

July 30, 1968

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3,394,417

BOAT SEAT SUPPORTING STRUCTURE

Filed April 26, 1967

4 Sheets-Sheet 1

FIG. 1

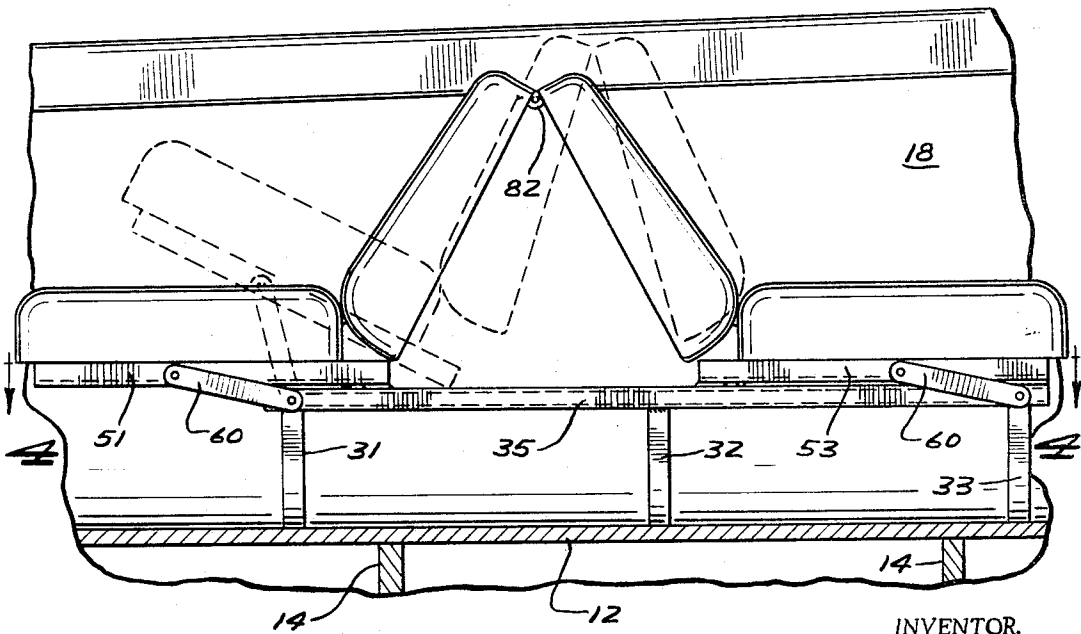
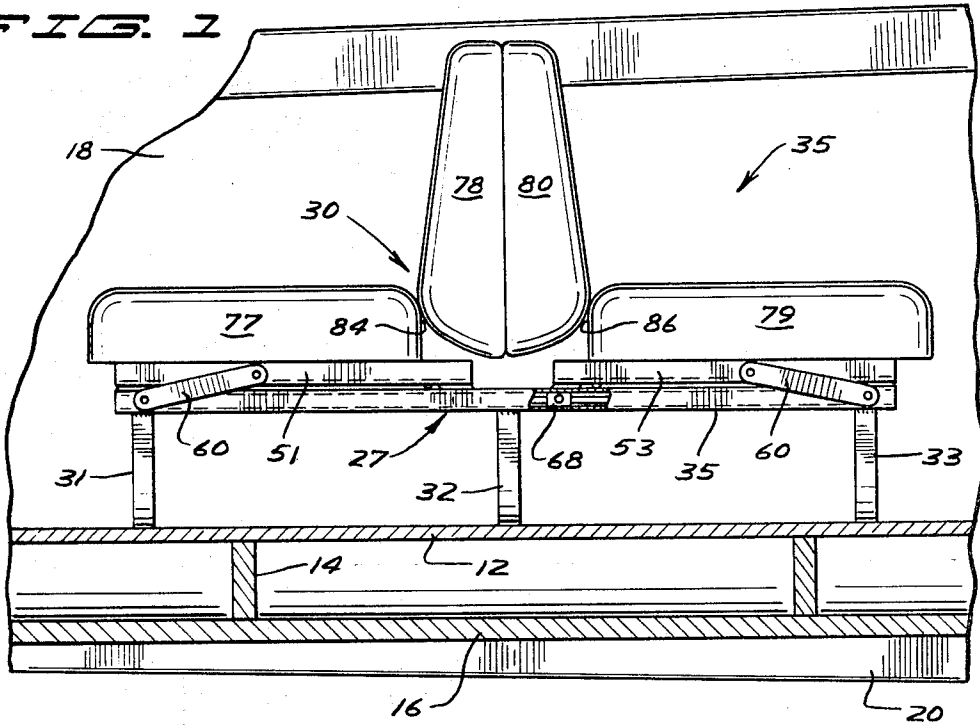


