United States Patent [19]

Naylor, III

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[54] **BOAT FOR SCUBA DIVERS AND THE LIKE**

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[52] **U.S. Cl.** ..... **9/6;** 114/16 R; 114/43.5

[51] **Int. Cl.** **B63b 3/00**

[58] **Field of Search** ..... 114/16 A, 16 R, 16.4, 43.5, 114/66, 56, 63, 36; 9/1 R, 6; 61/69 R, 69 A

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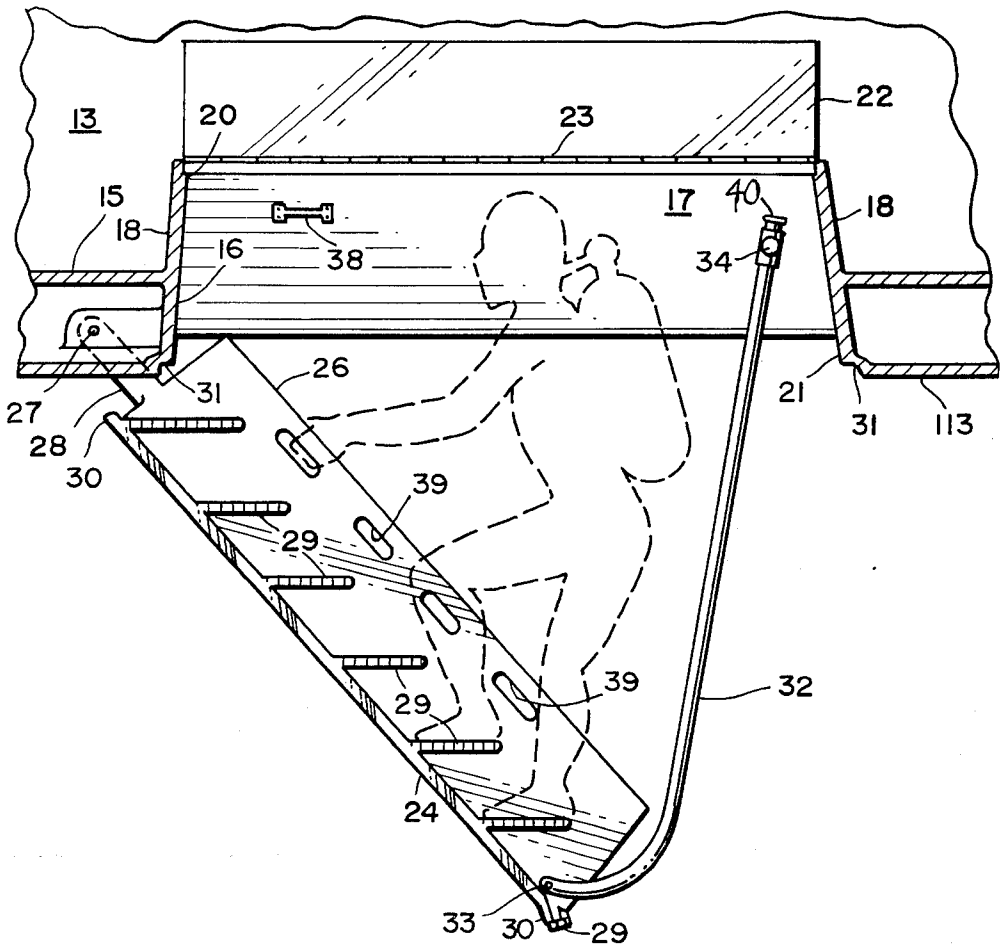
Primary Examiner—Trygve M. Blix

Assistant Examiner—Stuart M. Goldstein

[57] **ABSTRACT**

A boat for scuba divers and the like having a well whose walls extend from the bottom hull to a position above the water line. The well is enclosed by a hinged cover at its upper portion and a closure member pivoted at one end and shaped to conform with the bottom hull. Mounted on the inner surface of the closure member is a plurality of steps mounted thereon at such an angle that when the closure member is in its open position, the steps will be in a horizontal position permitting a person to walk down the well and into the water. A handle is secured to the free end of the closure member to assist in opening and closing the closure member and locking same in place. A self boiling flap valve is positioned at the free end of the closure member whereby water trapped in the well, is suctioned out of the well as the boat is driven forwardly.

