

June 26, 1962

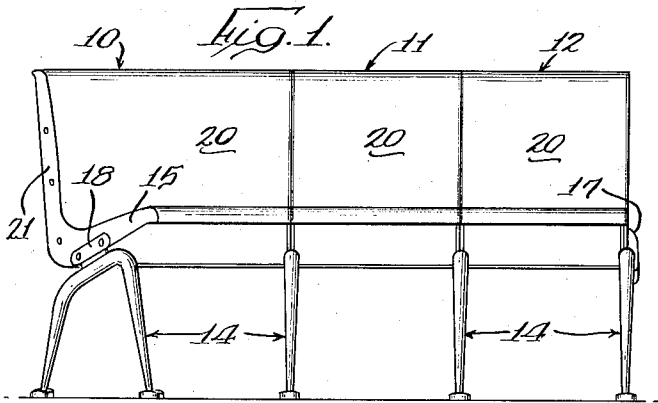
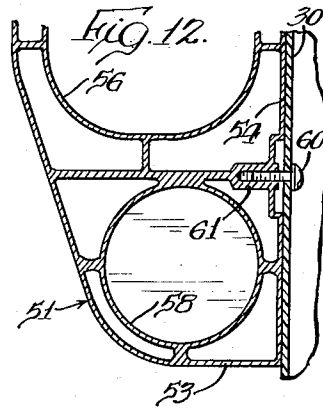
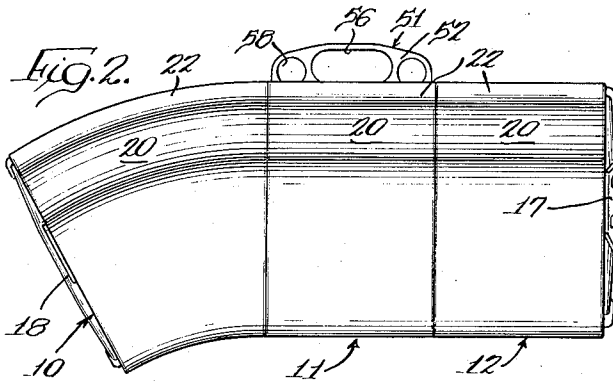
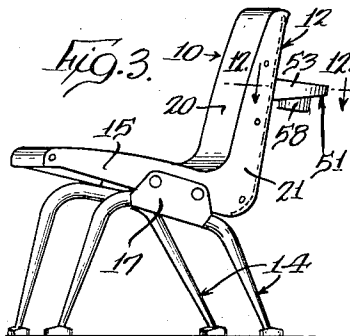
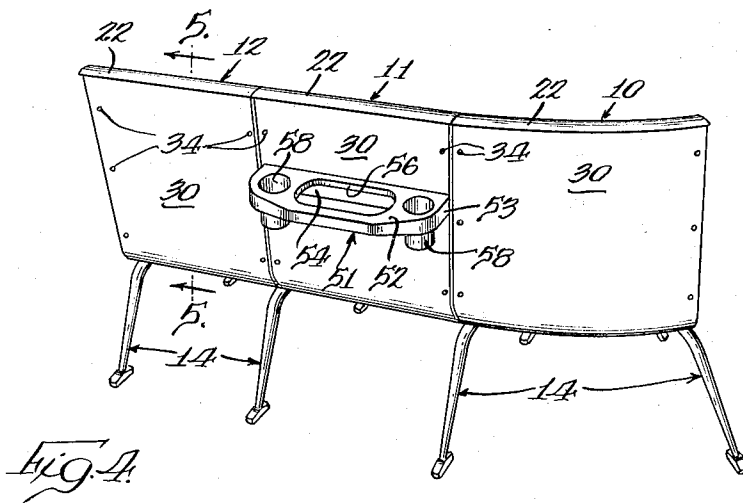
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3,041,107