FIG. 2

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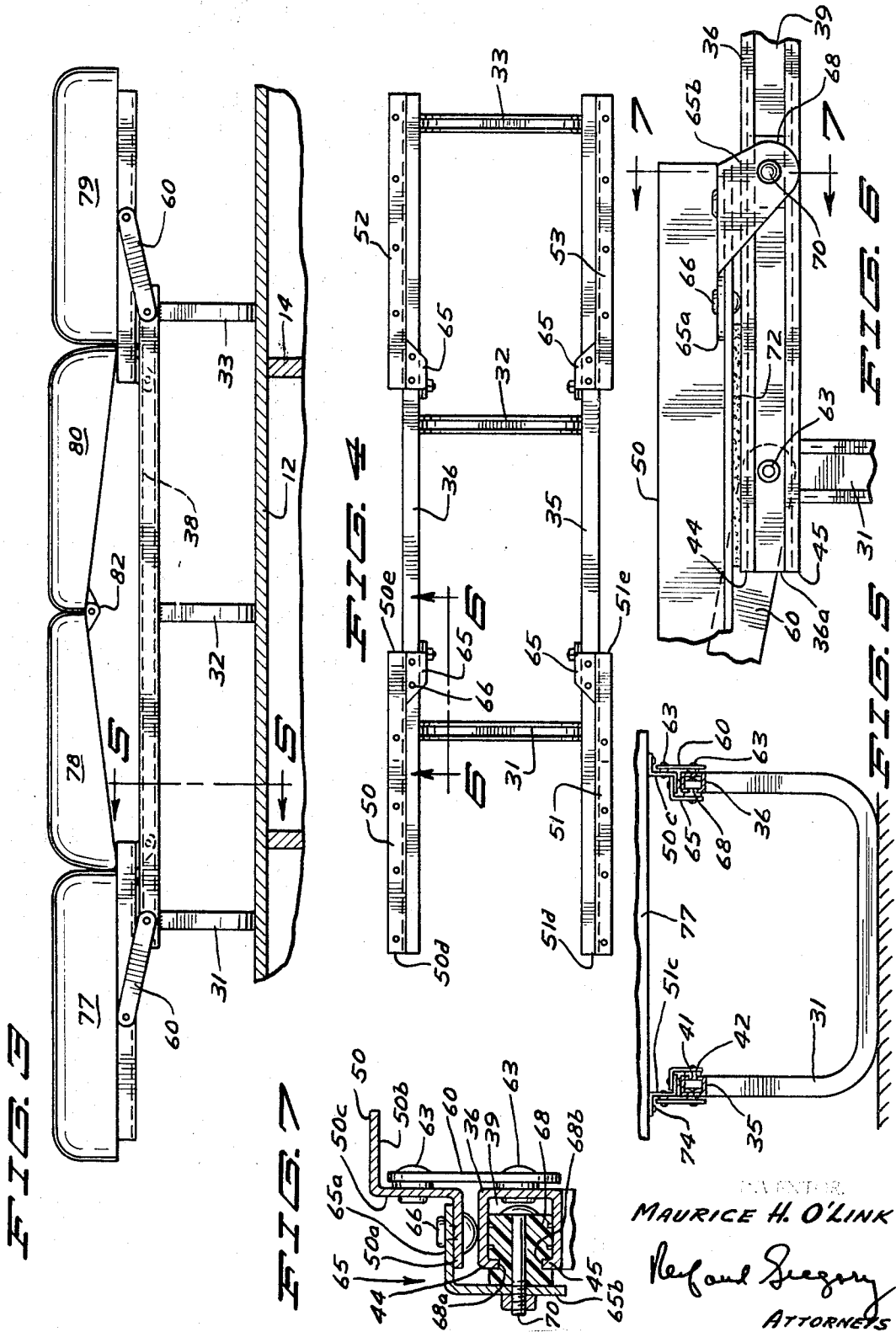
