Feb. 25, 1969 C. S. ROBINSON 3,428,976

CONVERTIBLE HELMSMAN'S SEAT FOR POWER BOAT

Filed Dec. 29, 1967

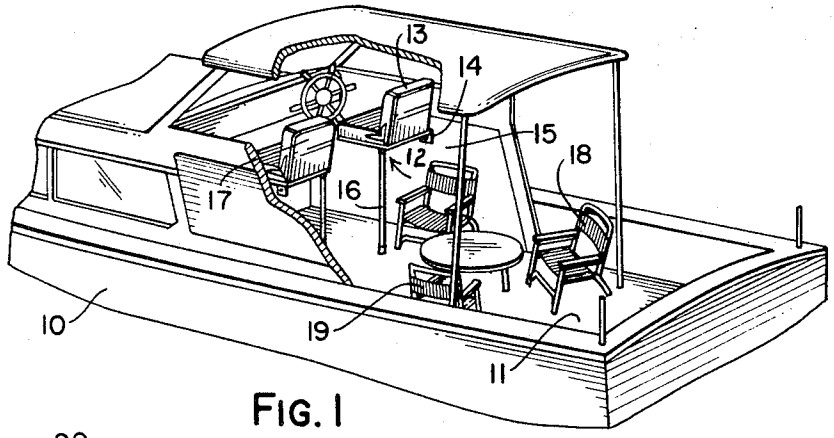


FIG. 1

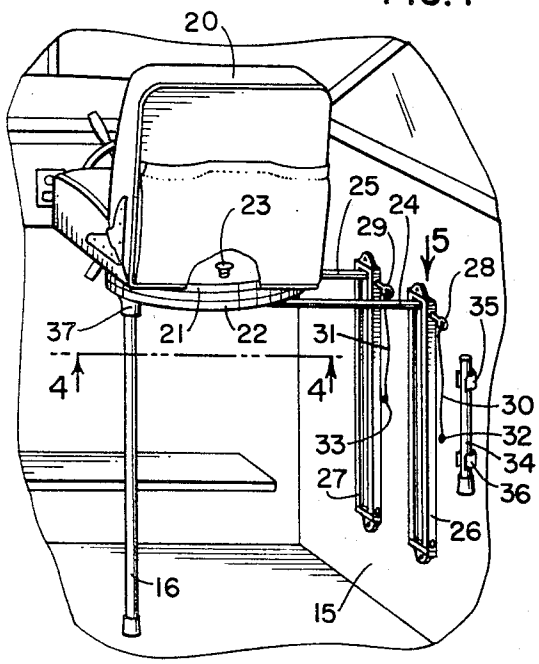


FIG. 2

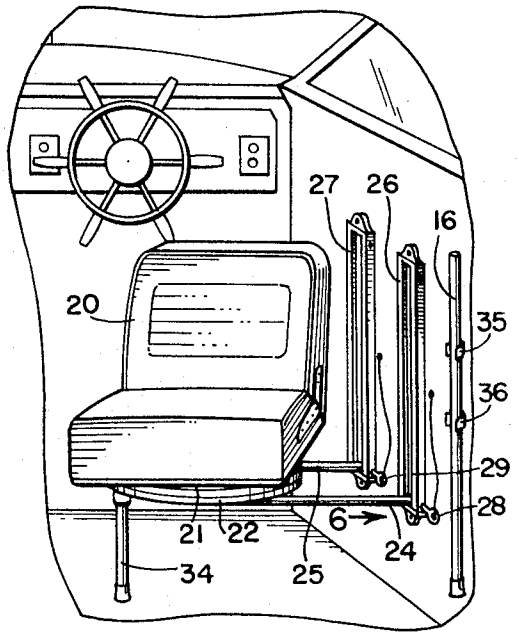


FIG. 3

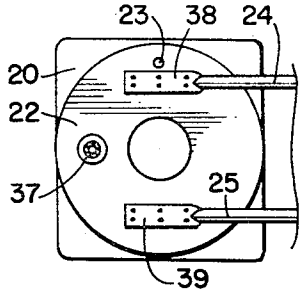


FIG. 4

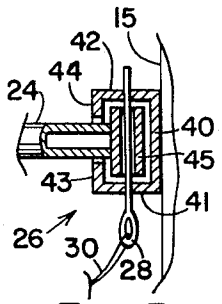


FIG. 5

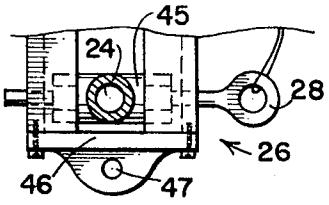


FIG. 6

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CONVERTIBLE HELMSMAN'S SEAT FOR POWER BOAT

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ABSTRACT OF THE DISCLOSURE

A convertible helmsman's seat is provided for power boats and includes a swivel mount secured to lateral support bars designed to ride between upper and lower positions in vertical channel members fixed to the bulkhead in the cockpit area of the boat. The seat may thus be lowered to a level corresponding to the height of a conventional seat or chair and swiveled around towards the stern of the boat to permit the helmsman's seat to be used as a comfortable lounge chair when the boat is not underway.

This invention relates to helmsman's seats in power boats and more particularly to an improved support for such seats enabling simple conversion of the seats from their normal forward facing high level positions to lower level rotated positions, corresponding to a conventional seat height to thereby provide additional comfortable chairs on the afterdeck of the boat.

The conventional helmsman's seat on a power boat is normally supported at a fixed forward facing high level position above the deck, approximately two and one-half times the height of a normal deck chair. This high level is necessary to enable the pilot or helmsman to see over the bow while navigating. Usually the supporting structure for the seat includes, in addition to a removable support rod, hinge or pivot means enabling the seat to be folded against an adjacent bulkhead when not in use. The seat itself, which is usually of high quality construction and expensively upholstered, is thus useless except for the express purpose of navigating the boat when it is underway. The same situation obtains for the copilot seat or second helmsman's seat normally provided adjacent to the opposite side wall or bulkhead of the cockpit area.

Oftentimes the helmsman wishes to visit with friends or entertain guests on his boat on the afterdeck area when the boat is not underway such as when at a mooring or at anchor. In these instances, the helmsman's seat and copilot's seat must be folded against the adjacent bulkheads and additional deck chairs brought up from below and positioned in the cockpit area for convenient conversation.

