June 22, 1937. A. R. SCHWARZKOPF 2,084,871

CHAIR

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Fig. 1

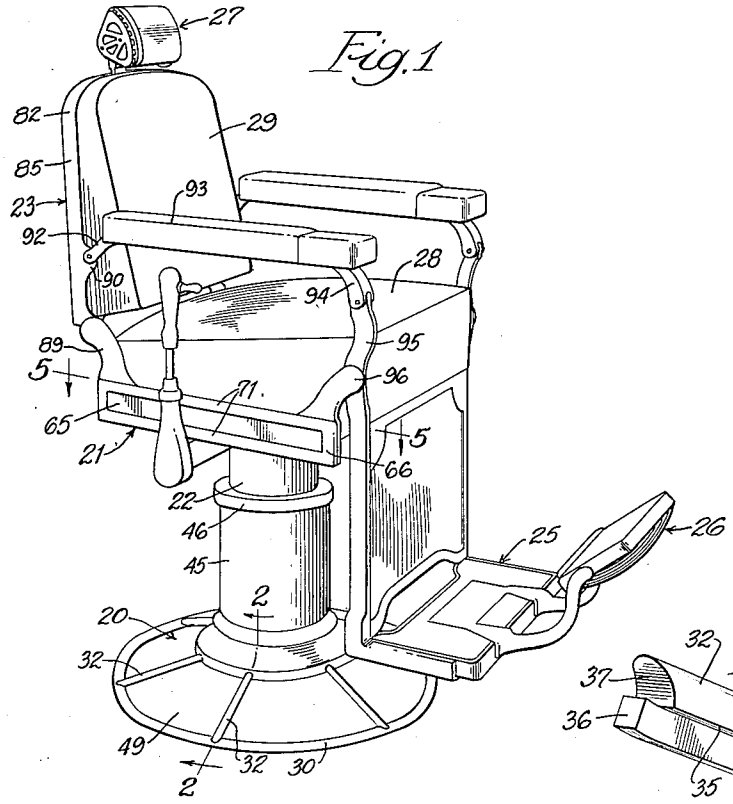


Fig. 4

Fig. 2

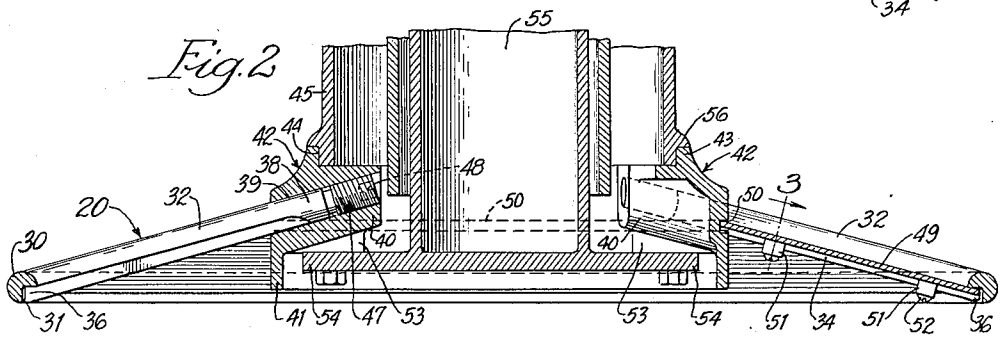
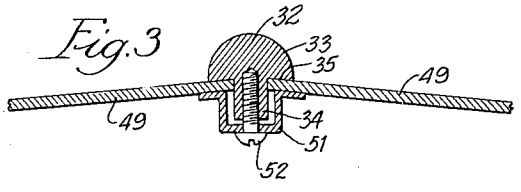


