

July 10, 1934.

H. T. HALLOWELL ET AL

1,966,343

CHAIR

Filed May 26, 1932

4 Sheets-Sheet 1

Fig. 1.

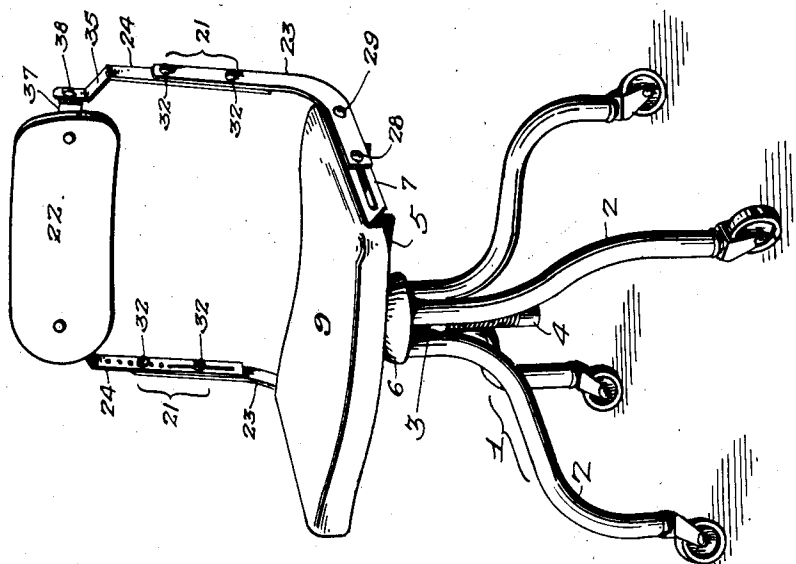
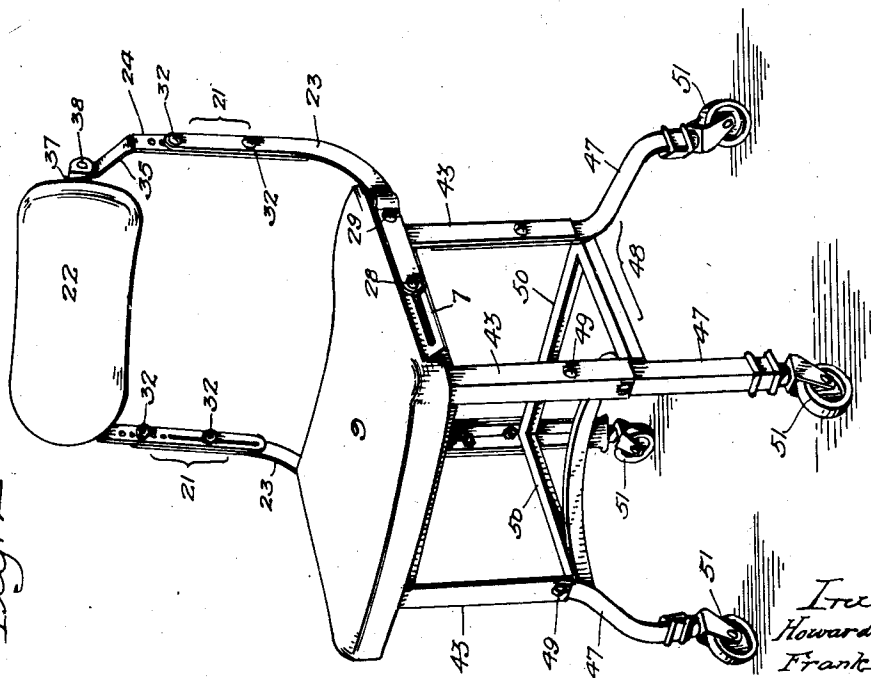


Fig. 2.