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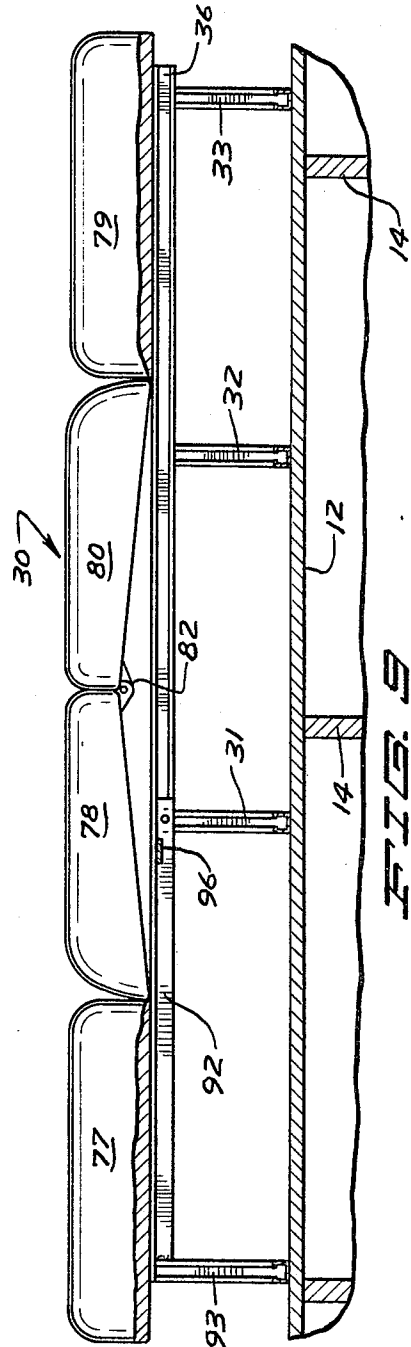
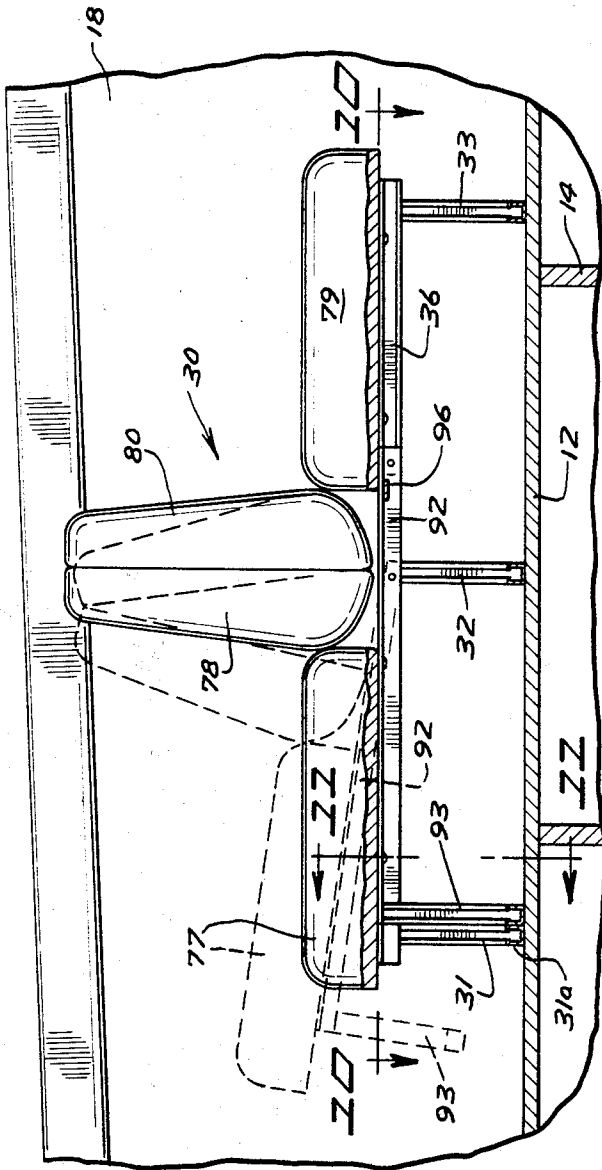