Fig. 3



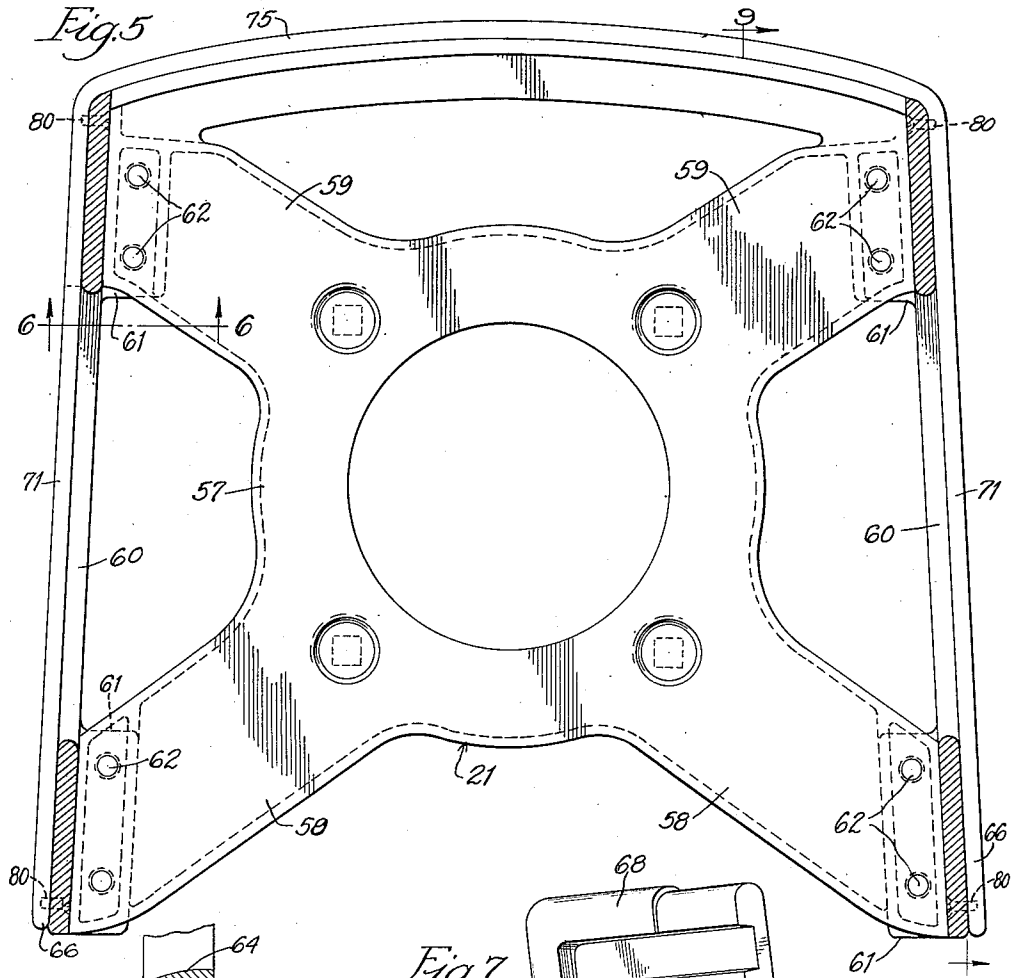
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Fig. 5



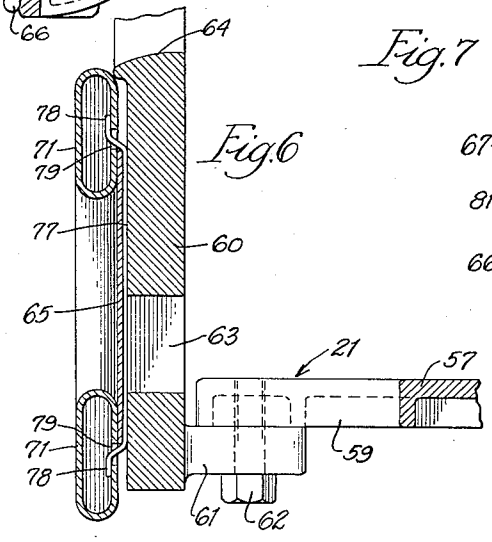
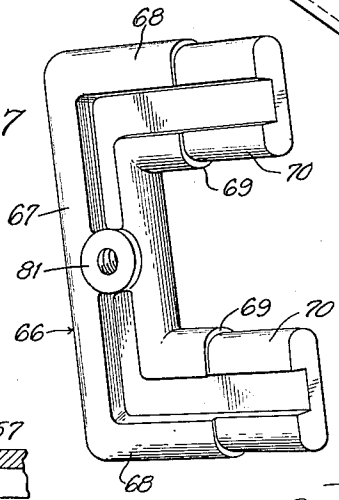