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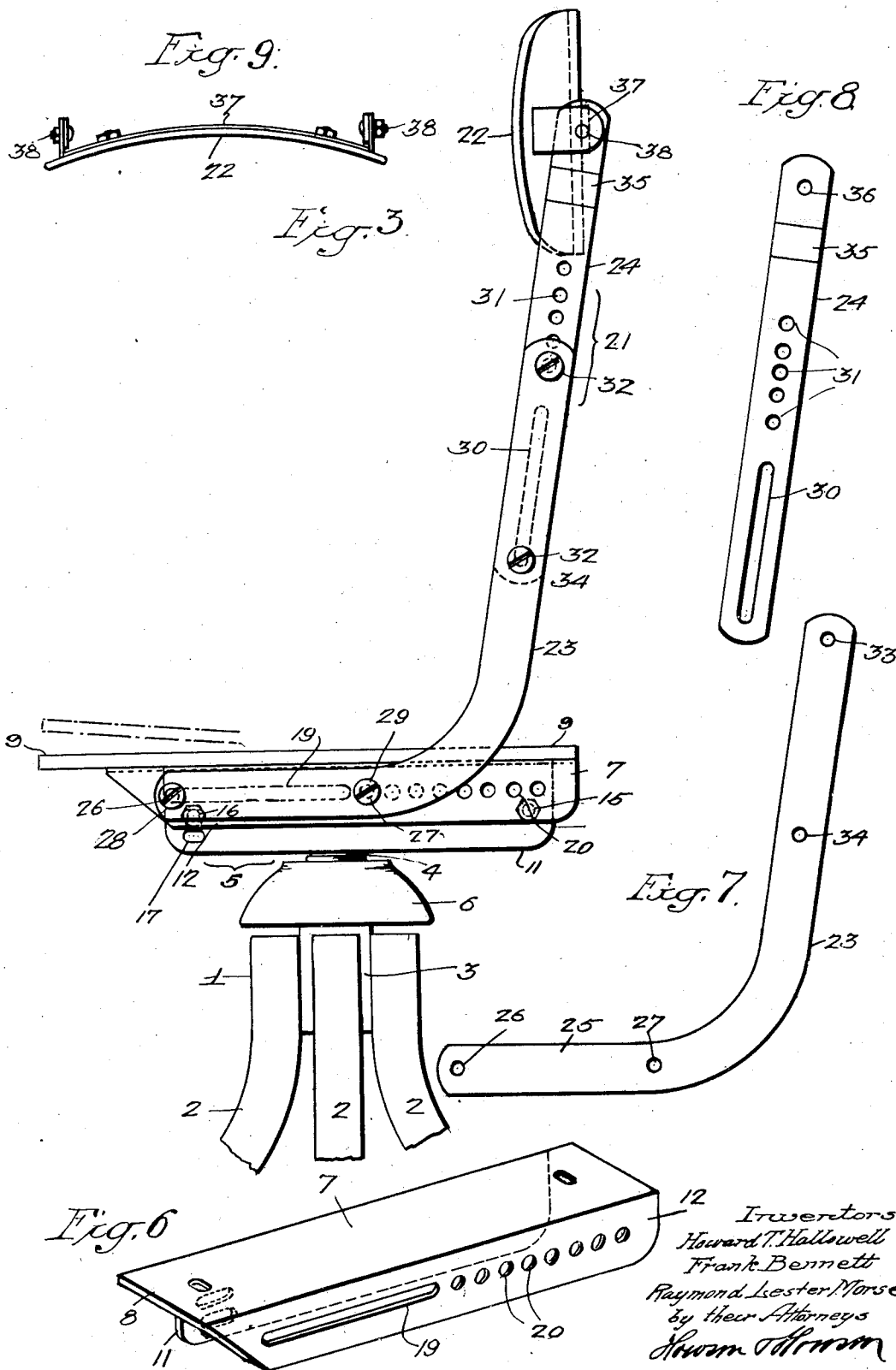
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