Conditions aboard power boats of the type under consideration are normally crowded at best and the storing of additional deck chairs and the necessity of bringing them to the afterdeck for the convenience of the helmsman or other guests can be time consuming and annoying. Even with the helmsman's seat and copilot's seat neatly folded against the opposite bulkheads, these seats still protrude somewhat into the afterdeck cockpit area and add to the crowded conditions.

With the foregoing in mind, it is a primary object of the present invention to provide a novel convertible helmsman's seat and copilot's seat which enables these seats to be converted to comfortable chairs for use by the helmsman or other guests when visiting on the after-deck area all to the end that the above problems are overcome.

More particularly, it is an object to provide a convertible helmsman's seat which may either be initially installed during the manufacture of new boats, or installed to replace an existing helmsman's seat with a minimum of additional hardware and expense and without requiring any substantial alteration of the adjacent bulkhead and other fixed portions of the boat in the cockpit area.

Still another object is to provide a convertible helmsman's seat capable of being converted from its normal high level, forward facing operative position to a lower level position and capable of swivelling such that it may be turned to face towards the stern of the ship or be positioned at any other convenient angle.

Yet another important object is to provide a helmsman's seat which may be quickly and conveniently converted from a raised operative position to a lower level chair position by a unique supporting structure wherein the seat may additionally retain the advantage of a conventional helmsman's seat in that it may be neatly folded against the adjacent bulkhead in the cockpit area when it is not desired to use the seat as either a helmsman's seat or guest chair or when it is desired to gain access to deck hatches.

Briefly, these and many other objects and advantages of this invention are attained by substituting for the normally provided fixed height fittings on the adjacent bulkhead of the cockpit area a guide structure coupled to suitable support means extending laterally from under the helmsman's seat. The arrangement is such that the seat and lateral support means may be guided between upper and lower levels and securely locked at one level or the other. At the upper level, the seat is in proper operative position for navigating the boat. At the lower level, the seat is positioned at normal chair height. In addition, there is provided a swivel means for the seat permitting the seat to be rotated through at least 180° so that the seat itself when in its lower position can be swung around to face towards the stern of the boat and used as a comfortable lounge chair for social purposes when the boat is not underway.

