United States Patent

Grabenauer

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[45] **Mar. 21, 1972**

[54] **SELF-BAILING FORMED SKIN/SCUBA DIVER'S FLOAT**

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[21] Appl. No.: **6,226**

[52] **U.S. Cl.** **9/3**

[51] **Int. Cl.** **B63c 9/06**

[58] **Field of Search** 9/3, 5, 6; 297/458

[56] **References Cited**

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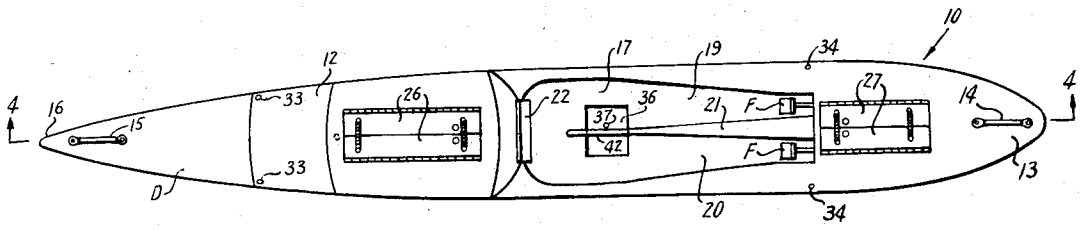
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[57] **ABSTRACT**

A diver's float for moving over the surface of the water to the point at which skin or scuba diving is to take place. The float is propelled by hand or a double ended paddle and has floatation consisting of a water tight compartment and foam to maintain its buoyancy. Compartments are provided both wet and dry for containing the diver's equipment while in transit. The seat for the diver is molded to fit the buttocks and legs and is provided with a hinged backrest for supporting the diver's back.