CHAIR BACK

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2 Sheets-Sheet 1



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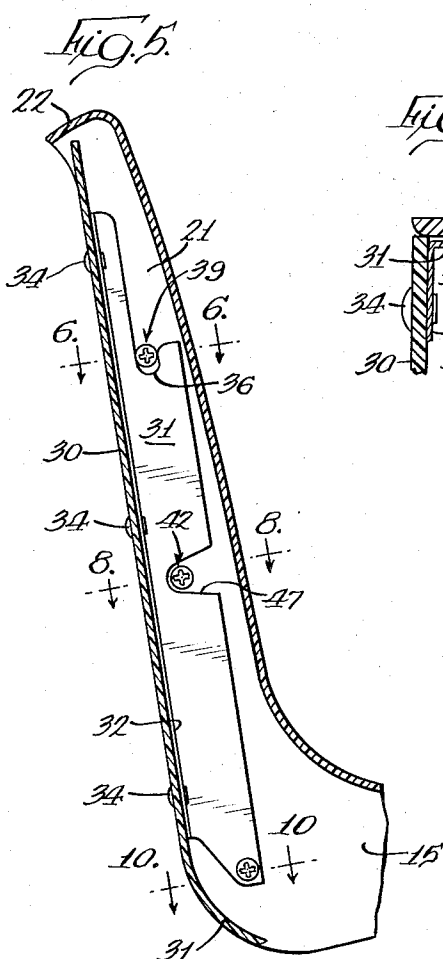
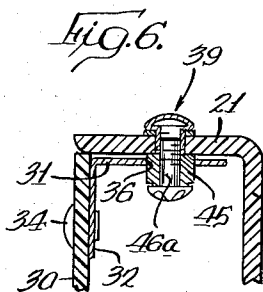
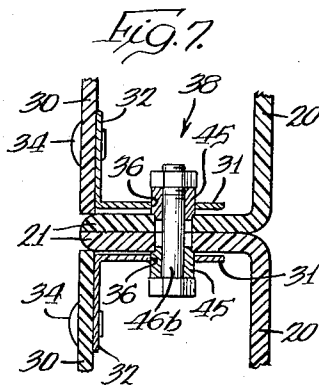
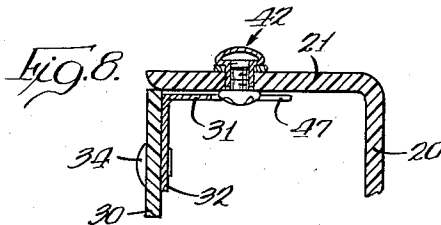
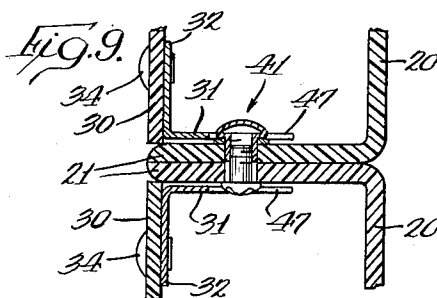
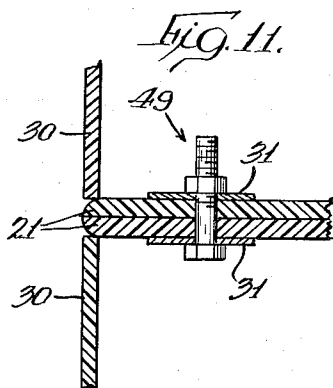
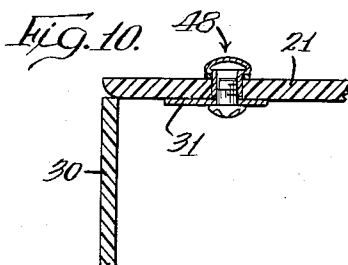
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3,041,107

CHAIR BACK

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2 Sheets-Sheet 2



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3,041,107

CHAIR BACK

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4 Claims. (Cl. 297-248)

This invention relates to seating structures and particularly to a back for closing a rearwardly flanged chair to provide a finished appearance and to provide a support for a rack for bottles, glasses, ash trays and the like.

It is a general object of the invention to provide a new and improved chair back of the type described.

In copending application Serial No. 752,847, filed August 4, 1958, by me, Robert I. Anderson and Richard G. Reineman, and copending application Serial No. 836,804, filed August 28, 1959, by Robert I. Anderson and me, both applications assigned to the assignee of this application, there are disclosed seating structures intended primarily though not exclusively for use in bowling alleys or the like for spectator and participant seating. Such seating structures preferably take the form of rows of seating comprised of individual seat units supported by suitable leg structures, arranged in adjacent side by side positions, and attached together to provide a unitary structure. In the preferred construction illustrated in the copending applications referred to, the individual seat units are each molded of relatively thin reinforced plastic and each includes a back rest portion formed with rearwardly extending side and top flanges which strengthen the unit but do not provide a finished appearance to the back of the seating and do not provide a suitable mounting place for accessories such as racks for glasses, bottles and ash trays, which are virtually necessary adjuncts to bowling establishments and the like.