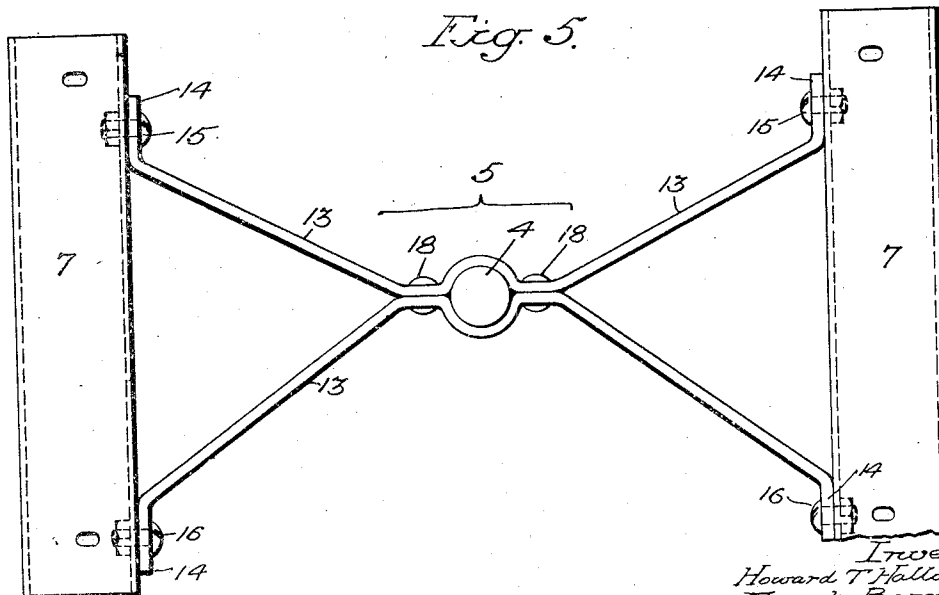
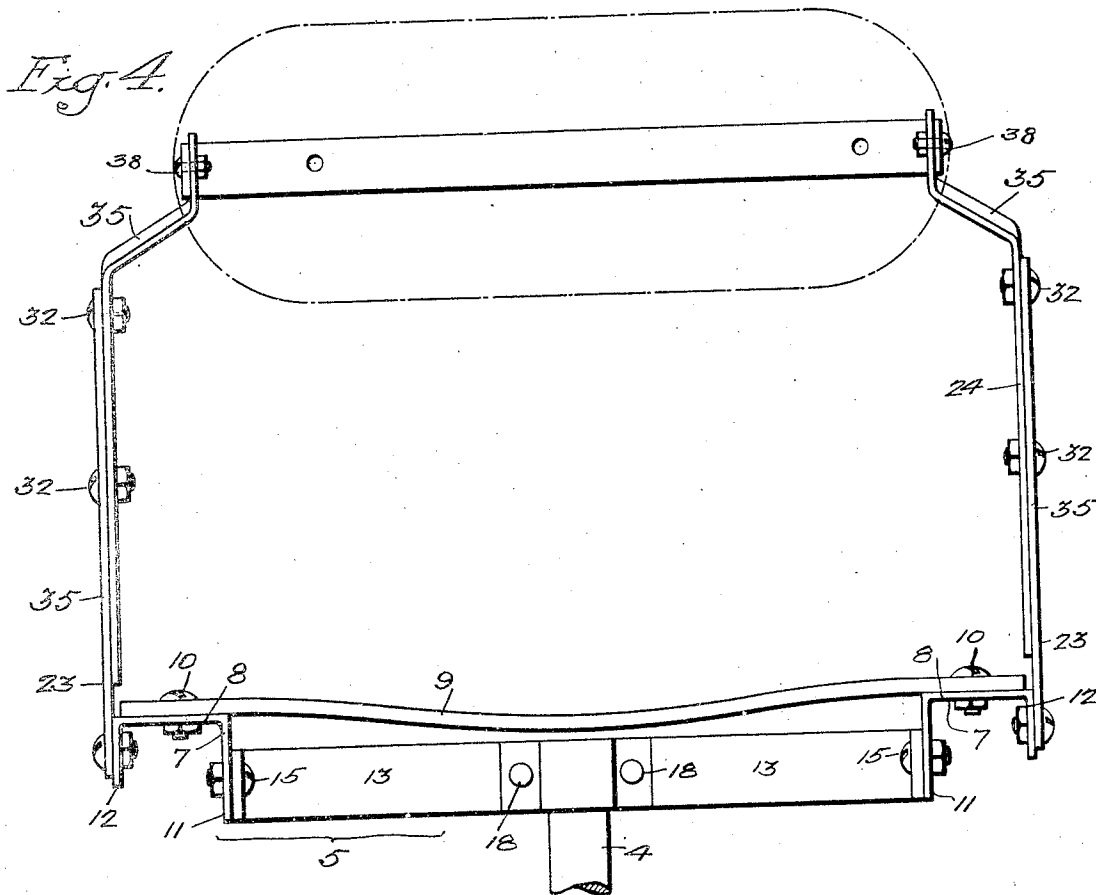
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4 Sheets-Sheet 3