10 Claims, 9 Drawing Figures



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SHEET 1 OF 2

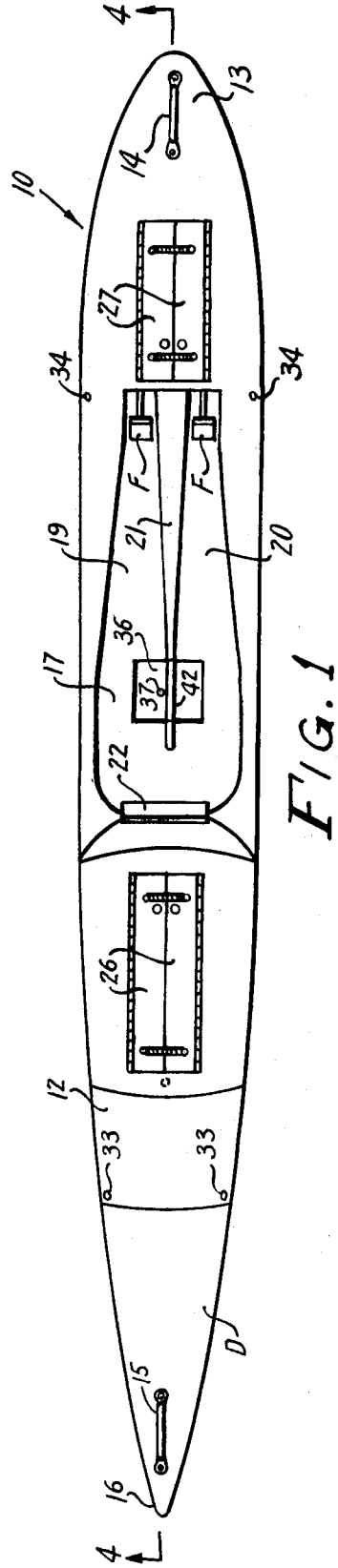


FIG. 1

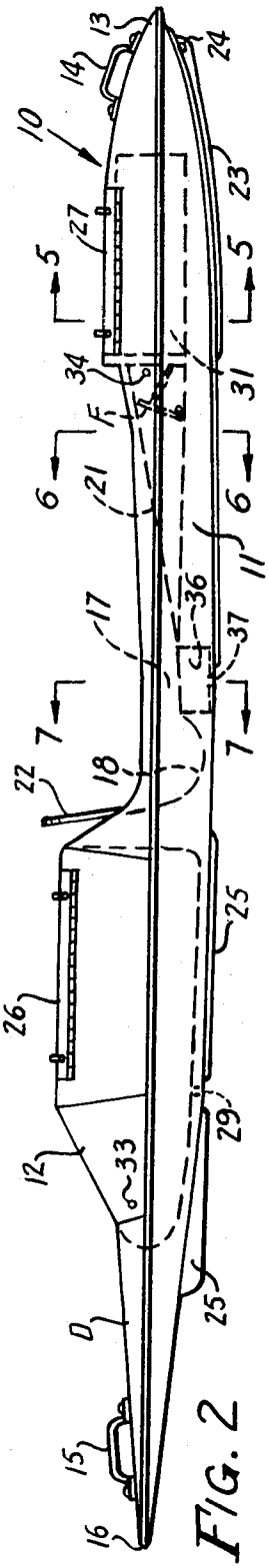


FIG. 2

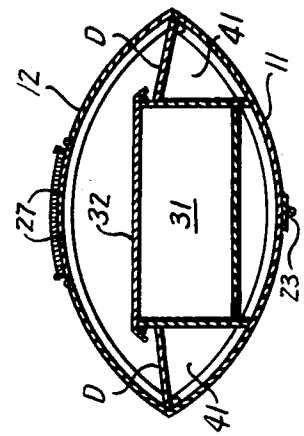


FIG. 5

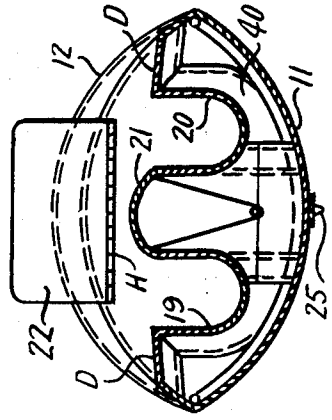


FIG. 6

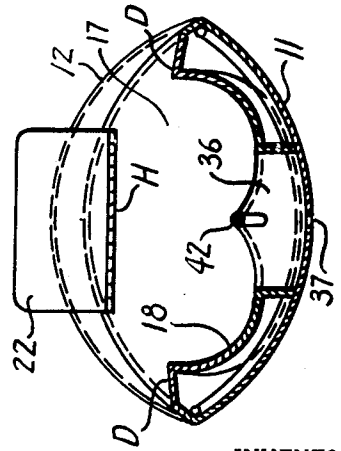


FIG. 7

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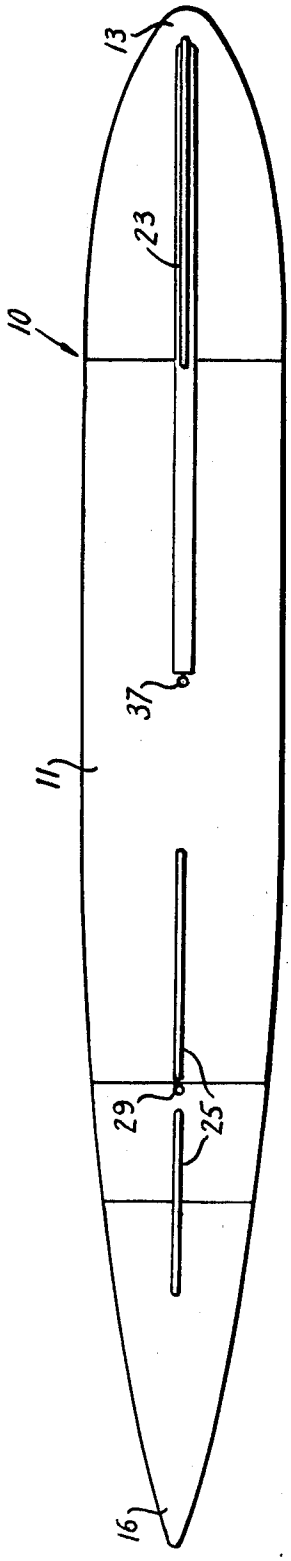