2 Claims, 8 Drawing Figures



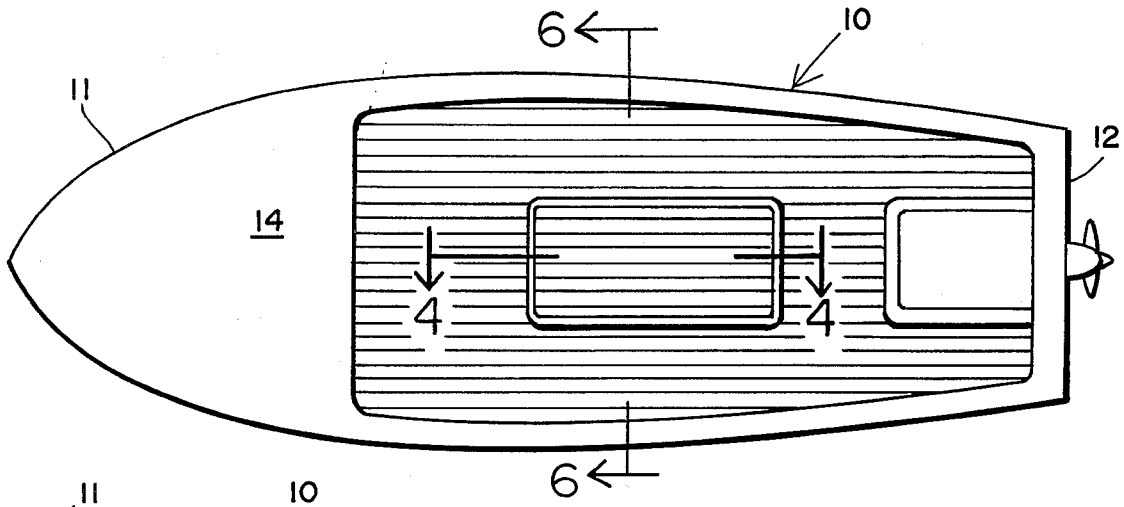


FIG. 1

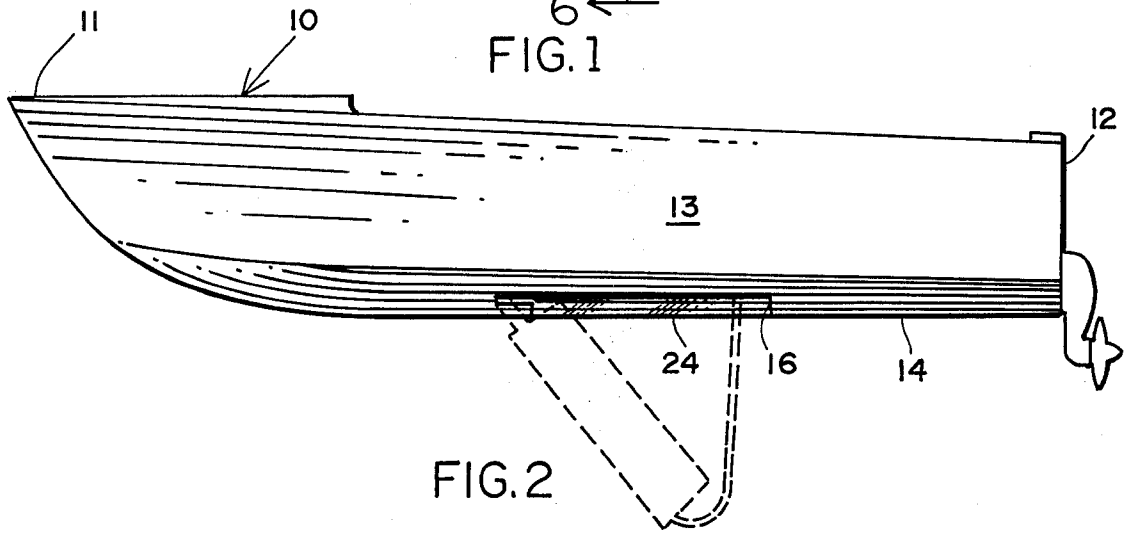


FIG. 2

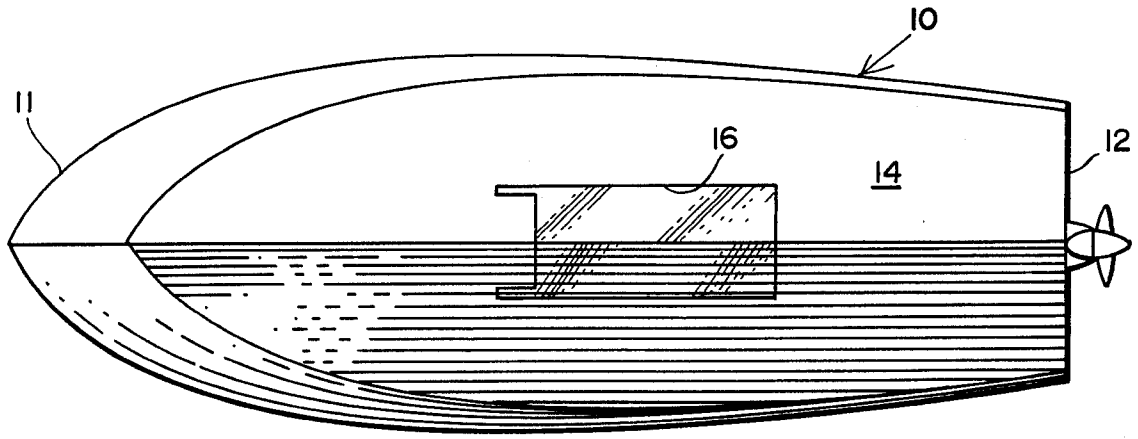


FIG. 3

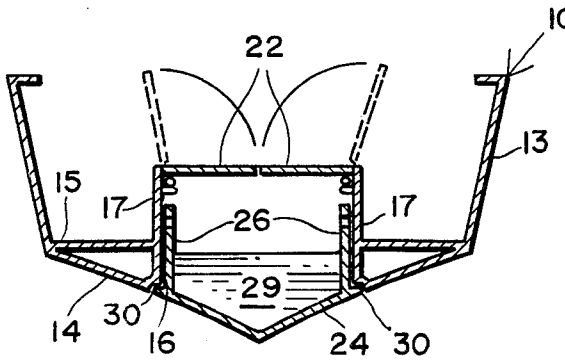


FIG. 6

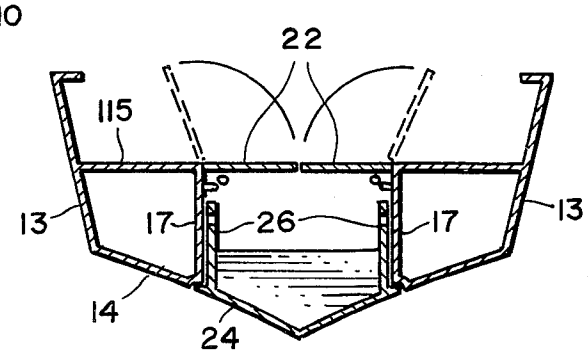


FIG. 8

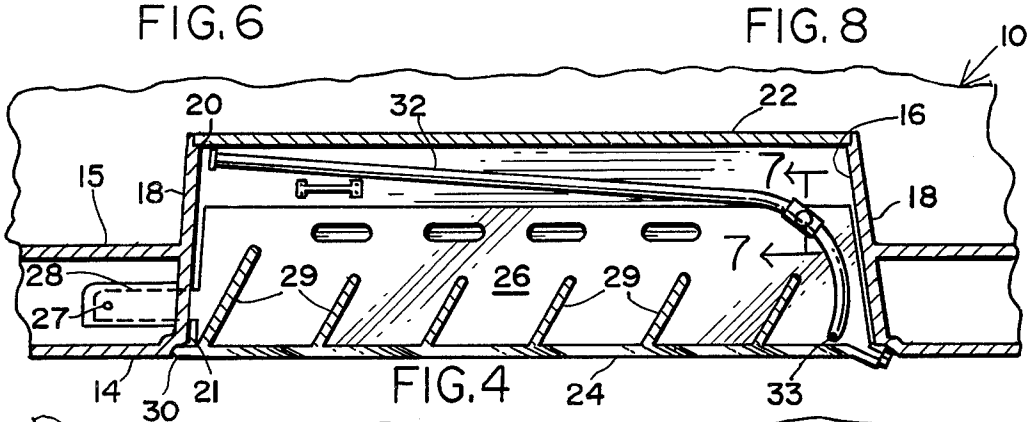


FIG. 4

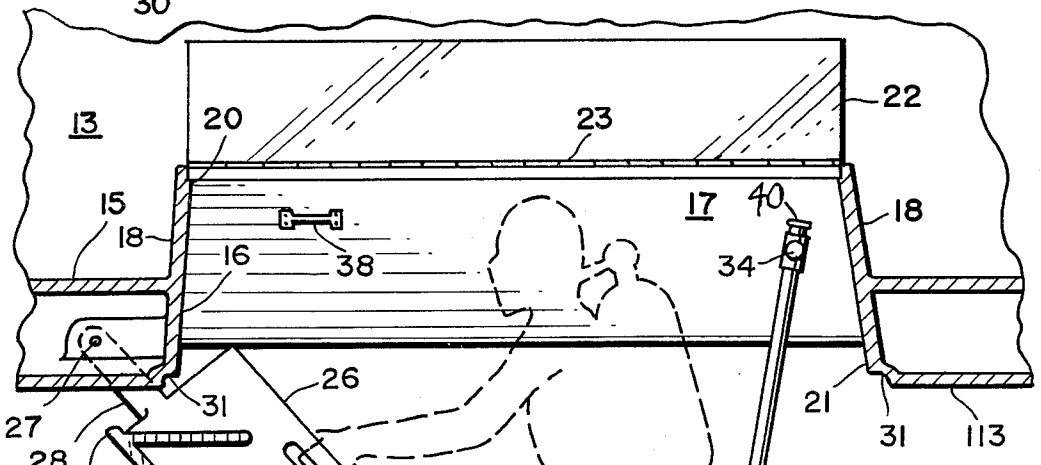


FIG. 5

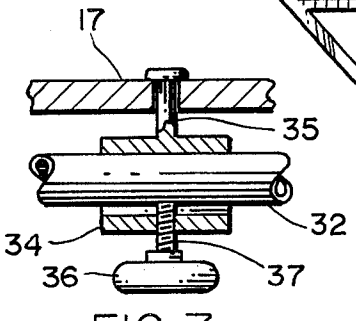


FIG. 7

BOAT FOR SCUBA DIVERS AND THE LIKE

BACKGROUND OF THE INVENTION

1. Field Of The Invention

This invention relates to boat structures and is more particularly directed to a boat adapted for use by scuba divers and the like.

2. Description Of The Prior Art

At the present time scuba divers in a boat have to either dive overboard or climb down a ladder positioned on the side of the boat in order to get into the water. The equipment strapped on the back of a scuba diver is both heavy and bulky so that the scuba diver has to be extremely careful while getting into and out of a boat, and he is in great danger of becoming seriously injured if he should slip or fall inadvertently since the water about the boat is nearly always in motion, with waves causing the boat to rock and sway as well as rise and fall.

The present invention contemplates avoiding the above indicated manner of compelling a scuba diver to expose himself to serious injury by having to dive backwards or of climbing down an unstable ladder that is moving in and out of the water with the rocking of the boat by providing suitable means within the boat permitting a scuba diver to walk down steps into the water and when returning to the boat, permit him to walk up the steps safely and easily.

