whom it may concern:*

Be it known that I, JULIUS KARPEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Chair Adjustments, of which the following is a specification.

My invention relates to means for adjusting the backs of chairs, more particularly of the type commonly known as "Morris chairs."

My object is to simplify and cheapen the back-adjusting means, as well as to provide means more readily operated by the occupant of the chair without the necessity of arising.

In the accompanying drawings, which illustrate my improvement, Figure 1 is a view in side elevation of a chair equipped with my improvement; a portion being broken away to show the pivotal connection of the back; Fig. 2, a perspective view of the adjusting means detached; Fig. 3, a broken perspective view illustrating a modification, and Fig. 4 a view illustrating a further modification.

A represents the chair-body; B, the back, hinged at its base to said body, and C the adjusting mechanism for the back.

The adjusting means C comprises, preferably, a bent rod  $a$ , having the curved side portions  $a'$  and a back or connecting portion  $a^2$ , angular clips  $b$ , provided on their vertical portions with perforations to receive the curved portions  $a'$  and provided on their horizontal portions with perforations which receive the attaching-screws, by means of which the clips are secured to the under surfaces of the chair-arms, and knobs or balls  $c$ , which screw onto the ends of the curved parts  $a'$  and give a finished appearance and also afford handles for the adjusting-rod. The rod as thus described is of general U-shaped appearance, with the side portions  $a'$  embracing the sides of the chair and the connecting or web portion  $a^2$  supporting the chair-back. Preferably the web portion is left unattached to the back to permit a certain relative movement between the parts, and the chair-back is provided with metallic chafing-plates  $d$ , with which the web portion contacts.

The perforations which receive the members  $a'$  are sufficiently large to permit ready movement when the members are balanced against tipping. When the members are

moved to a given position and allowed to drop down slightly at the back, they are automatically locked to the clips, and any weight upon the chair-back serves only to tighten the grip between the members  $a'$  and the clips. The purpose of curving the members  $a'$  is to get a greater range of movement of the back with a given length of said members than could otherwise be obtained and also to avoid any great movement of the web  $a^2$  longitudinally of the chair-back. Thus it will be noted that in the dotted position of the back shown in Fig. 1 the distance of the web  $a^2$  from the pivotal point of the back does not vary much from its distance shown in the position in full lines. It is possible to make the curve of the members  $a'$  such that there is practically no movement of the web longitudinally of the chair-back except that which arises from the fact that the perforations which receive the members  $a'$  are of slightly-larger diameter than said members and also from the fact that as the distance of the web  $a^2$  from the clips increases the springiness of the members  $a'$  increases, thereby permitting the web to drop lower than would be its true position were said members perfectly rigid.

Fig. 3 shows the web portion of the rod modified in form to cause it to conform to the arm-uprights  $e$  when the back is in the vertical position between the chair-arms.

Fig. 4 shows the members  $a'$  straight. It is obvious that where this construction is used the web portion  $a^2$  would not rise and lower in the same manner that it does where said members are curved, and that, consequently, to secure the same range of movement of the back said members would have to be much longer than they are in the curved form. Furthermore, there would have to be quite a movement of said web portion longitudinally of the back, which would prove objectionable where the back is designed to be lowered to near a horizontal position.

The gist of my invention lies in providing rigid guides  $b$ , through which the members  $a'$  pass, and means at the rear ends of said members (preferably the web  $a^2$ ) for engaging the back of the chair, said engaging means being allowed a certain movement longitudinally of the chair-back to permit the gripping action to take place.

Changes in detail of construction within the spirit of my invention may be made.

What I claim as new, and desire to secure by Letters Patent, is—

- 5 1. The combination with a chair provided with a pivoted back, of rigid guides secured to the chair provided with perforations, and curved members  $\alpha'$  passing through said perforations and frictionally engaging therewith  
10 and provided at their rear ends with means for engaging said chair-back, substantially as and for the purpose set forth.

2. The combination with a chair provided

with arms and with a pivoted back, of rigid depending clips secured to said arms and provided with perforations, curved members  $\alpha'$  15 passing through said perforations and frictionally engaging therewith, and a back-supporting web  $\alpha^2$  connecting the rear ends of said members and left free to move with relation to the chair-back, substantially as and 20 for the purpose set forth.

JULIUS KARPEN.

In presence of—

D. W. LEE,

F. J. MARTIN.