With the above and other considerations in mind it is a more specific object of the invention to provide a new and improved back for a plastic chair of the type described including a panel for closing the open rear of the chair, forwardly extending side flanges on the back and suitable apertures in the side flanges for receiving means to attach the back to the chair flanges.

Other objects and advantages will become readily apparent from the following detailed description taken in connection with the accompanying drawings, in which:

FIG. 1 is a front elevational view of a seating structure embodying the principles of the present invention;

FIG. 2 is a top plan view of the seating structure illustrated in FIG. 1;

FIG. 3 is a right end elevational view of the seating illustrated in FIGS. 1 and 2;

FIG. 4 is a rear perspective view of the seating illustrated in the preceding figures;

FIG. 5 is an enlarged fragmentary sectional view taken at about the line 5-5 of FIG. 4;

FIG. 6 is a fragmentary enlarged sectional view taken at about the line 6-6 of FIG. 5;

FIG. 7 is an enlarged fragmentary sectional view taken at the same elevation as FIG. 6, indicating the fastening means utilized at joints between abutting seat units, while FIG. 6 illustrates fastening means at the end of a row of seating;

FIG. 8 is an enlarged fragmentary sectional view taken at about the line 8-8 of FIG. 5;

FIG. 9 is an enlarged fragmentary sectional view, taken at the same elevation as FIG. 8, illustrating fastening means at abutting flanges at seat joints, while FIG. 8 is taken at the end of a row of seating;

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FIG. 10 is an enlarged fragmentary sectional view taken at about the line 10-10 of FIG. 5;

FIG. 11 is an enlarged fragmentary sectional view, taken at the same elevation as FIG. 10, illustrating fastening means at abutting flanges at seat joints, while FIG. 10 is taken at the end of a row of seating; and

FIG. 12 is an enlarged fragmentary sectional view taken at about the line 12-12 of FIG. 3.

While an illustrative embodiment of the invention is shown in the drawings and will be described in detail herein, the invention is susceptible of embodiment in many different forms, and it should be understood that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated. The scope of the invention will be pointed out in the appended claims.

Referring now to the drawings in more detail, the invention is illustrated as embodied in a seating structure including a plurality of individual seat units as at 10, 11 and 12 arranged in abutting side by side relationship, as shown, and suitably connected one to the other in order to provide a unitary row of seating. As illustrated, the seat units may comprise straight units such as those illustrated at 11 and 12 which provide a straight row of seating, and there may be one or more curved units as illustrated at 10.

Seat units of the type described may be suitably attached to and supported by leg structures as at 14, the type illustrated in this application conforming to those shown in the aforementioned application Serial No. 752,847. Such leg structures are preferably attached to side flanges 15 of seat portions of the seat units 10, 11 and 12 by means of suitable brackets 18 carried on the leg structures. At each end of the row of seating provided by adjacent units as at 10, 11 and 12, the attachment of the leg structures 14 to the side flanges 15 preferably give a finished appearance by the application of a finishing bracket as at 17.

The seat units 10, 11 and 12 are each preferably an integral piece molded of relatively thin reinforced plastic material which may be made in attractive colors in a single simple molding operation, and whether the seat units are straight as at 11 and 12 or curved as at 10, they each include a seat portion carrying the downwardly directed side flanges 15 and an integral upright back rest portion as at 20. Each of the back rest portions 20 includes at opposite sides thereof rearwardly directed side flanges 21 which merge with the downwardly directed side flanges 15, and at the top, each of the back rest portions 20 includes a rearwardly directed top flange 22 which is joined to the side flanges 21.

In the two copending applications previously referred to, seat units of the type illustrated at 10, 11 and 12 are utilized, and these have the advantage that the relatively thin reinforced plastic of which they are comprised is strengthened against bending and buckling by virtue of the rearwardly directed side and top flanges 21 and 22. However, it will be appreciated that this construction leaves a somewhat unfinished appearance at the rear of the seating, by virtue of the hollow spaces which are defined by the side and top flanges of the seat units. Further, due to the recessed disposition of the major panel of the back rest portion 20 relative to the rear edge of the top flange 22 and the rear edges of the side flanges 21, it is inconvenient to mount on the back of the seat units racks for glasses, bottles, and ash trays or the like as desired in bowling establishments and the like. Further, any attachment of such racks to the main panel of the back rest portion 20 would involve the use of screws, bolts or rivets which pass through such main panel and

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protrude forwardly thereof to the annoyance of occupants of the seat.