FIG. 8

FIG. 9

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FIG. 10

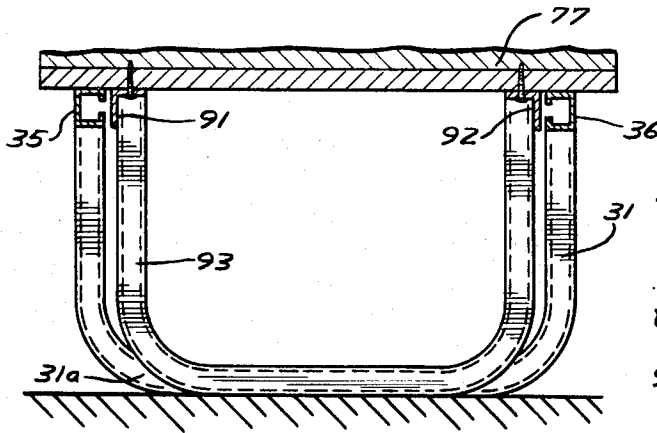
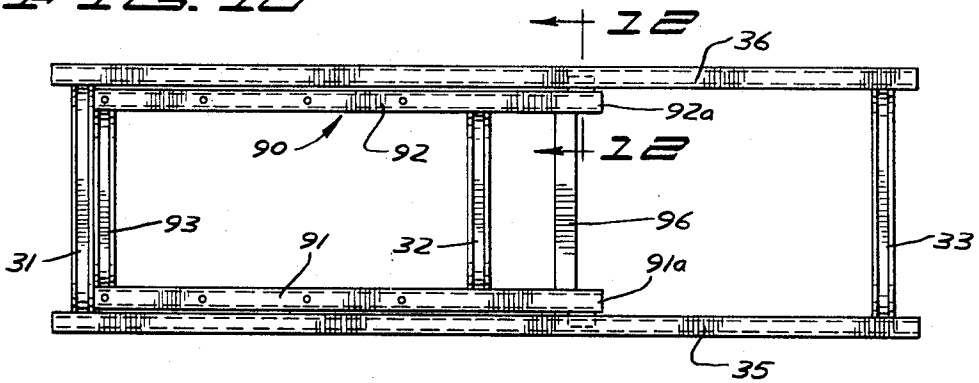


FIG. 11

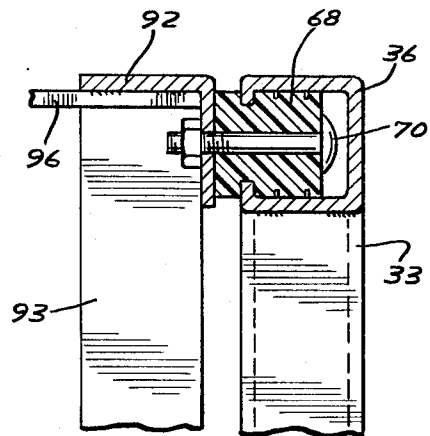


FIG. 12

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BOAT SEAT SUPPORTING STRUCTURE

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2 Claims. (Cl. 9-7)

ABSTRACT OF THE DISCLOSURE

A rail supported slidably adjustable boat seat structure.