SUMMARY OF THE INVENTION

Therefore, a principal object of the present invention is to provide a boat for use by scuba divers and the like for getting in and out of the boat with a well at its mid-portion having a pivoted closure member on which a plurality of steps are mounted, which upon being swung to its open position provides a safe stairway for walking out of or into the boat.

Another object of the present invention is to provide a boat for scuba divers and the like with a well that extends into the water with a bottom closure member that seals against water leaking thereon and with a self bailing flap valve, so that upon closing the closure member, the water trapped therein will be evacuated upon the boat moving forwardly.

A further object of the present invention is to provide a boat for scuba divers and the like that permits a person heavily laden with equipment on his back to walk down a number of steps from the boat into the water and vice versa and with means for bracing himself so that the danger is minimized of becoming injured because of choppy or rough seas.

A still further object of the present invention is to provide a boat for use by scuba divers, fishermen and the like with a transparent bottom hull portion that may be pivoted to an open position for access to the water and permits the scuba diver or fisherman to be able to view the area therebelow, and then swing the hull portion to an open position to permit them to walk from the boat into the water with ease.

With these and other objects in view, the invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming a part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawings but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. **1** is a top plan view of a boat embodying my invention.

FIG. **2** is a side elevational view showing the bottom hatch in an open position in dotted lines.

FIG. **3** is a bottom plan view.

FIG. **4** is a fragmentary cross sectional view taken along the line **4—4** of FIG. **1.**

FIG. **5** is a similar view with the bottom closure member shown in an open position.

FIG. **6** is a cross sectional view taken along the line **6—6** of FIG. **1.**

FIG. **7** is a cross sectional view taken along the line **7—7** of FIG. **4.**

FIG. **8** is a view similar to FIG. **6** showing an alternate construction.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to the drawings wherein like numerals are used to designate similar parts throughout the several views, the numeral **10** refers to a boat constructed in accordance with my invention and consisting of a conventional outwardly appearing structure namely, a bow **11,** stern **12,** side hull **13,** bottom hull **14** and deck **15.** Positioned at approximately the mid-portion of the boat **10** is a well **16** formed by side walls **17** and end walls **18** extending upwardly of the bottom hull **14** and deck **15** to a position above the waterline of the boat **10** and forming a box-like chamber open at the top and bottom **20** and **21** respectively.

The top portion **20** of the well **16** is enclosed by a pair of hatch covers **22** hinged along one edge as at **23** on each side wall **17.** The bottom portion **21** of the well **16** is enclosed by a preferably transparent wall member **24** shaped to conform with the bottom hull **14.** The closure member **24** is provided with a side wall member **26** extending upwardly along each side of the closure member **24.** In order to swing the closure member **24** from an open to a closed position, each side wall **26** is provided with an arm **28** extending to a pivot pin **27** that is secured to each of the side walls **17.**

Extending upwardly of the bottom closure member or platform **24** when in a closed position is a plurality of steps **29** equally spaced therealong. The angle at which the steps **29** extend is such that when the bottom closure **24** is in its completely open position the steps **29** will be positioned horizontally to permit a person to ascend or descend with ease to and from the boat **10.** A flange **30** extends about the periphery of the bottom closure member **24** which is received by an offset or stepped portion **31** formed about the periphery of the well **16** at its open end **21** to seal the well **16** against the ingress of water when the closure member **24** is in its closed position. Water trapped therein is discharged through a conventional self bailing flap valve **29** mounted on the rear edge portion of the closure member **24.**

To retain the closure member **24** in a fixed open and closed position and to also assist in the opening and closing of the closure member **24,** there is provided a pair of tubular members forming handles **32** whose end portions are arcuate in shape and are pivotally secured

as at 33 to the side walls 26 with the tubular members being slidably mounted in a tubular bracket 34 mounted on each of the side walls 18 of the well 16. The bracket 34 is rotatably mounted on the side wall 18 by a pin 35 and is provided with a knob 36 having a threaded stem 37 received in a threaded bore formed in the bracket 34. Upon turning the knob 36 to tighten the stems 37 against the handle 32, the bottom closure 24 can be locked against movement in its closed or open position as shown by FIGS. 4 and 5. The free ends of the tubular members 32 are provided with a cap 40 to prevent the handles from leaving the brackets 34. If desired, power operated means such as a hydraulic lift may be used to open and close the closure member 24.