In the preferred embodiment, the guide structure includes a pair of channel members defining vertical tracks along which the laterally extending support means can ride. Simple locking pins may be employed to secure the lateral support means in one of the two desired positions on the channel members. The normally provided vertical support rod for conventional type helmsman's seats is used in conjunction with the lateral support means and channel members to support the seat in its operative raised position. A shorter auxiliary support rod utilizing the same socket structure beneath the seat is used when the seat is in its lower swiveled position for use as a lounge chair.

As a consequence of the foregoing construction, there is required a minimum of modification of the surrounding cockpit area to accommodate the improved convertible helmsman's seat. In addition, the conversion can readily be manually carried out quickly and efficiently.

The same type of helmsman's seat support structure can be used for the copilot's seat adjacent to the opposite bulkhead in the cockpit area with the result that there are available two comfortable upholstered lounge chairs when the seats are converted as described.

A better understanding of this invention will be had by now referring to a preferred embodiment as illustrated in the accompanying drawings, in which:

FIGURE 1 is a partial perspective view of a power boat illustrating the afterdeck area and conventional helmsman's seat and copilot's seat;

FIGURE 2 is a fragmentary perspective view of the convertible helmsman's seat of the present invention to be used in place of the helmsman's seat illustrated in FIGURE 1;

FIGURE 3 is a view similar to FIGURE 2 but illus-

trating the improved helmsman's seat in a converted position for providing a lounge chair for social purposes when the boat is not underway;

FIGURE 4 is a fragmentary bottom plan view of the helmsman's seat taken in the direction of the arrows 4—4 of FIGURE 2;

FIGURE 5 is a fragmentary cross section taken in the direction of the arrow 5 of FIGURE 2; and

FIGURE 6 is a fragmentary elevational view partly in cross section of a portion of the guiding structure taken in the direction of the arrow 6 of FIGURE 3.

Referring first to FIGURE 1, there is shown a power boat 10 having an afterdeck area 11 including a cockpit area 12. The conventional helmsman's seat is shown at 13 in operative position. This seat is secured as by suitable fittings 14 to the adjacent bulkhead 15 in the cockpit area and further supported by a vertical support rod 16 extending from a suitable socket structure beneath the seat to the deck as shown. In this position, the seat 13 is rigidly held in a forward direction at a relativley high level above the deck to enable a helmsman to see over the bow of the boat while navigating.

In most conventional helmsman's seats of the type described in FIGURE 1, the fittings 14 include suitable pivot means enabling the seat to be folded to an out of the way position when not in use. Towards this end, the back of the seat is simply swung down on top of the seat proper and the support rod 16 removed from beneath the seat. The seat structure may then be swung downwardly about the pivot means included in the fitting 14 against the bulkhead 15 in an out of the way position.

The copilot's seat illustrated at 17 in FIGURE 1 is similarly secured to the opposite bulkhead in the cockpit area and is also foldable to an out of the way position when not in use.

It will be evident from the foregoing that both the helmsman's seat 13 and the copilot's seat 17 are useless as chairs except for their intended purpose of enabling the helmsman and copilot to properly navigate the boat.

As mentioned previously, when the boat is at a mooring or at anchor, the helmsman and copilot or the owner of the boat often wish to converse with guests on the afterdeck area 11. Towards this end, there are normally provided deck chairs for the guests two of which are indicated at 18 and 19. To provide additional room for the helmsman and his copilot, the seats 13 and 17 are normally folded to their out of the way positions and additional deck chairs are brought up to the afterdeck area.

Referring now to FIGURE 2, there is shown the improved convertible helmsman's seat of the present invention which avoids the foregoing problems of having to store two extra chairs and the time involved in bringing the chairs to the afterdeck area when it is desired to socialize with guests. Since the copilot's seat will constitute a convertible seat structure of the same type as the helmsman's seat, description of the latter will suffice for both.

As shown the helmsman's seat 20 may be a comfortably upholstered seat structure substantially the same as the seat 13 shown in FIGURE 1. However, in accord with the present invention, the seat is mounted on a swivel means including a first plate 21 secured to the underside of the seat itself and a second plate 22 underlying the plate 21. The plate 21 is rotatably mounted with respect to the plate 22 as by any suitable ball bearing means well known in the art.