FIG. 3

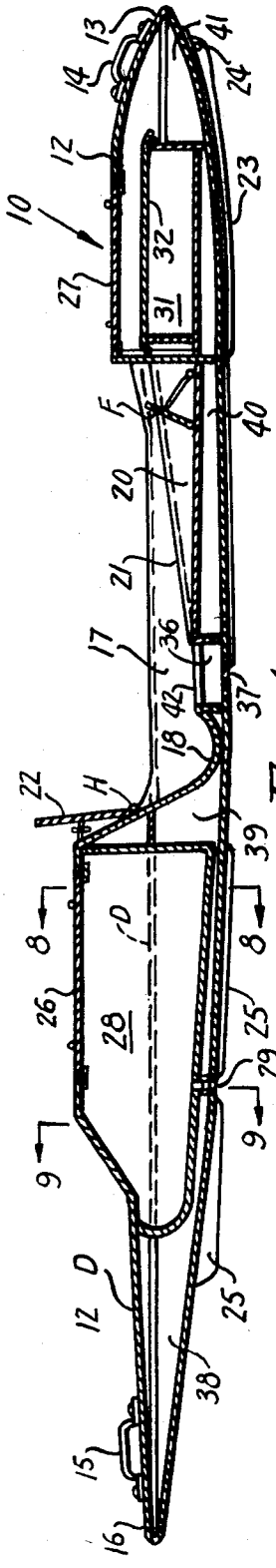


FIG. 4

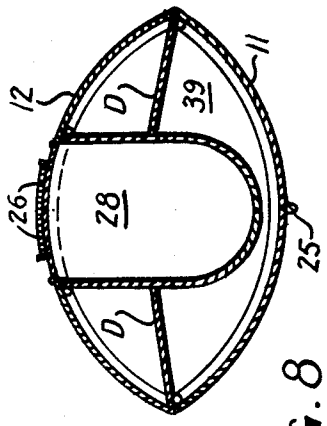


FIG. 8

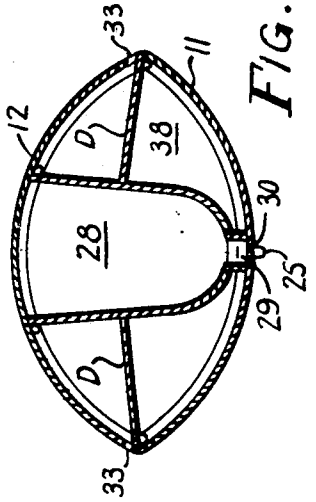


FIG. 9

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SELF-BAILING FORMED SKIN/SCUBA DIVER'S FLOAT

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to floats for carrying a skin diver and his gear to the point at which scuba diving will take place.

Summary of the Invention

The present invention relates to a unitary float structure having a seat formed to fit the buttocks and legs of the diver and further having both wet and dry compartments for carrying the diver's equipment. The float acts as a headquarters for the diver to return to between dives and has compartments for fish and other material the diver collects from the water. Further it is extremely stable in the most adverse water and weather to provide reliability and assurance of progressing homeward with safety for the diver, equipment and take via compartments centered and below line of free board.

The primary object of the invention is to provide a float structure for a diver which is self contained, stable and has compartments for the equipment used by the diver.

Other objects and advantages will become apparent in the following specification when considered in light of the attached drawings.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a top plan view of the invention;

FIG. 2 is a side elevation of the invention;

FIG. 3 is a bottom plan view of the invention;

FIG. 4 is a longitudinal, vertical section taken along the line 4—4 of FIG. 1 looking in the direction of the arrows;

FIG. 5 is an enlarged transverse cross section taken along the line 5—5 of FIG. 2 looking in the direction of the arrows; FIG. 6 is an enlarged transverse cross section taken along the line 6—6 of FIG. 2 looking in the direction of the arrows;

FIG. 7 is an enlarged transverse cross section taken along the line 7—7 of FIG. 2 looking in the direction of the arrows;

FIG. 8 is an enlarged transverse cross section taken along the line 8—8 of FIG. 4 looking in the direction of the arrows; and

FIG. 9 is an enlarged transverse cross section taken along the line 9—9 of FIG. 4 looking in the direction of the arrows.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail wherein like reference characters indicate like parts throughout the several figures, the reference numeral **10** indicates generally a self bailing formed skin and scuba diver's float constructed in accordance with the invention.

The diver's float **10** is of generally tubular form and includes an elongate semicircular hull **11** joined along its peripheral edges to a semicircular upper enclosure **12** and an intermediate deck D. The hull **11**, enclosure **12** and deck D may be formed of any suitable light weight material such as fiber glass, aluminum and combinations of these materials and inflatable neoprene or rubber. The bow **13** of the float **10** has a lifting handle **14** secured thereto. A lifting handle **15** is secured to the deck D adjacent the stern **16** of the float **10** and with the handle **14** serves as a means for lifting the float **10** or moving it from place to place when out of the water. The deck D slopes upwardly from the side edges thereof at an angle of approximately 15° to the horizontal to promote drainage.

The float **10** intermediate the bow **13** and stern **16** is provided with a passenger compartment **17** having a buttocks receiving seat **18** which is formed to closely fit the buttocks of the diver. A pair of oppositely disposed formfitting leg rests **19, 20** extend forwardly from the seat **18** to closely fit and support the legs of the diver. A partition **21** separates the leg rests **19, 20** as can be clearly seen in FIGS. **1** and **6**. Adjustable parallel foot rests F at the forward extremity of the formed leg rests **19** and **20** provide reflex control balancing. A backrest **22** is secured by a hinge H to the seat **18** and projects upwardly from the seat **18** to adjustably support the back of the diver.

An abrasion skid **23** is formed centrally on the bow portion of the hull **11** and extends longitudinally thereof to prevent wear on the hull **11**. A transverse bore **24** extends through the forward portion of the skid **23** to permit attachment of tow lines, anchor lines and the like. A keel **25** extends longitudinally of the stem portion of the hull **11** to stabilize the float **10** as it moves through the water.