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Fig. 11.

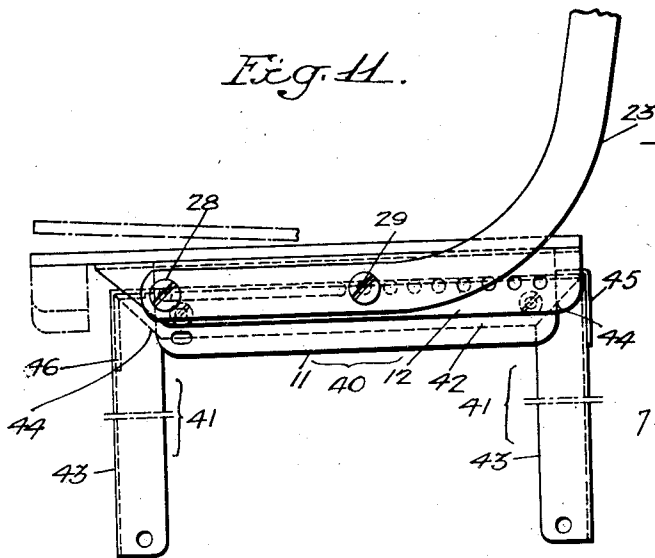


Fig. 12.

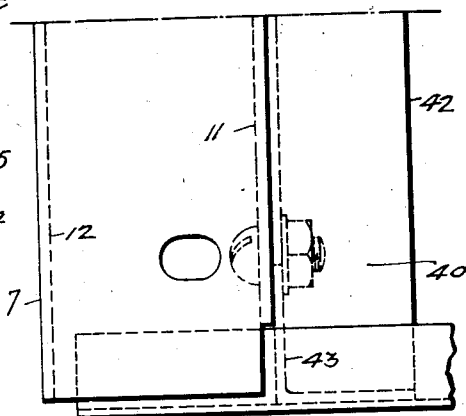
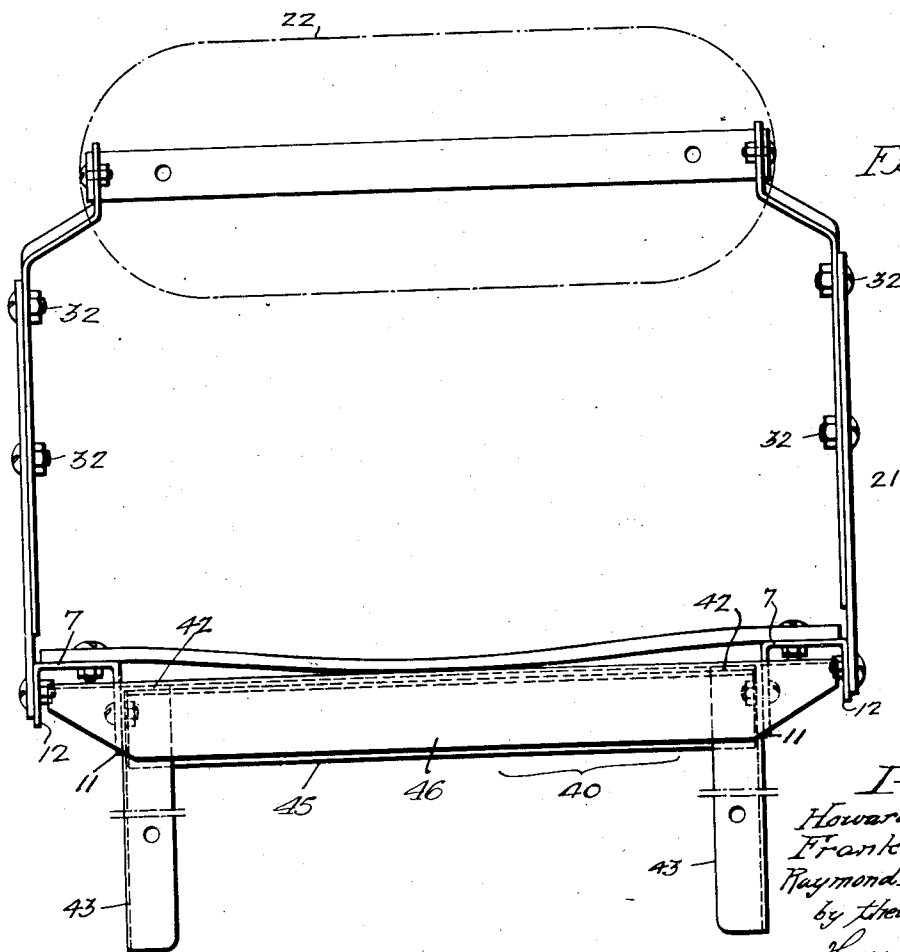


Fig. 10.