Background and summary of invention

The invention herein is classified in class 9, Boats and Buys, sub-class 7 for Seats.

Adjustable deck mounted boat seats are in fairly common use, but such seats, to the inventor's knowledge, are not secured to avoid bouncing when the boat is traveling through rough or turbulent waters.

It is an object of this invention to provide a boat seat structure slidably carried on an underlying rail support and having means in connection therewith to minimize bouncing of the seat.

It is another object of this invention to provide a boat seating arrangement comprising adjustable boat seats slidably supported on an underlying rail with self operating means securing portions of said seats to said rail against vertical movement.

More specifically it is an object of this invention to provide a boat seat structure comprising boat seats adjustable from upright sitting to reclining and prone positions, a supporting rail secured to the boat deck, and means for sliding adjustment of said seats with respect to said rail, and means locking said seats to said rail.

These and other objects and advantages of the invention will be set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to similar parts throughout the several views and in which:

FIG. 1 is a broken view in vertical section showing the invention herein in end elevation with a portion thereof broken away to show a detail of construction;

FIG. 2 is a view similar to FIG. 1 showing the invention herein in a second position with the adjusting movement thereof being shown in dotted line;

FIG. 3 is a view similar to FIG. 1 showing the invention herein in a third position;

FIG. 4 is a view in horizontal section taken on line 4-4 of FIG. 2 as indicated;

FIG. 5 is a broken view on a somewhat enlarged scale in vertical section taken on line 5-5 of FIG. 3 as indicated;

FIG. 6 is a fragmentary view in side elevation on a somewhat enlarged scale taken on line 6-6 of FIG. 4 as indicated;

FIG. 7 is a fragmentary view in vertical section taken on line 7-7 of FIG. 6 as indicated, showing a detail of construction on an enlarged scale;

FIG. 8 is a view similar to FIG. 1 partially in elevation and partially in longitudinal vertical section showing a modification and showing a change in position by dotted line;

FIG. 9 is a view similar to FIG. 8 showing an alternate position of the modified structure;

FIG. 10 is a view in horizontal section taken on line 10-10 of FIG. 8 as indicated;

FIG. 11 is a broken view in vertical section on a somewhat enlarged scale taken on line 11-11 of FIG. 8 as indicated; and

FIG. 12 is a broken view in vertical section taken on line 12-12 of FIG. 10 showing a detail of construction on an enlarged scale.

Description of a preferred embodiment

Referring to the drawings, the invention herein relates to a seat construction for boats. Only a fragmentary portion of a boat is necessary to be shown for a full disclosure of the invention, and such a portion is indicated generally by the numeral 10. Said boat 10 comprises a deck 12 supported by spaced transversely disposed frames 14 resting on the boat bottom 16. A side portion 18 of said boat is indicated and underlying said boat is a keel 20.

The seat structure comprising the invention herein is indicated generally by the character 25 and it comprises a supporting framework 27 and a supported seat 30.

It will be understood that the supporting framework may be variously formed and that the preferred embodiment here shown includes underlying or base upstanding channel U-frame members 31, 32 and 33. It may well be stated here that it has been found very satisfactory to form the entire supporting structure of extruded aluminum members either in channel form or as angled plate members as will be described.

Said channel U-frame members are in parallel longitudinally spaced alignment. Overlying the upper free end portions of said U-frame members and being secured thereto as by welding are a pair of straight channel U-frame members 35 and 36 respectively having channels 38 and 39, with the open sides of said frame members 35 and 36 being in facing relation with respect to one another.

With reference to FIGS. 5 and 7, said channel members 35 and 36 respectively have vertically facing flange portions 41-42 and 44-45 in their facing open sides.

Supported on said frame members 35 and 36 and partially overlying the same are movable transverse pairs of seat brackets 50-51 and 52-53.