Fig. 6

Fig. 7



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Fig. 8

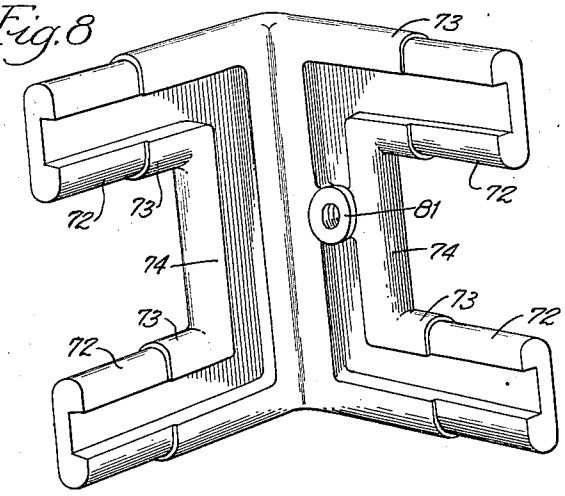


Fig. 9

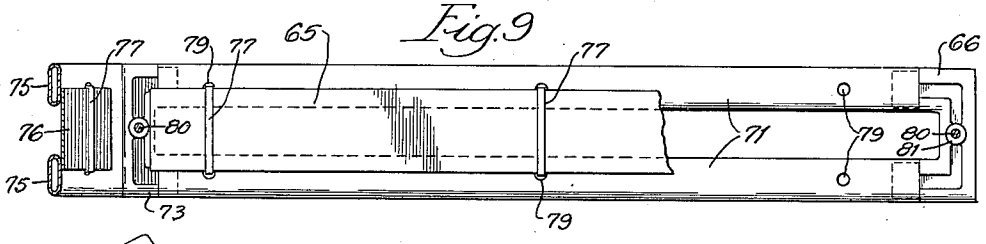


Fig. 15.

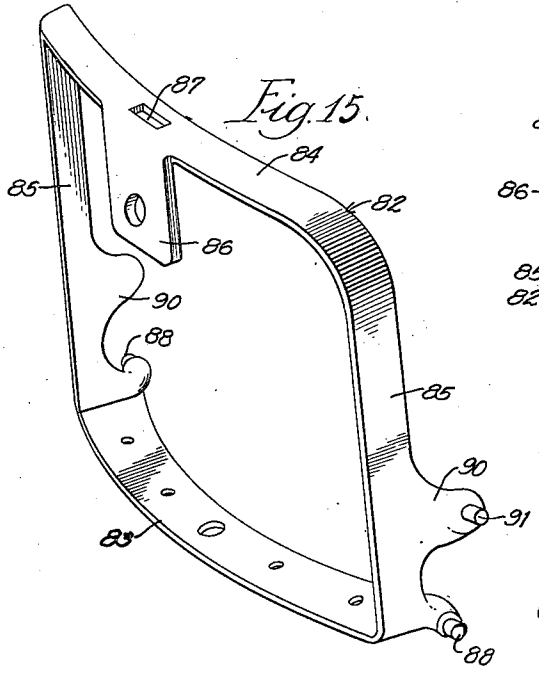
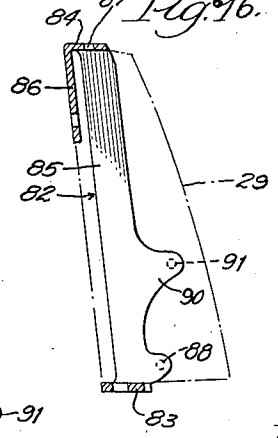


Fig. 16.