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# UNITED STATES PATENT OFFICE

1,966,343

## CHAIR

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Application May 26, 1932, Serial No. 613,750

2 Claims. (Cl. 155—116)

Our invention relates to certain improvements in chairs of the type in which the back of the chair is adjustable, so that the back rest will accommodate the particular person using the chair.

A further object of the invention is to arrange the seat structure so that the seat can be readily tilted and locked in position after adjustment.

The invention also relates to certain improvements in the seat structure of the chair.

The invention is applicable to either a chair of the swivel type or a chair of the type having four legs, the seat structure being so designed that it can be mounted on either type of chair.

In the accompanying drawings:

Fig. 1 is a perspective view illustrating the improved chair, arranged to swivel on a base structure;

Fig. 2 is a perspective view of the improved chair mounted on legs which are vertically adjustable in the present instance, so that the chair seat can be raised or lowered;

Fig. 3 is a side view of the chair shown in Fig. 1;

Fig. 4 is a rear view of the seat structure, showing the back rest in dotted lines;

Fig. 5 is a plan view of the seat base, the seat and side arms being removed;

Fig. 6 is a perspective view of one of the side bars of the seat structure;

Fig. 7 is a detached side view of the lower section of one of the side supports for the back rest;

Fig. 8 is a side view of one of the upper sections of the side supports;

Fig. 9 is a reduced plan view of the back rest;

Fig. 10 is a rear view illustrating a modification of the invention, in which the seat structure is mounted on legs;

Fig. 11 is a side view of the structure shown in Fig. 10; and

Fig. 12 is a plan view of one corner of the seat structure, illustrating details of the invention.

Referring in the first instance to Figs. 1 to 9, 1 is the base structure consisting of four bent legs 2, which are welded at their upper ends to a tubular socket member 3, into which extends a spindle 4, which is secured to the seat frame 5. This spindle can be either a plain spindle so as to turn in the socket or may have a screw thread thereon, which can be turned by a cap nut 6, so that the chair seat can be adjusted to different heights, but this feature forms no part of the invention.

The seat frame 5 consists of two channel side members 7. The horizontal portion 8 of each bar forms a bearing for the seat 9 and the seat is secured to the channel members by bolts 10, 11 of each channel

member is greater in depth than the outer flange 12 in the present instance, and secured to the inner flange are two cross-bars 13 which extend from one channel member to the other, and these cross-bars have outturned portions 14, which bear against the inner flanges of the channel members and the rear bolts 15, which secure the channel bars to the cross-bars form pivots, while the forward bolts 16 extend through slots 17 in the flanges 11.

In the present instance there are two slots at the forward end of each channel member so that the seat can be arranged in a horizontal position or can be slightly elevated to the position shown in dotted lines in Fig. 3, where the occupant desires to have a seat which slants backwards. While we have shown two slots 17, the flanges may be of such depth that more than two slots may be made in the flanges.

The cross-bars 13 are bent and connected together at the center of the seat frame as shown in Fig. 5, and are formed to encircle the spindle 4, the bars being held firmly to the spindle by rivets 18. It will be understood that in addition to the rivets the top of the spindle may be welded to the cross-bars 13, making a very rigid construction.

In the present instance the short outer flange 12 of each channel member 7 has a slot 19 at the forward end and back of the slot are a series of perforations 20. 21 are the side supports for the back rest 22. These supports are made in two sections 23 and 24. The lower sections 23 of the supports are bent at an angle, forming a horizontal portion and a substantially vertical portion, as shown in Figs. 3 and 7. The portion 25 fits against the outside flanges 12 of the channel members 7 and is perforated at 26 and 27 for bolts 28 and 29, the bolts 28 extending through the perforations 26 in the side supports and through the slot 19 in the flange 12, while the bolts 29 extend through the perforations 27 and into one of the series of perforations 20. By this construction the side supports can be longitudinally adjusted in respect to the seat structure, so as to allow the back rest 22 to be moved forwardly or rearwardly to accommodate the occupant of the chair.