Bracket 50 is a plate member extruded to have a step formation in cross section having a lower step 50a, an upper step 50b and a connecting vertical web 50c. Said bracket is of a length to underlie a seat portion as shown and as will be described. The lower step 50a overlies the upper side of the channel member 36 and the upper step 50b extends outwardly of said channel member.

An elongated flat link member 60 is pivotally riveted to the outer side wall of the channel member 36 adjacent the free end 36a thereof by a rivet 63. Said link 60 at its other end is pivoted to said bracket 50 to the outer side of the web 50c thereof by a rivet 63, and is pivoted thereto at a point about one-third of the length of said bracket from its outer free end 50d with reference to the adjacent free end of the frame member 36.

At the inner end portion 50a of said bracket 50 is an angle bracket 65 having its horizontal side portion 65a overlying the step portion 50a and being secured thereto by a pair of spaced rivets 66 with its depending side wall 65b overlying the inner open side of said frame member 36. Said side wall 65b is shown here inclined rearwardly.

Slidable within said channel 39 is a bearing block 68 which is satisfactorily formed of an appropriate plastic material, such as of nylon. Said bearing block is indicated as being substantially parallelepiped in form having a pair of vertically aligned longitudinal grooves 68a and 68b in the upper and lower faces thereof adjacent one side thereof and being adapted to receive therein said pair of flanges 44-45.

Said bearing block is of a width and is so positioned as to be spaced inwardly of the outer side wall of said

channel member 36. The upper and lower surfaces of said blocks are longitudinally grooved to provide freely moving bearing surfaces.

Said depending wall 65b of said bracket 65 is pivotally secured to said bearing block 68 at the open side of said channel member 65 through the longitudinal slot formed between flanges 44-45 by an appropriate transversely disposed nutted bolt 70.

Thus as the leading end portion 50d of said bracket 50 is raised, the link 60 swings upwardly and the bracket 65 with the bearing block 68 slides freely within the channel 39. Said bracket is movable from a rearward position in which it overlies the frame member 36 to a forward position in which approximately two-thirds of its length extends forwardly of said frame member 36.

It will be understood that the extent to which said bracket 50 is movable forwardly or rearwardly is dependent upon the length of the link 60.

Overlying the upper surfaces of the free end portions of the frame members 35 and 36 are elongated resilient self securing pads 72 as indicated in FIG. 6, with respect to the member 36.

Bracket 50 and its related elements have been described in detail representative of the brackets 51-53. Bracket 51 is a mirror image of the bracket 50. Brackets 52-53 are respectively identical with the brackets 50-51 being disposed and operating in a reverse direction. The portions of the brackets are correspondingly indicated. The elements attached thereto and operating therewith are identical with those of said bracket 50 and bear like numerals.

Carried on said brackets 50-53 and secured thereto by appropriate means, such as screws 74 is said supported seat structure 30.

Said seat structure 30 consists of a double back to back seat arrangement comprising seat portions 77 and 79 respectively having back rest portions 78 and 80. Said back rest portions are pivoted together at their adjacent ends by a hinge 82. Said seat portions and their respective back rest portions are pivoted together by hidden hinges as indicated at 84 and 86.

Operation

With reference to FIG. 1, the seat portions 77 and 79 are positioned to have their back rest portions 78 and 80 in mutually engaging upright positions. The brackets 50-51 and 52-53 are positioned in retracted positions overlying the frame members 35 and 36 their full extent.

Referring now to FIG. 2, the first adjustment position is shown with the brackets 50-51 being positioned to be extended with reference to the frame members 35 and 36. The free end of the seat is simply raised and pulled forwardly. The link 60 is pulled through its arc and the bearing blocks 60 slide within the channels of said members 35 and 36. The back rest portions are now positioned for reclining. The bearing blocks hold the rear end portions of the seat portions 77 and 79 secure against any vertical movement and against jolting and bouncing.