According to the present invention, there is provided a back for attachment to the rear of each back rest portion 20, either at the factory when the seating is manufactured or to existing installations in the field. The back thus provided encloses the hollow space at the rear of the back rest portion 20 to provide a finished appearance for the seating, and at the same time provides a support means for mounting racks for bottles, ash trays and the like.

The back preferably comprises an upright panel 30 which is substantially flat for a major portion of its area but which includes at the lower end thereof a forwardly curved lower portion as at 31 having a curvature which corresponds to the curvature at the juncture of the side flanges 21 and 15.

The panel 30 is preferably comprised of a plastic material which may be similar to that utilized in making the seat units 10, 11 and 12. Adjacent opposite side edges, the panel 30 is provided with forwardly directed side flanges as at 31. Such side flanges may be formed integrally with the panel 30, but in the embodiment illustrated the flanges are provided by angle members including flanges 32 suitably secured to the panel 30 as by adhesive means, for example, or by rivets as illustrated at 34.

The forwardly directed side flanges 31 on the back panel 30 are spaced to fit closely adjacent and between the rearwardly directed side flanges 21 on the back rest portion of the seat unit associated therewith, as will be understood on viewing FIGS. 6-9 for example. In order to provide for attachment of the back to the seat unit, the forwardly directed side flanges 31 are provided adjacent the upper ends thereof respectively with upwardly opening slots as at 36 which are adapted to fit on the securing means as illustrated at 38 in FIG. 7 for attaching together abutting side flanges 21 of adjacent seat units. At the ends of a row of seating, where the side flange 21 is not abutted against an adjacent comparable side flange, as illustrated in FIG. 6, and would not necessarily be attached to anything else, the opening provided in the side flange for receiving fastening means as at 38 would preferably be closed by means such as that illustrated at 39 in order to provide a finished appearance rather than leaving unoccupied apertures exposed and unsightly. The upwardly opening slots 36 in the forwardly directed side flanges 31 are also adapted to fit closely over the means 39 (FIG. 6) in a manner similar to the relationship illustrated in FIG. 7.

Where the backs of this invention are to be added to existing installations in the field, the side flanges 21 of adjacent abutting seat units will normally be found to be secured together by means such as that illustrated at 41 in FIG. 9, and the unattached side flanges 21 the ends of a row of seating will be found to have means such as that illustrated at 42 for closing otherwise unoccupied apertures. Where this is the case, means such as that illustrated at 41 and 42 is removed and means such as that illustrated at 38 and 39 are utilized in their places, the latter two means including spacer sleeves as at 45 on the bolts or screws 46a and 46b having a sufficient length to readily facilitate fitting the slots 36 thereon.

It will be understood that where the backs of this invention are applied to seating at the factory as it is manufactured, the means 38 and 39 will be utilized. In any event the back is attached by first positioning the slots 36 onto the spacer sleeves 45 and then moving the side flanges upwardly on the spacer sleeves while pivoting the entire back in a counterclockwise direction as viewed in FIG. 5.

Vertically intermediate the upper and lower ends of the side flanges 31, the latter are provided with forwardly opening slots as at 47 which are adapted to embrace but avoid the closure means 42 or the fastening means 41, as best understood on viewing FIG. 5. When mounting

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the back to the seat unit, the counterclockwise pivotal movement about the means 38 and 39 is facilitated by entry of the means 41 and 42 into the forwardly opening slots 49 on the side panels 31.

At the lower ends, the side flanges 31 are each provided with apertures which are adapted to receive fastening means as illustrated at 48 in FIG. 10 for attaching side flange 31 to unabutted side flange 21 fastening means 49 for attaching side flanges 31 to abutting side flanges 21 at joints between adjacent seats. The fastening means 43 and 49 together with the mounting of the slotted upper ends of side flanges 31 on the means 38 and 39 securely fastens the back in position on the seat unit. As will be understood, particularly on viewing FIG. 4, the panel 30 provides a finished appearance at the rear of the seating, enclosing the otherwise open spaces defined by the side flanges 21 and top flanges 22 of the back rest portions.