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Fig. 12

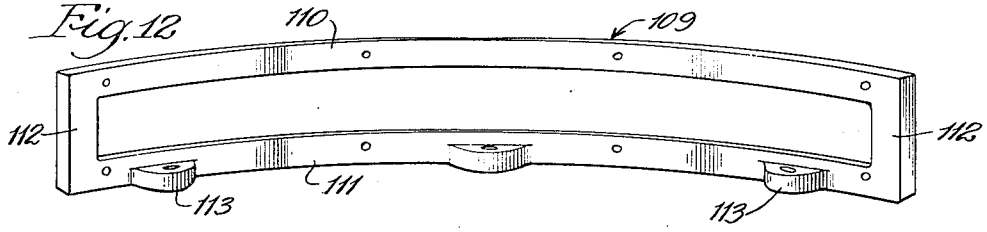


Fig. 11

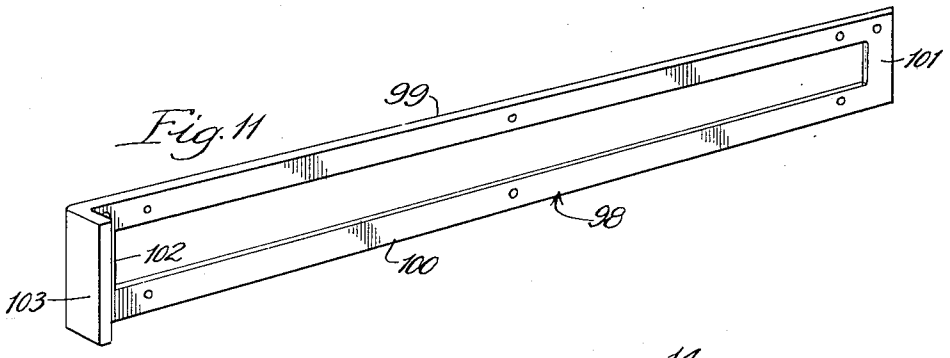


Fig. 10

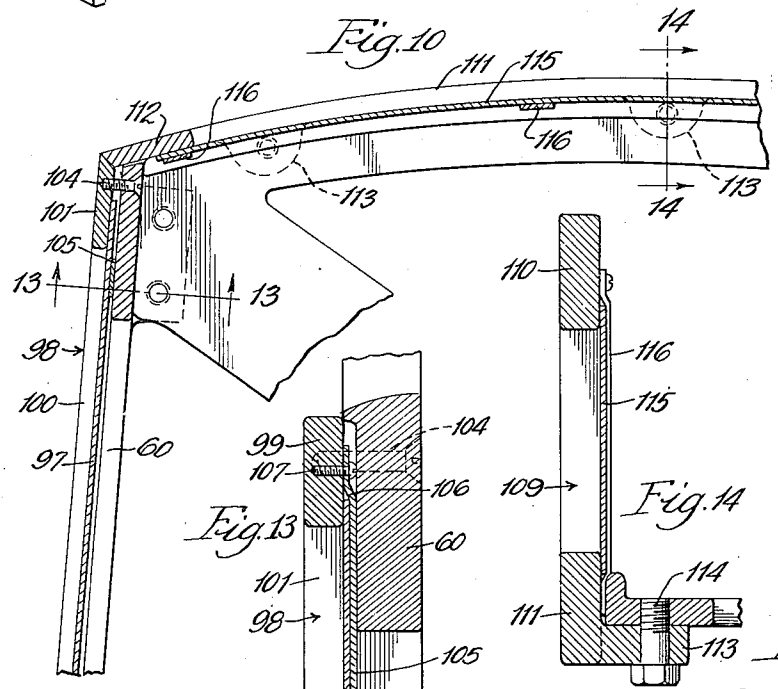


Fig. 13

Fig. 14

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UNITED STATES PATENT OFFICE

2,084,871

CHAIR

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Application March 25, 1935, Serial No. 12,867

14 Claims. (Cl. 155—138)

The features of the present invention have relation to the structure of the framework of the chair and the mounting therefor, and are designed with particular reference to the modern trend in design which makes provision for the utilization of various colors in finish with suitable metallic trim which serves to enhance the beauty of the design.

The structure of the present chair, and particularly the base portion thereof, is one which readily permits of the use of a skeleton framework of uniform construction in conjunction with panels which may be of any desired color, so that numerous variations in color effect can be readily secured in chairs having the same structural features and in which the skeleton of the framework is uniform throughout.

The invention also has relation to the means provided for simplifying the structure as a whole, and to the means provided for the utilization of a broadly extended base which is so constructed as to afford great strength and rigidity without excessive weight, and at the same time to make provision for a feature having marked value in enhancing the beauty of the design as a whole.