A pair of oppositely disposed abutting hinged doors **26** are secured to the upper enclosure **12** between the seat **18** and the stern **16** to give access to the interior of the float **10**. A second pair of hinged abutting doors **27** are secured to the bow portion of the upper enclosure **12** between the seat **18** and the bow **13** to likewise give access to the interior of the float **10**. A compartment **28** underlies the hinged doors **16** to receive a standard (72 cu. ft.) scuba tank and other gear of the diver of such a nature that can be kept in wet storage. A drain port **29** extends from the compartment **28** through the hull **11** of the float **10**. The water displaced by the items stored therein is automatically drained through the tube **29**. A plug **30** is removably positioned in the bottom of the drain bore **29** to permit the compartment **28** to be closed off from the water should it be desired to use the float **10** with the compartment **28** dry.

A watertight compartment **31** closed by a removable watertight lid **32** underlies the doors **27** for receiving gear which would be damaged by water, such as food, cameras and the like. Drain bores **33** open through the rear end portion of the upper enclosure **12** to drain water that might have collected on the deck D. Drain bores **34** open through the forward portion of the upper enclosure **12** to drain water that might have collected on the deck D.

A compartment **36** is positioned within the cockpit **17** forwardly of the seat **18** and centrally of the float **10**. The compartment **36** is provided for the weight belt of the diver so that it will be at the lowest possible point in the hull **11** and substantially centrally thereof to assist in maintaining an extremely low center of gravity for the float **10**. The compartment **36** has a drain bore **37** extending therefrom through the hull **11** so that the cockpit **17** may be self bailing therethrough.

The area (volumetric space) between the hull **11** and deck D as at **38, 39, 40** and **41** is sealed, airtight for flotation purposes and may have plastic foam flotation material (not shown) contained therein.

A bar **42** extends across the top of the compartment **36** and provides means for the attachment of the weight belt to prevent its loss in the eventuality of the craft overturning. Bar **42** further provides a central lifting handle.

In the use and operation of the invention the diver launches the float **10** and seats himself in the cockpit **17** with his gear loaded into the compartments **28** and **31** and the weight belt in compartment **36**. The diver displaces all of the water in the cockpit through drain bore **37**. He then propels the float **10** to the point at which diving is to take place by using either a double ended oar (not shown) or his two hands. The float **10** is anchored at the point of diving and the diver uses it as a floating platform from which to operate. The compartment **28** in addition to containing diver's gear, may also be used to contain fish, shells or other items gathered by the diver for return to shore.

While the float **10** has been illustrated as a self-bailing device having a self-bailing compartment **28** and self-bailing cockpit **17**, it can be used in claim waters as a canoe/kayak type vessel kept dry by plugging the drain bores with suitable plugs so that the cockpit and rear storage compartment remains dry.

When used as a wet float for skin or scuba diving in turbulent waters, the open drain bores **37** and **29** permit water to enter the compartment **28** and cockpit **17** to the height of the freeboard, thus assisting in maintaining the stability of the craft.

The hull **11** slopes upwardly toward the stern and when traveling in the same direction but slower than the wave action, this slope assists in the propulsion of the float **10**.

The word scuba, as used in the specification and claims, is a coined term meaning self-contained, underwater breathing apparatus.

Having thus described the preferred embodiments of the invention, it should be understood that numerous structural modifications and adaptions may be resorted to without departing from the spirit of the invention.

What is claimed is:

1. A skin/scuba diver's float comprising a hollow semicircular elongate hull, a hollow semicircular elongate upper enclosure, said hull and said upper enclosure being secured together along the peripheral meeting edges thereof, a cockpit formed in said float and having a buttocks receiving seat forming a part thereof, form fitting leg rests for supporting the full length of the diver's leg extending forwardly of said seat within said cockpit, an adjustable foot rest at the forward end of each of said leg rests, and a plurality of compartments opening through said upper enclosure within said float.

2. A device as claimed in claim **1** wherein hinged doors on said upper enclosure close said compartments.

3. A device as claimed in claim **1** wherein drain bores extend from said cockpit and said compartments for self-bailing said cockpit and said compartments.

4. A device as claimed in claim **1** wherein sealed flotation areas are formed within said float surrounding said cockpit and said compartments.

5. A device as claimed in claim **1** wherein a diver's weight compartment is formed in said cockpit forwardly of said seat between said leg rests.

6. A device as claimed in claim **1** wherein said hull slopes upwardly and rearwardly at the stern thereof to assist in propelling said float under action of the waves.

7. A device as claimed in claim **1** wherein an adjustable backrest is secured to seat at the upper rear portion thereof.

8. A device as claimed in claim **1** wherein at last one of said storage compartments is centrally positioned rearwardly of said cockpit below the water line of said float.

9. A device as claimed in claim **1** wherein at least one of said storage compartments is centrally positioned forwardly of said cockpit and is watertight.

10. A device as claimed in claim **1** wherein a central elongate abrasion skid is secured to forward portion of said hull and provided with a transverse bore in its forward end for securing tow lines and anchor lines.

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