ABSTRACT: A chair structure is supported upon a plurality of spaced support frames, each having a rear vertical leg, and a front leg extending from said rear leg forwardly and then upwardly and forwardly to a spaced distance from the top of the rear leg, the frame having horizontal rails connecting the front and rear legs and extending rearwardly therefrom, attachment means being provided for securing the rearwardly extending rails to a wall or other support. Longitudinal rails connect the spaced support frames, and chairs are mounted upon the support frame structure. Closure panels extend at an inclination from the bottom of the rear leg upwardly to enclose the front of the seat structure, while side panels close the ends of the seat structure. At the top of the seat structure, a plastic closure is provided for adjustably closing the space between the top of the seat structure and the wall.
CANTILEVER SEAT STRUCTURE

BACKGROUND AND SUMMARY

A problem has been presented in providing a seat structure which will provide a clearance below the front of the seat for leg movement while at the same time enabling a closure to be utilized for concealing the interior space below the seat. Further, it is extremely difficult to fit seats, and particularly long seats, to a wall where there are irregularities, and if an accurate suspension can be provided which will permit ready adjustment to meet the irregularities of the wall, great expense can be saved and a sturdier seat structure obtained. A further problem is presented in concealing or enclosing the space between the top of the seat and the wall and the space below the seat so as to keep unwanted objects from such area and to conceal the interior structure. We have discovered that a cantilever seat structure of the character shown in the drawings enables the adjustments to be made along irregular wall surfaces while at the same time providing a short suspension area which frees the space below the forward ends of the seats so that there is greater leg room. At the same time, closure means are provided which conceal the interior of the seat structure and keep unwanted objects from such space. Further, by suspending the weight upon a small area forwardly of the main seat area, the weight can be taken by a wall support well to the rear of the seating structure and enabling the front portion of the support structure to be inclined downwardly and rearwardly. The seat structure, which may consist of a plurality of seats arranged in a row, is carried by a plurality of support frames each having a rear vertical leg, a front leg extending from the rear leg forwardly and then upwardly and forwardly to a spaced distance from the top of the vertical leg, and with a horizontal rail connecting the legs at their tops and extending rearwardly for connection to a wall. Panels are supported for enclosing the space area about the support frames and between the back of the chair and the wall.

DRAWINGS

In the accompanying drawings,

FIG. 1 is a front perspective view of the cantilever seating showing nearly three sections of seating, or six seats;

FIG. 2, an end view of the cantilever support frame with the end panel removed to expose the frame itself, the front closure panel being shown in place;

FIG. 3, an end view of the complete seat showing means for attaching the seat to the support frame and to the wall behind, a portion of the end panel being cut away;

FIG. 4, an exploded view of the seat parts showing all except some of the attaching screws;

FIG. 5, a sectional view of the upper portion of the back showing one method of attachment to the wall;

FIG. 6, a fragmentary view of the end of the lower portion of the cantilever frame showing the method of attaching the lower panel below the front panel, the end panel being omitted; and

FIG. 7, a fragmentary view showing a second method of attaching the seat frame to the wall in which the bolts and tee-nuts are horizontal rather than vertical.

DETAILED DESCRIPTION

In the illustration given, the cantilever seating 10 consists of one or more sections of plastic seat shells indicated by the numerals 11a, 11b and llc joined end to end to form a continuous seat along the wall 12 of the vehicle. The seat structure is mounted on a cantilever frame 13 attached to a rail 14 which is secured to the wall and also attached to the floor 15. It will be understood that any type of seating may be employed.

The cantilever frame 13 may be continuous with the sections being joined by smaller tubing splices 16 inserted into the tubes 18 and 19. Preferably the tubing splices are welded to one tube section and pinned to the other. The ends of the tubes or rails may be closed with caps 17. Each tube has brackets 20 welded to the front side to which the seat frame 21 may be attached with bolts and nuts, as seen best in FIG. 3. As seen in FIG. 2, the front tube 19 is set off center on top of the angular square leg tube 22 so that the tube will hide the top edge of the front panel 23 without the need of an extra piece of molding.

The support frame 13 has, in addition to the longitudinal rails 18 and 19, leg assemblies as shown in FIG. 4. The intermediate leg assembly 24 is slightly different from the end assembly 25. Both assemblies have the general appearance of an inverted A with an extended horizontal piece. The intermediate assembly 24 is centered with respect to the mounting plate 28, while the end assembly 25 is flush with the outside edge of the mounting plate 29.

The angular front square tube 22 bends and curves downwardly and inwardly to become the base 27 resting on the mounting plate 28 or 29. The intermediate or inside plates 28 are centered under the base portion 27 with screw holes 30 on both sides, while the end mounting plate 29 is attached so that its outer edge is flush with the outer edge of the base portion 27 and has screw holes 31 on the inside edge only.