Further objects and details of the invention will appear from the description thereof in conjunction with the accompanying drawings, wherein,

Figure 1 is a perspective view of the chair as a whole;

Fig. 2 is a sectional elevation of the base portion taken on line 2—2 of Fig. 1;

Fig. 3 is a sectional detail taken on line 3 of Fig. 2;

Fig. 4 is a perspective view showing the outer end of one of the struts which engages the base ring;

Fig. 5 is a sectional view of the seat frame taken on line 5—5 of Fig. 1;

Fig. 6 is a sectional detail taken on line 6—6 of Fig. 5;

Fig. 7 is a perspective view of the front head member constituting a portion of the side panel mounting for the seat frame;

Fig. 8 is a perspective view of the rear head member for the side panel mounting;

Fig. 9 is an inner face view of one of the side panel mountings taken on line 9—9 of Fig. 5;

Fig. 10 is a view of a seat frame having a modified form of side and back panel mountings;

Figs. 11 to 14 are details of the mountings of Fig. 10;

Fig. 15 is a perspective view of the seat back frame; and

Fig. 16 is a sectional elevation through the center of the back frame.

The chair as a whole in general comprises a base 20, which affords a mounting for the seat 21 which is carried upon a vertically movable post 22. The seat is provided with a tiltable back 23, a step 25, a foot rest 26, and a head rest 27. The seat is provided with the usual seat cushion 28 and the back with a back cushion 29. The general arrangement is that of the conventional barber's chair with suitable provision for raising and lowering the seat post and adjusting the back and foot rest in the conventional manner. In respect to the general arrangement of these features, therefore, it is not deemed necessary to describe the details, which form no portion of the present invention.

The base 20 comprises a metallic ring 30 of sufficient diameter to afford a floor contact of substantial expanse, which ring is preferably of relatively light construction but of great strength and rigidity, since it constitutes the base for the support of the entire weight of the chair.

As shown, the ring is of generally circular cross section, with the exception of a circumferentially extending quarter notch 31 formed in the lower inner segment which cuts away the lower inner quarter segment of the ring, thus forming an overhanging surface for the contact of the outer ends of a plurality of radially extending struts 32 which are of the configuration best shown in Fig. 4.

Each of the struts is of semi-circular cross section throughout its upper portion 33, and provided with a rib 34 of lesser width than the diameter along its lower side, affording on each side of the strut a shoulder 35 at the point of juncture between the rib and the upper half of the strut. The rib at its outer end is extended to furnish a square tongue 36 which extends at a slight angle to the body of the rib and is adapted to underlie the notched portion of the base ring and to act in conjunction with the undercut end 37 of the upper portion of the strut, which undercut is concavely formed to fit snugly upon the rounded inner upper surface of the ring, so that when the struts are thrust outwardly as in use, they will by frictional contact effect a tight and firm union with the ring.

The inner end 38 of each of the struts is of truly cylindrical configuration and fits within an obliquely disposed bore 39 as shown in Fig. 2. The bores, one for each strut, are cut through a series of lugs 40 inwardly extending from the wall 41 of a center ring shaped casting 42, the upper

rim 43 of which is rounded inwardly and shouldered around its inner margin at the point 44 to receive the lower end of a cylindrical skirt 45 which terminates at its upper end in an inwardly extending rim 46 adapted to encircle the post 22 upon which the chair seat is mounted.

The struts extend inwardly and upwardly in oblique relation to the level of the floor so that their inner converging ends serve to elevate the ring shaped casting above the floor level, thereby utilizing the ring 30 to afford a base having rim contact only with the floor. In order to impart a thrust to the struts 32 to hold them tightly against the ring 30, each of the bores 33 is threaded at its inner end to receive a screw plug 47 which is provided in its end with a squared recess 48 adapted to receive a suitable tool for adjusting the plug. By thus adjusting the plugs individually, the required thrust can be imparted to each of the struts to hold its outer end into tightly fitting engagement with the ring, so that the thrust occasioned by the weight of the chair as a whole will be outwardly imparted through the radially arranged struts, and equally distributed to all portions of the ring base, giving to the whole a wheel shaped formation.

The base portion of the chair is finished by the insertion of thin panels 49, which are preferably of metal having an enamel finish in the desired color, so that by providing a skeleton base construction of standard form, numerous color variations may be secured in the making up of the chairs by inserting panels of the desired color.

Each panel is of truncated segmental shape and of a size to fit snugly within the space afforded by the notched ring 30 in conjunction with the shoulders 35 along the sides of the struts, the inner edges of the panels being inserted within a circumferential groove 50 formed around the outer wall of the ring shaped casting at the required height to receive the panels. In order to hold the panel tightly in place, U-shaped clips 51 (Fig. 3) are provided, which straddle the ribs 34 and are held in place by screws 52.