When the bolts are secured tightly in position after adjustment, the lower sections 23 of the supports 21 are firmly secured to the seat section.

The upper sections 24 of the supports 21 are vertically adjustable in respect to the lower section 23, and in the present instance each upper section has a slot 30 at the lower end and above each slot are a series of perforations 31. At the upper end of the lower section of the support is a perforation 33, and below this perforation is a perforation 34. Bolts 32 extend through the perforations and the lower

bolt extends also through the slot 30, while the upper bolt extends through one of the perforations 31 so that on loosening the bolts the upper section with the back rest can be raised or lowered to accommodate the occupant of the chair, and after adjustment the two sections of the supports are rigidly secured in position.

The upper end of each upper section of the side supports is bent as shown at 35, Fig. 4, and in the extreme upper end of this section is a perforation 36. On the back rest 22 is a plate 37, which is bent at each end to fit against the upper portions of the side members, and these ends are perforated for bolts or rivets 38 which extend through the perforations 36 in the side members. These bolts form swivels for the back rest and the back rest can be turned on the bolts and secured in position after adjustment.

In some instances rivets may replace the bolts, particularly where the back rest simply swivels to accommodate the occupant of the chair without being fixed. While a slot and a series of perforations are found in the flange 12 and upper section of the supports, the perforations may be substituted for the slots or slots may be substituted for the perforations.

Referring now to Figs. 2, 10, 11 and 12, the seat structure is substantially the same in this construction as in the construction previously described, but in place of the cross bars 13, to which is attached the spindle 4, the deep inner flanges 11 of the channel bars 7 are secured to a rectangular frame 40, made of two side members 41 having longitudinal upper members 42, and downwardly extending portions 43 forming parts of the legs of the chair, and transverse angle bars 45 and 46 which are secured to the side members 41 at the corners of the side members 41 and are welded thereto. The upper members 42 and the depending members 43 are formed from a single angle bar in the present instance, one of the flanges of each angle bar having two V-shaped cuts therein spaced apart forming beveled edges 44, and the two depending members 43 are bent at right angles from the upper member 42 at the cuts, and the beveled edges 44 at each cut are welded together forming one of the side members of the frame.

The outside flanges 12 of the bars 7 are perforated and slotted as in Fig. 3, and the side arms secured in substantially the same manner as in said figure. This construction is clearly shown in Fig. 2.

The downwardly extending portions 43 are secured to the legs 47 of a frame 48. The legs 47 are made of angle bars and are bent in the present instance as shown and extend back of the depending portions 43 of the base and are secured by bolts 49. The legs 47 are connected by a

frame 50 of any suitable construction, the parts being welded together to make a very substantial base, and casters 51 are shown but these casters may be dispensed with in some instances.

By the above construction it will be seen that the chair is provided with two side supports for the back rest and these supports are curved so as to give clearance at the seat, and are of sufficient strength to rigidly support the back rest without braces.

By constructing the seat section of a seat and side channel members, the seat section can be used with a base having a swivel section or with a fixed base having legs, the frames of the base being secured to the inner flanges of the channel members, while the outer flanges are free of obstructions and can be perforated for the attachment of the side supports of the back-rest.

We claim:

1. In a seat structure, a seat-supporting frame consisting of a pair of parallel inverted channels spaced to underlie the side edge portions of a superimposed seat element, the inner depending flange of each channel being of greater vertical width than the outer flange, a frame element interposed between said channels, said element consisting of vertically arranged strap members secured together face to face at the mid sections to form a central spindle-receiving socket and diverging at both sides of said socket, and means for connecting the terminal ends of the diverging arms of said element to the ends of the inner depending flanges of said channels, the outer depending and relatively narrow flanges of the channels constituting supports for a back-rest frame.

2. In a seat structure, a seat-supporting frame consisting of a pair of parallel inverted channels spaced to underlie the side edge portions of a superimposed seat element, the inner depending flange of each channel being of greater vertical width than the outer flange, a frame element interposed between said channels, said element consisting of vertically arranged strap members secured together face to face at the mid sections to form a central spindle-receiving socket and diverging at both sides of said socket, means for connecting the terminal ends of the diverging arms of said element to the ends of the inner depending flanges of said channels, said connecting means being adjustable to vary the angularity of said channels with respect to the horizontal plane of the top of said frame element, and a back-rest frame adjustably secured to the outer depending and relatively narrow flanges of said channels.

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