The mounting plates 28 and 29 are raised at the front end 32 to allow the projection 33 of the molding 34 to slide under it. The molding supports the lower end of the front panel 23 in its upper groove 35. With this arrangement, the molding is held in place by the front panel so that it need not be attached to the mounting plate.

The support frame also includes upright tubes 36 and 37 resting on the base portion 27 of the front leg. Tube 36 is centered on the base portion 27 while tube 37 is placed flush with the outer edge of the base portion.

The horizontal square tubes 38 and 39, which also form a part of the support frame 13, are attached to the angular front tube 23 with tube 38 centered behind the tube 22, while 39 is attached flush to the outer edge of tube 22 and is attached to the wall by means of a bracket 40 which, in turn, is attached to the continuous rail or single by means of one or two bolts 41.

The front panels 23 are held in place by intermediate trim strips 42 attached to the angular front tube 22 with screws (not shown) and by the corner trim strip 43 which also holds the end panel 26 in place, attached with screws (not shown).

The upper portion of the seat shell 11 has a channel 44 welded to the back tube 45 so that the channel is horizontal and is close to the plastic shell. A continuous channel 46 with an attachment flange 47 is attached to the wall 12 so that its cylindrical slot 48 is at the same height as the channel 44. A plastic insert strip 49 with a bead 50 is threaded into the two channels, as shown best in FIG. 5.

The spaces between the chair shell may be covered by closure strip 51 above the arm rest 52 below the arm rest.

In FIG. 7, an alternate method of attaching the seat frame to the wall is shown and in this structure a flat rail 53 is attached to the wall 12 and has a slot to hold the tee-nuts 54. In this structure, the horizontal tubes 38 or 39 are secured to a flat plate 55 at their extremity, each plate possessing one or more holes for bolts 56 which tighten into tee-nuts 54, thus securing the seat frame to the wall.

Summarizing, the chair seating is supported upon a plurality of support frames in spaced-apart relation, each frame having a rear vertical leg resting on a front leg which extends forwardly and then upwardly to a spaced distance from the top of the vertical leg, the support frame including also horizontal rails connecting the front and rear legs and extending rearwardly for attachment to a rear wall or other stationary support, the support frame including also longitudinal rails which connect the spaced leg frames and upon which the chair seating rests.

In combination with the seat support structure and seating, panels and panel supports are provided for enclosing the seats about the support frames and between the chair tops and the wall.
While in the foregoing specification we have set out specific structure in considerable detail for the purpose of illustrating the invention, it will be understood that such details may be varied widely by those skilled in the art without departing from the spirit of our invention.

We claim:
1. In a cantilever seat structure adapted to be supported upon a floor and adjacent wall, a plurality of spaced support frames parallel with said wall, each frame having a base for resting on said floor, a rear leg extending upwardly from said base, a front leg extending from the front of said base forwardly and upwardly to a spaced distance from the top of said vertical leg, said frame also including horizontal rails connecting said front and rear legs and extending rearwardly therefrom for connection to said wall, longitudinal rails connecting said support frames, and chairs mounted upon said support frames.
2. The structure of claim 1 in which said base and legs are integral.
3. The structure of claim 1 in which a closure panel extends from the bottom of said front leg to the top thereof.
4. The structure of claim 3 in which said base is supported upon a mounting plate carried by the floor and is provided with a projection extending below said ledge, said molding being provided with an upwardly inclined slot adapted to receive said closure panel.
5. The structure of claim 1 in which the top of a chair is provided with a channel sleeve receiving a plastic closure fixed to a bracket carried by said wall for thus slidably closing the space between said wall and the top of said chair.
6. A cantilever seat structure adapted to be supported upon a floor and adjacent wall, comprising a plurality of spaced support frames parallel with said wall, each frame having a floor support base portion, a rear vertical leg extending upwardly therefrom, a front leg extending forwardly and upwardly from said base to a spaced distance from the top of said vertical leg, said support frame including horizontal rails connecting said front and rear legs, means for securing the rear portions of said rails to said wall, longitudinal rails connecting said frames, a rail connected to said wall, a channel connected to said rail, chairs mounted upon said support frames, a chair being equipped at its top with a rearwardly extending channel aligned with said wall channel, and a slide closure within said channels for closing the space between said wall and the top of said chair.
7. The structure of claim 6 in which said slide closure is equipped at one end with a bead rotatably supported within one of said channels.
8. The structure of claim 6 in which a front longitudinal rail is round in shape and rests on the top of the front leg.

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