Each of the lugs 40 on the interior of the ring shaped casting is provided on its under side with a flat faced boss 53, which bosses, in unison, furnish aligned contacting surfaces for the attachment of the flange 54 outwardly extending from the base of a center cylinder 55, which extends upwardly and provides for the reception of the oil pumping features by which the seat is raised and lowered, but which have no relevancy to the present invention and need not be described.

The skirt 45 is provided with an outwardly extending peripheral flange 56 which bears upon the upper edge of the rim 43 which is shouldered to receive the lower margin of the skirt, and the parts are finished to afford an attractive flare at the base of the skirt and at the point of its juncture with the base 20.

In practice, it is customary to finish the ring 30, the struts 32, and the exposed portions of the ring shaped casting 42, in chromium finish, and to utilize a skirt of appropriate color in enamel finish, which in conjunction with the colored panels 49 separated by the chromium finished struts, affords an attractive and beautiful finish to the base portion of the chair as a whole.

The seat and back portions of the chair are constructed in a manner which is intended to harmonize with the structure and finish of the base portions of the chair. The seat frame 21 comprises a center ring shaped base portion 57 which is suitably supported upon the post 22, which ring shaped base portion has radially extending therefrom two forward arms 58 and two rear arms 59, which extend to the forward and rear corners of the chair seat.

The base portion of the seat frame connects with side frames 60, each of which stands edgewise and is provided near its lower edge with forward and rear inwardly extending lugs 61 which are connected by means of bolts 62 with the adjacent forward and rear arms 58 and 59 respectively.

Each of the side frames 60 is provided with an elongated slot 63 in its body, and is outwardly flanged and rounded to afford an attractive finish along its upper edge 64. The side frames afford a mounting for side panels 65, each of which is preferably formed from a thin plate of metal having an enamel finish in an appropriate color, and each of the panels is surrounded by a border frame of special construction.

The forward end of each border frame may be afforded by a head piece 66 of C-shaped formation, as shown in Fig. 7, comprising a vertical body portion 67 and upper and lower horizontal arms 68, which arms are shouldered at 69 to afford reduced ends 70 which telescope into the forward ends of flattened connecting rails 71.

The rails 71 at their rear ends, on each side, telescope onto the reduced ends 72 of arms 73 which extend forwardly on each side from a rear head piece 74, which is similar in all respects to the ones first described, save that it is of duplicate angular formation to afford a corner finish for the rear corners of the seat frame.

The back of the chair is rounded, as shown in Fig. 5, so that the back arms of the head piece 74, instead of extending at a true angle, are slightly curved to conform to the general curvature of the back and are connected by flattened tubular rails 75, which telescope onto the ends of the arms, as illustrated in Fig. 9. Likewise, the back panel is completed by the provision of a curving back panel plate 76.

The panels are secured in place behind the respective panel frames, by the provision of spring clips 77, the ends of which are offset to afford tongues 78 which are sprung through apertures 79 in the inner faces of the tube sections, 71 or 75 as the case may be. This arrangement serves to hold the panels snugly against the marginal frames, which thus serve to provide an attractive finish along the sides and around the rear of the seat frame.

The shouldering of the arms 68 and 73 respectively is calculated to bring the surfaces of the tubular rails 71 into flush relation with the arms of the head pieces, so that when the parts are snugly fittted together and suitably finished, and brazed or otherwise secured, no joint will be discernible. It is preferred in practice to give to the panel frames and also to the exposed edges 64 of the side frames a chromium finish in harmony with the finish observed in certain portions of the base structure. The side panel frames with the panels attached are held in place by screws 80 which are entered through the adjacent side frames 60 and into threaded bosses 81 formed on the respective head pieces.

In place of the panel mountings above described, the mountings illustrated in Figs. 10 to 14 may be employed, especially in cases where a somewhat simplified and flatter surface effect is desired. In this case, side panels 97 similar to panels 65 are provided which are surrounded each by an open panel frame 98 of integral construc-

tion comprising top and bottom rails 99 and 100 respectively, which are connected at the rear by a back end rail 101 and at the front by a front end rail 102 provided with an inwardly turned flange 103 affording the front corner of the chair seat. The panel frames 98 are secured to the adjacent side frames of the seat by bolts 104 and the panel frames bear against the margins of the enclosed panels and frame in the same and serve to clamp them in place. Each side panel, however, is positively secured in place by strap bands 105 which are offset at 106 to afford shoulders bearing against the edges of the panel and are fastened at their ends by bolts 107 entered into the adjacent rails of the panel frame.