With reference to FIG. 3, the brackets 52-53 are swung outwardly to extended positions 78 and 80 and positioned to provide a prone or flat horizontal surface across the entire seating arrangement.

It is seen that said brackets extend the effective length of said channel members 35 and 36 and provide for ready adjustment of said sectional seat structure 30 for use from upright sitting to reclining or prone positions.

Modification

With reference to FIGS. 8-12, a modification of the above described structure is shown in which elements of the structure identical with those above described are indicated by like characters and where unnecessary are not further mentioned.

Supported by the frame members 35 and 36 in lieu of the brackets 50-53 is an elongated swingable support 90

comprising side channel frame members 91 and 92 having a similar U-channel supporting or foot member 93 at the free end thereof. Said swingable support will be of a width to fit between the members 35 and 36. Said members 91 and 92 at their inner free ends 91a and 92a will be pivoted to bearing blocks 68 which will be slidable within the channels of the members 35 and 36 as first above described. Also a cross member 96 extends between said members adjacent their free ends. Said support 90 is here indicated as having a length approximately two-thirds of the length of said members 35 and 36.

Secured directly onto said members 35 and 36 extending somewhat beyond their end portions adjacent the support member 33 is the seat portion 79. Secured directly onto the members 91 and 92 and extending somewhat therebeyond adjacent said support member 93 is the seat portion 77.

Thus of the supporting frame structure, only the portion 90 is movable.

The seating structure 30 is adjustable to any desired extent by the extension of the supporting structure 90 as indicated in FIG. 8, and the seat 30 is shown fully extended in FIG. 9.

With particular reference of FIGS. 10 and 11, the foot supporting member 93 is shown in locked position.

The seat portion 77 will be secured to the members 91 and 92 in such a position thereon that when the back rest portions 78 and 80 are in upright position, the support member 93 will be positioned at the inner side of the support member 31 engaging the ground supported web portion 31a thereof under some degree of pressure resulting from the pressure of the engagement between said back rest portions. In this position, said seat structure is secured against bouncing or jarring.

Thus it is seen that I have provided a simple, efficient and unusually satisfactory boat seat supporting structure providing for positive adjustment in the arrangement of the seats supported thereon.

It will of course be understood that various changes may be made in the form, details, arrangement and proportions of the parts, without departing from the scope of applicant's invention which, generally stated, consists in a device capable of carrying out the objects above set forth, in the parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:

1. A boat seat supporting structure having in combination,

a supporting frame structure comprising a pair of laterally spaced parallel channel members having facing sides respectively comprising spaced vertical flanges defining a longitudinal slot therebetween, a movable support member,

slidable means in connection with said channel members,

said slidable means comprising bearing blocks respectively having a pair of vertically aligned grooves in the upper and lower faces thereof, said bearing blocks being disposed in said channel members receiving said spaced flanges within the spaced grooves thereof,

means securing said movable support member to said bearing blocks,

a sectional seat structure carried on said support member comprising a pair of seat portions having adjacent back rest portions in a back to back relationship, said back rest portions being respectively hinged to said seat portions, and

one of said seat portions being secured to said support member.

2. A boat seat supporting structure having in combination,

a supporting frame structure comprising a pair of laterally spaced parallel channel members having facing sides, said facing sides respectively comprising

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spaced vertical flanges defining a longitudinal slot therebetween,
 longitudinally spaced U-shaped supports supporting same frame structure,
 a movable support member,
 5 slidable means in connection with said channel members,
 said slidable means comprising bearing blocks respectively having a pair of vertically aligned grooves in the upper and lower faces thereof, said bearing blocks respectively being disposed within said channel members receiving said spaced flanges within the spaced grooves thereof,
 10 means securing said movable support member to said bearing blocks,
 15 said movable support member having a U-shaped support at one end thereof, said support having a lesser width and being movable through said first mentioned supports, and

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said last mentioned support being constructed and arranged to be disposed at the inner side of one of said first mentioned supports for locking engagement with the bottom portion thereof.

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