With a swivel means of the foregoing type, it is desirable to provide a suitable indexing structure which will index the seat itself to a forward rotated position for use when navigating the boat. Towards this end, there may be provided a simple spring loaded detent means such as schematically illustrated at 23 mounted on the first plate 21 and biased into a suitable dimple or detent in the plate 22 when the seat 20 is facing forwardly. This detent indexing means is preferably designed so that only a slight rotative force on the part of the helmsman is necessary to free the pin from the detent and permit easy swivelling of the seat itself about a vertical axis.

The plate 22 is rigidly secured to laterally extending support means in the form of a pair of bars 24 and 25. The far ends of these bars terminate in cross tubes receivable in a guide structure secured to the bulkhead 15 of the boat. This guide structure takes the form of a pair of channel members 26 and 27 for respectively receiving the cross tubes at the ends of the bars 24 and 25 all as will become clearer as the description proceeds. The side walls of the channels include openings adapted to register with the openings in the cross tubes when the seat is in its raised operative position. Suitable locking pins such as indicated at 28 and 29 are received in these openings to secure the lateral supports 24 and 25 in this position. The same vertical support rod 16 described in FIGURE 1 may be used with the seat 20 shown in FIGURE 2 to stabilize it in its operative position.

In the particular example illustrated in FIGURE 2, the locking pins 28 and 29 are manually insertable and removable from the channel members. To facilitate this operation, there are provided simple keeper chains 30 and 31 connected to the pins and secured to the bulkhead as at 32 and 33 so that the pins 28 and 29 will not become lost when they are removed. Alternatively, the pins could be mounted on slide brackets and inserted or removed simultaneously by a simple centrally disposed lever structure.

Also illustrated in FIGURE 2 is an auxiliary support rod 34 secured in an available position by means of broom stick type clips 35 and 36 secured to the bulkhead 15.

FIGURE 3 illustrates the helmsman's seat 20 in its lower level converted position. As shown, the lateral support bars 24 and 25 are in a lower level location with their ends secured in lower positions in the channel members 26 and 27. The locking pins 28 and 29 are shown properly inserted in suitable lower openings in the channel members for securing the lateral supports in this desired position. In addition, it will be noted that the vertical support rod 16 of FIGURE 2 has been removed and the auxiliary support rod 34 inserted in the same under socket structure in the seat to extend to the floor and support the seat at a normal chair height level.

It will also be evident from FIGURE 3 that the helmsman's seat has been rotated to a position facing towards the stern of the boat to provide a properly oriented chair for social visits with others of the afterdeck such as might be seated in the chairs 18 and 19 of FIGURE 1.

FIGURES 4, 5 and 6 illustrate details of the general structure in FIGURES 2 and 3. In this respect, the view of the underside of the seat of FIGURE 4 clearly illustrates the socket structure for receiving the upper end of the vertical support rod 16 or the auxiliary support rod 34. This socket structure is illustrated at 37 and is secured directly to the underside of the lower swivel structure plate 22. The securement of the lateral support bars 24 and 25 to the plate 22 is also illustrated in FIGURE 4 at 38 and 39 and the securement itself is of sufficient extent to assure a rigid relationship between the bars 24 and 25 and the swivel structure.

FIGURE 5 illustrates in detail the channel member 26 secured to the bulkhead 15. The other channel member 27 described in FIGURES 2 and 3 is identical in construction and therefore a detailed description of the member 26 will suffice for both. As shown, the channel may include an extruded, cast, or formed metal structure including a rear wall 40 with integral side walls 41 and 42 defining the channel portions. These side walls include inturned flange portions 43 and 44 respectively overlapping opposite ends of the cross tube 45. In FIGURE 5, the pin 28 is shown passing through the opening in the cross tube 45 and the upper level openings in the walls

41 and 42 of the channel. It will be evident that the pin 28 also functions as a pivot pin for the cross tube 45 so that the laterally extending bar 24 may swing in a vertical plane.

FIGURE 6 shows a somewhat enlarged fragmentary view of the lower end of the channel 26 when the cross tube 45 is in its lower level position and the pin 28 passed through the lower openings. It will be noted that the lower end of the channel 26 terminates in a removable closure portion which serves as an end stop 46 to limit the downward movement of the cross tube within the channel. This maximum lower position of the cross tube as determined by the end stop 46 is such that the channel wall openings will register with the opening in the cross tube so that the pin 28 may readily be inserted when the cross tube is in its lower level position. A similar structure (not shown) is provided at the upper ends of each of the channel members so that vertical movements of the cross tubes and corresponding support bars in the channels are limited to the two end positions and the pins easily inserted in the aligned openings. Removal of the stop 46 will permit the entire seat and supporting structure to be removed or separated from the bulkhead when required.