The back panel frame 109 is of arcuate formation and comprises upper and lower rails 110 and 111 respectively, and end rails 112 which abut snugly against the ends of the side panel frames to afford the rear corners of the chair seat. The rear panel frame is provided with lugs 113 projecting inwardly under the contiguous rear portion of the seat frame to which the lugs are secured by bolts 114. The rear panel frame encloses a curving rear panel 115 which is held in place by strap bands 116 similar to those heretofore described. The chair seat itself is similar to that shown in Fig. 5.

The back comprises a frame 82 of rectangular formation, comprising a base rail 83, a top rail 84, and vertical side rails 85 formed integrally as shown in Fig. 10. The top rail is provided with an integrally formed depending tongue 86 and an adjacent slot or aperture 87 for the reception of the usual head rest support. The back frame at its lower front corners is provided with outwardly extending trunnions 88 which are socketed within arms 89 upstanding from the side frame 60 of the seat. The back frame is also provided on the forward edges of the side rails 85 with forwardly extending lugs 90 having laterally extending trunnions 91 which serve as pivot mountings for arm brackets 92 on the rear ends of the arm rests 93.

The forward ends of the arm rests are provided with brackets 94 which in turn pivot with the upper ends of strips 95 which are pivoted to arms 96 upstanding from the forward ends of the seat frame plates 60, which arrangement permits the back, step and foot rests of the chair to be tilted in the usual manner.

The construction of the back frame and its method of mounting is one which permits the back frame as a whole to be integrally formed from a single strip of metal bent to rectangular shape, since the trunnions 88, which maintain a fixed relation to the back frame, are adapted to be inserted into sockets in the arms 89, which are separable with the seat frame 60, so that the parts may be thus assembled without the necessity for providing separable trunnion members on the back frame in the form of brackets or the like, which has heretofore been the common practice.

The method of forming the seat panels and panel frames is one which permits the basic structure of the seat as a whole to be of uniform character, but permits of variation in color finish by the mere expedient of substituting enameled panel plates of the desired color, which when in place will afford an attractive and beautiful finish in harmony with the color scheme observed in the finishing of the base portions of the chair.

Although the invention has been described in detail, it is not the intention in the claims, unless otherwise indicated, to limit the invention to the form specifically shown and described, since modifications or variations therein may be introduced without departing from the principle of the invention.

I claim:

1. In a structure of the general character described, a base comprising a ring shaped member, a supporting member centrally disposed with reference to the ring shaped member, radially extending struts connecting the supporting member with the ring shaped member, means within the supporting member for exerting an outward thrust on the struts to hold the same in close engagement with the ring shaped member, and separable panels fitted within the spaces defined between the ring shaped member, the struts and the supporting member.

2. In a structure of the general character described, a base comprising a ring shaped member, a supporting member centrally disposed with reference to the ring shaped member, radially extending struts connecting the supporting member with the ring shaped member, a separate adjusting device for each of the struts, located within the supporting member and adapted to impart a thrust to the associated struts to permit the struts to be individually adjusted with respect to the ring shaped member, and separable panels fitted within the spaces defined between the ring shaped member, the struts and the supporting member.

3. In a structure of the general character described, a base comprising a ring shaped member, a supporting member centrally disposed with reference to the ring shaped member, radially extending struts connecting the supporting member with the ring shaped member, screw plugs within the supporting member, bearing individually against the inner ends of the struts and adapted by screw adjustment to impart a thrust to the associated struts to individually adjust the same with respect to the ring shaped member, and separable panels fitted within the spaces defined between the ring shaped member, the struts and the supporting member.

4. In a structure of the general character described, a base comprising a ring shaped member, a supporting member centrally disposed with reference to the ring shaped member, radially extending struts connecting the supporting member with the ring shaped member, and means within the supporting member for exerting an outward thrust on the struts to hold the same in close engagement with the ring shaped member.

5. In a structure of the general character described, a base comprising a ring shaped member, a supporting member centrally disposed with reference to the ring shaped member, radially extending struts connecting the supporting member with the ring shaped member, and a separate adjusting device for each of the struts located within the supporting member and adapted to impart a thrust to the associated struts to permit the struts to be individually adjusted with respect to the ring shaped member.