The panel 30 mounted as described also provides a suitable means to which racks may be attached for supporting bottles, glasses and ash trays. This is illustrated in FIGS. 2, 3, 4 and 12 where it will be seen that a rack 51 is attached to the panel 30 associated with the seat unit 11. The rack chosen for illustration comprises an upper panel as at 52, a depending skirt as at 53 around the perimeter of the top panel 52, and a rear downwardly directed flange 54. The top panel 52 is provided with an opening therethrough as at 56 adapted for receiving a dish-like ash tray disposed therein and having by an outwardly directed supporting flange to rest upon the top panel 52. The panel 52 is also provided with receptacles as at 58 for receiving glasses or bottles.

A rack of the type illustrated in FIGS. 2, 3, 4 and 12 may be attached to a panel 30 as by means illustrated in FIG. 12 including screws 60 passing through suitable apertures in the panel 30 and screwed into thickened portions 61 in the rear flange 54. It will be understood that in this manner the heads of the screws 60 are positioned against the front surface of the panel 30 rather than protruding beyond the front surface of the back rest panel to the annoyance of occupants in the chair.

I claim:

1. In a seating structure having a plurality of individual seat units each comprising a seat portion and an upright back rest portion including a panel with rearwardly directed side and top flanges, said seat units being positioned side by side and connected together to provide a row of seating with adjacent side flanges of adjacent back rest portions abutting, in combination therewith, upper bolt means respectively securing upper portions of abutting flanges together, vertically intermediate bolt means respectively securing vertically intermediate portions of abutting flanges together, a back closing the rear of each back rest portion including a panel spaced from the previously recited panel and covering the space defined by the side and top flanges of the back rest portion, forwardly directed side flanges on said last recited panel spaced to fit closely adjacent and between the rearwardly directed side flanges of the back rest portion, each forwardly directed side flange having an upper upwardly opening slot fitted on the upper bolt means, and a vertically intermediate forwardly opening slot receiving the intermediate bolt means, and lower bolt means securing lower portions of abutting rearwardly and forwardly directed side flanges together.

2. In a chair seat unit comprising a seat portion and an upright back rest portion including a panel with rearwardly directed side and top flanges, in combination therewith, upper bolt means in the side flanges respectively for securing upper portions of the side flanges to other chairs, vertically intermediate bolt means in the side flanges respectively for securing vertically intermediate portions of the side flanges to other chairs, a back closing the rear of the back rest portion including a panel spaced from the previously recited panel and covering the space defined

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by the side and top flanges of the back rest portion, forwardly directed side flanges on said last recited panel spaced to fit closely adjacent and between the rearwardly directed side flanges of the back rest portion, each forwardly directed side flange having an upper upwardly opening slot fitted on the upper bolt means, and a vertically intermediate forwardly opening slot receiving the intermediate bolt means, and lower bolt means securing lower portions of abutting rearwardly and forwardly directed side flanges together.

3. In a chair having a seat unit comprising a seat portion and an upright back rest portion including a panel with rearwardly directed side and top flanges, in combination therewith, a back closing the rear of the back rest portion including a panel spaced from the previously recited panel and covering the space defined by the side and top flanges of the back rest portion, forwardly directed side flanges on said last recited panel spaced to fit closely adjacent and between the rearwardly directed side flanges of the back rest portion, each forwardly directed side flange having an upper upwardly opening slot, bolt means respectively on upper portions of the rearwardly extending side flanges engaged in said upwardly opening slots, and lower bolt means securing lower portions of the rearwardly and forwardly directed side flanges together.

4. In a chair having a seat unit comprising an upright back rest portion including a panel with rearwardly directed side flanges, in combination therewith, a back closing the rear of the back rest portion including a panel

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spaced from the previously recited panel and covering the space defined by the side flanges of the back rest portion, forwardly directed side flanges on said last recited panel spaced to fit closely adjacent the rearwardly directed side flanges of the back rest portion, each forwardly directed side flange having a slot opening toward one end thereof, bolt means respectively on adjacent portions of the rearwardly extending side flanges engaged in said slots, and bolt means adjacent the opposite ends of the forwardly directed side flanges securing portions of the rearwardly and forwardly directed side flanges together.

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