To assist a person when climbing in and out of the well 16, there is provided handles 38 mounted on the side walls 17 for the person to grasp. Also, as he climbs up and down the steps 29 he may grasp handles 39 formed by cutting openings along both side walls 26.

The alternate construction shown by FIG. 8 is identical in all respects to that shown and described hereinabove except that boats having an elevated deck 115 can have its well so constructed that the hatch covers 22 may be flush or at the same level as the deck 115.

From the above described taken in connection with the attendant drawings, it readily is noted that my boat 10 is adapted particularly for scuba divers, fishermen, even individuals who are merely interested in viewing the water bottom and fish life through the transparent closure member 24. Scuba divers who now are compelled to dive into the water with heavy equipment strapped to their backs and then must hoist themselves up bodily on the boat when returning to the boat, can now walk into the water. All they need do is swing the hatch covers 22 to an open position, then grasp and rotate the knobs 36 to untighten the stems 37 and release the tubular handle 32. The free end of the handle 32 is swung upwardly as a downward force is applied to the closure member 24. The handle 32 will slide through the bracket 34 to the position shown by FIG. 5 when the closure member 24 is placed at its completely open position and the knobs 36 turned to its locked position. Now, the scuba diver steps into the well 16 as he grasps the handles 38 to guide himself downwardly and places his feet on the first step 29. Then as he climbs down the steps 29 and into the water which has risen in the well 16 to the waterline, he grasps the openings on handles 39 until he has stepped off the platform 24 and is now free of the boat 10.

On his return to the boat 10, the scuba diver approaches the platform 24 from the lowered end of the platform 24 and positions himself between the handles 32. He then grasps the handles 39 to swing upwardly along the steps 29 until he is able to place his feet on a step 29 when he commences to walk up the steps 29. When he has arrived at the top step, he can then swing his legs over one of the side walls 17 and steps on the deck 15.

The knobs 36 are then untightened on the handles 32 and the latter are grasped and pulled upwardly carrying with it the platform 24 until the flange members 30 become seated on the offsets 31 to trap and seal the water contained in the well 16. The knobs 36 are now tightened to lock the closure member 24 in its closed position. Upon the boat 10 now moving forwardly, the flap bailing valve 29 will open and cause the water to be discharged therethrough. It is readily noted that the boat 10 can be used for the same purposes and in the same manner as conventional boats, the invention added thereto has caused there to be made no changes in its design or function that would impede its use as a normal boat.

Having disclosed my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A boat having a hull portion for scuba divers and the like comprising a well having upwardly extending wall portions, said wall portions extending upwardly from said hull portion to a position above the waterline of said boat, a closure member, means pivotally mounting said closure member at said hull portion, said closure member conforming in shape with said hull portion, a plurality of steps mounted in spaced relation on the inner surface of said closure member, said steps extending at such an angle with said closure member that upon swinging said closure member to an open position said steps will extend substantially horizontaly, means for swinging and locking said closure member, a side wall extending along each side of said closure member, a plurality of hand receiving openings positioned on each of said side walls and a handle mounted on each of said well wall portions permitting a person climbing up and down said steps to grasp said handles and said hand receiving openings.

2. The structure as recited by claim 1 wherein said swinging and locking means comprises a pair of tubular members, end portions of said tubular member being pivotally mounted on said closure side walls, a tubular bracket mounted on each of said well wall portions slidably receiving said tubular members, and locking means mounted on each of said tubular brackets adapted to engage said tubular members for locking said closure members, and self bailing valve means mounted along a rear edge portion of said closure member.

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