Also shown in FIGURE 6 is a lower end securement screw 47 for holding the lower end of the channel to the bulkhead. A similar fixture portion at the upper end of the channel is provided so that installation of the channels to the bulkhead can readily be carried out by the boat owner himself.

Preferably, the pins 28 and 29 are of a self-locking type; that is, they may include at their extreme ends means (not shown) to project laterally so that when the pin is inserted through the aligned openings, it will be locked from withdrawal. If a lever system is used, the pins will automatically be held in their inserted positions. In this latter construction there would be provided additional pins for the lower openings suitably mounted for operation by a second lever system. The advantage of the lever system would be that both pins could be inserted with only one hand.

With the foregoing description of the specific structure of the convertible helmsman's seat in mind, the entire operation of the invention will now be described.

When navigating the boat, the helmsman's seat and the corresponding copilot's seat will be in their operative high level forward facing positions such as illustrated in FIGURE 2. In this position, the pins 28 and 29 are secured through the aligned upper openings of the channel members and the corresponding cross tubes at the ends of the lateral supports 24 and 25. Also, the spring loaded detent structure 23 will hold the swivel structure in a position such that the seat is facing forwardly. The normal vertical supporting rod 16 is in the position illustrated in FIGURE 2 to stabilize the seat. The helmsman's seat can thus be used in the manner of the conventional type helmsman's seat described in conjunction with FIGURE 1.

Also, as is the case with conventional type helmsman's seats, when it is desired to fold the seat to an out of the way position, it is only necessary to raise up slightly on the outer edge of the seat shown in FIGURE 2 to remove the supporting rod 16. This action is permitted as a consequence of the cross tubes being capable of pivoting movement about the locking pins 28 and 29. The back of the seat is folded down on the seat portion and the structure swung downwardly against the bulkhead, the locking pins 28 and 29 supporting the cross bars ends in their positions as shown in FIGURE 2. The seat may thus be stored in the same manner as conventional helmsman's seats are now stored or folded to out of the way positions for other purposes such, for example, as to provide access to deck hatches in the deck area under the seats.

In those situations in which the boat is not underway such as is the case when at a mooring or at anchor and the helmsman wishes to entertain guests aboard the boat on the afterdeck area, the helmsman's seat is then converted to a comfortable lounge chair. This conversion is accomplished by again simply raising the outer edge of the seat slightly to remove the supporting bar 16. The pins 28 and 29 are then manually removed and the bars 24 and 25 permitted to slide vertically downwardly to their bottommost positions in the channels. The pins 28 and 29 are then reinserted through the lower openings to secure the ends of the bars 24 and 25 at their lower level positions as illustrated in FIGURE 3. The auxiliary support rod 34 is then removed from the clip brackets 35 and 36 and positioned in the socket 37 under the swivel structure to stabilize the seat as illustrated in FIGURE 3. The removed normal vertical support rod 16 may be stored in the clips 35 and 36. The helmsman then sits in the seat and can easily swivel the seat around to a position facing the stern such as illustrated in FIGURE 3.

The same operations are carried out with respect to the copilot's seat so that two comfortable additional chairs are provided for social purposes on the afterdeck by the simple conversion as described.

Reconversion of the seats to their operative positions is carried out by simply reversing the foregoing process. Again, the outer end of the seat is raised slightly to permit removal of the auxiliary support rod 34, pivoting action of the bars 24 and 25 taking place about the locking pins 28 and 29 in the lower ends of the channel. The seat and lateral support bars 24 and 25 are then raised upwardly until the cross tubes engage the upper stops in the channels and the pins 28 and 29 then reinserted through the upper openings. The support rod 16 may then be removed from the brackets and its upper end positioned within the socket structure beneath the swivel to support the seat as illustrated in FIGURE 2. The auxiliary support rod 34, is replaced in the bulkhead brackets. The seat is swiveled back to its normal forward facing position and automatically indexed to this position by the detent means.

From the foregoing description, it will be evident that the present invention has provided a vastly improved helmsman's seat and copilot's seat wherein all of the various objects heretofore set forth are fully and easily realized.