6. In a structure of the general character described, a base comprising a ring shaped member, a supporting member centrally disposed with reference to the ring shaped member, radially extending struts connecting the supporting member with the ring shaped member, and screw plugs within the supporting member bearing individually against the inner ends of the struts and adapted by screw adjustment to impart a thrust

to the associated struts to individually adjust the same with respect to the ring shaped member.

7. In a structure of the general character described, a base comprising a ring shaped member adapted to afford rim contact with the floor, a central supporting member concentrically arranged within and above the plane of the ring shaped member, radial struts outwardly and downwardly extending from the central supporting member to the ring shaped member to maintain the central supporting member in elevated relation with respect to the floor level, and adjustable means for imparting an outward thrust to the struts.

8. In a structure of the general character described, a base comprising a ring shaped member adapted to afford rim contact with the floor, a central supporting member concentrically arranged within and above the plane of the ring shaped member, radial struts outwardly and downwardly extending from the central supporting member to the ring shaped member to maintain the central supporting member in elevated relation with respect to the floor level, and screw means for each of the struts located within the supporting member and adapted to impart a thrust to the associated strut.

9. In a structure of the general character described, a base comprising a ring shaped member adapted to afford rim contact with the floor, a central supporting member concentrically arranged within and above the plane of the ring shaped member, radial struts outwardly and downwardly extending from the central supporting member to the ring shaped member to maintain the central supporting member in elevated relation with respect to the floor level, adjustable means for imparting an outward thrust to the struts, and separable panels inserted in the spaces defined by the ring shaped member, the struts and the supporting member.

10. In a structure of the general character described, a base comprising a ring shaped member adapted to afford rim contact with the floor, a central supporting member concentrically arranged within and above the plane of the ring shaped member, radial struts outwardly and downwardly extending from the central supporting member to the ring shaped member to maintain the central supporting member in elevated relation with respect to the floor level, screw means for each of the struts located within the supporting member and adapted to impart a thrust to the associated strut, and separable panels inserted into the spaces defined by the ring shaped member, the struts and the supporting member.

11. In a structure of the general character described, a base comprising a ring shaped member undercut around its inner lower portion to afford a circumferentially extending notch, a supporting member located centrally within the ring shaped member, a plurality of struts each configured at its outer end to afford an extension adapted to enter the notch, an overhanging lip portion adapted to arch over the inner upper surface of the ring shaped member to afford a close engagement between the struts and the ring shaped member, the inner ends of the struts being entered within the central supporting member, and adjusting means for each of the struts within the supporting member and adapted to impart a thrust to the inner end of the associated strut.

12. In a structure of the general character described, a base comprising a ring shaped member undercut around its inner lower portion to afford a circumferentially extending notch, a supporting member located centrally within the ring shaped member, a plurality of struts each configured at its outer end to afford an extension adapted to enter the notch, an overhanging lip portion adapted to arch over the inner upper surface of the ring shaped member to afford a close engagement between the struts and the ring shaped member, the inner ends of the struts being entered within the central supporting member, and adjusting means for each of the struts within the supporting member and adapted to impart a thrust to the inner end of the associated strut, each of the struts being undercut along its sides, removable panels located within the spaces between the struts and having their side edges entered within the undercut portions of the struts and their outer edges within the undercut notch in the ring shaped member and their inner edges within a groove formed in the periphery of the supporting member.

13. In a chair of the character described, a base comprising a ring-like member, a rigid supporting member disposed within and in spaced relation to the ring-like member, radially extending struts connecting the supporting member with the ring-like member, adjustable means bearing against each of the struts and adapted to impart a longitudinal thrust thereon to hold the same in rigid relation between the ring-like member and the supporting member, and separable panels fitted within the spaces defined between the ring-like member, the struts and the supporting member.

14. In a chair of the character described, a base comprising a ring-like member, a rigid supporting member disposed within and in spaced relation to the ring-like member, radially extending struts connecting the supporting member with the ring-like member, adjustable means bearing against each of the struts and adapted to impart a longitudinal thrust thereon to hold the same in rigid relation between the ring-like member and the supporting member, and separable panels fitted within the spaces defined between the ring-like member, the struts and the supporting member, the supporting member being elevated above the plane of the base and the struts extending diagonally upward thereto from the ring-like member.

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