While a preferred type of support structure has been shown and described in detail, it should be understood that equivalent supporting means may be provided for enabling simple conversion of the seat from its operative high level position to its swiveled low level position without departing from the scope and spirit of this invention. The convertible helmsman's seat is therefore not to be thought of as limited to the specific structure set forth merely for illustrative purposes.

What is claimed is:

1. A convertible helmsman's seat for power boats comprising, in combination: a normally forwardly facing helmsman's seat; a swivel means secured to the underside of said seat; a guiding structure secured to a bulkhead of said boat adjacent to said helmsman's seat; and lateral support means extending from said swivel means and coupled to said guiding structure for vertical movement with said seat remaining substantially level for supporting said seat in a high operative position relative to the deck of said boat to enable a helmsman to see over the bow of the boat when navigating, said lateral support means being quickly lowerable to position and support said seat in an operable position at a substantially lower level corresponding to a normal seat height above said deck, whereby said helmsman's seat may be converted to its lower level position and swiveled towards the stern of said boat to thereby provide a comfortable seat for use by the helmsman or a guest for visiting with others seated on said deck when said boat is not underway.

2. A convertible helmsman's seat according to claim 1, in which said guiding structure includes a pair of vertical

channels defining guide tracks for said support means; and locking means for securing said support means to said channels at levels corresponding to the levels of said seat when in said operative position and when in said lower level position respectively.

3. In a power boat of the type including an afterdeck cockpit area normally requiring a relatively high helmsman's seat coupled to a bulkhead in the cockpit area and secured in a single operative position by a vertical support rod extending from under the seat to the deck to enable a helmsman to see over the bow of the boat when navigating, an improved convertible helmsman's seat comprising, in combination: a swivel means secured to the underside of said seat; a lateral support means secured to said swivel means and extending towards said bulkhead; a guiding structure secured to said bulkhead and coupled to said support means, said guiding structure and support means cooperating together to enable positioning of said support means at a first location corresponding to said operative position of said seat for navigating said boat and at a second location corresponding to a lower level of said seat for comfortable seating on said afterdeck area; and means for supporting the underside of said seat when at said lower level, said means extending from said underside to the deck in substantially the same location as said support rod when said seat is at said operative position, whereby said helmsman's seat may be converted to its lower level position and swiveled towards the stern of said boat to thereby provide a comfortable seat for use by the helmsman or a guest for visiting with others seated in said afterdeck area when said boat is not underway.

4. A convertible helmsman's seat according to claim 3, in which said swivel means includes: a first plate member secured to the underside of said seat; a second plate member underlying said first plate member and rigidly secured to said lateral support means, said first plate member being rotatably supported on said second plate member and including spring biased detent means for indexing the rotative position of said first plate member to a position in which said helmsman's seat is facing forwardly.

5. A convertible helmsman's seat according to claim 3, in which said lateral support means includes a pair of support bars having first ends secured to said swivel means and second ends terminating in cross tubes, said guiding structure including a pair of spaced vertical channel members secured to said bulkhead and respectively receiving said cross tubes between the walls defining the channels, said walls having openings therethrough at

levels corresponding to said first and second locations; and locking pin means receivable through said openings and cross tubes to secure said second ends of said bars to said channels in one or the other of said locations.

6. A convertible helmsman's seat according to claim 3, in which the underside of said swivel means includes a socket structure for receiving the upper end of said vertical support rod when said seat is at said operative position, said means for supporting the underside of said seat when at said lower level comprising an auxiliary support rod of substantially shorter length than said first mentioned support rod, the upper end of said auxiliary support rod being receivable in said same socket structure to support said seat at said lower level.

7. A convertible helmsman's seat according to claim 5, in which the underside of said swivel means includes a socket structure for receiving the upper end of said vertical support rod when said seat is at said operative position, and in which the walls of said channels terminate in inwardly turned flanges overlapping the ends of said cross tubes respectively to hold said cross tubes within said channels and permit swinging movement of said support bars in parallel vertical planes about said locking pin means as pivots when said seat is in its operative position or at said lower level, said means for supporting the underside of said seat when at said lower level comprising an auxiliary support rod of substantially shorter length than said first mentioned support rod, whereby said seat may be raised slightly by pivoting movement of said support bars to permit substitution of said auxiliary support rod in said socket structure for said first mentioned vertical support rod when converting said helmsman's seat between its operative position and said lower level position.

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U.S. Cl. X.R.

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