Feb. 19, 1957 W. E. ROBERTS ET AL 2,781,735

SAILING CRAFT MULTIPLE HULL ARRANGEMENT

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FIG. 1.

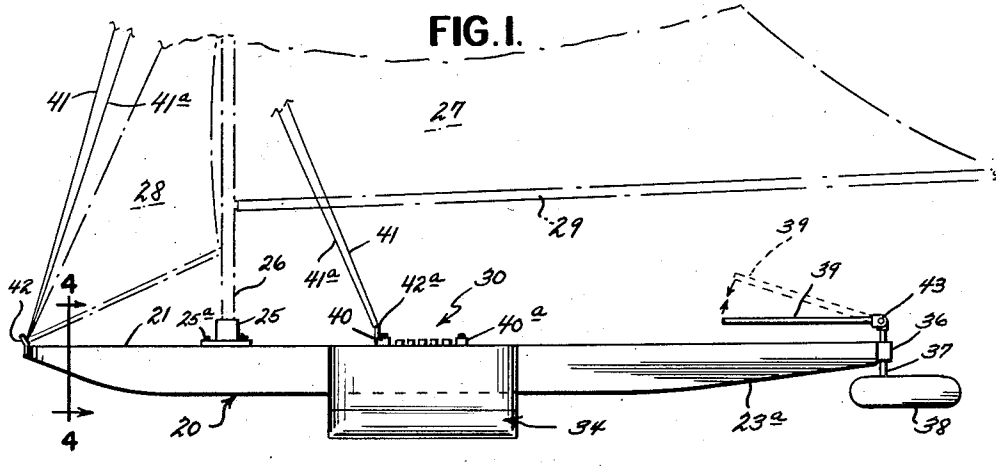


FIG. 2.

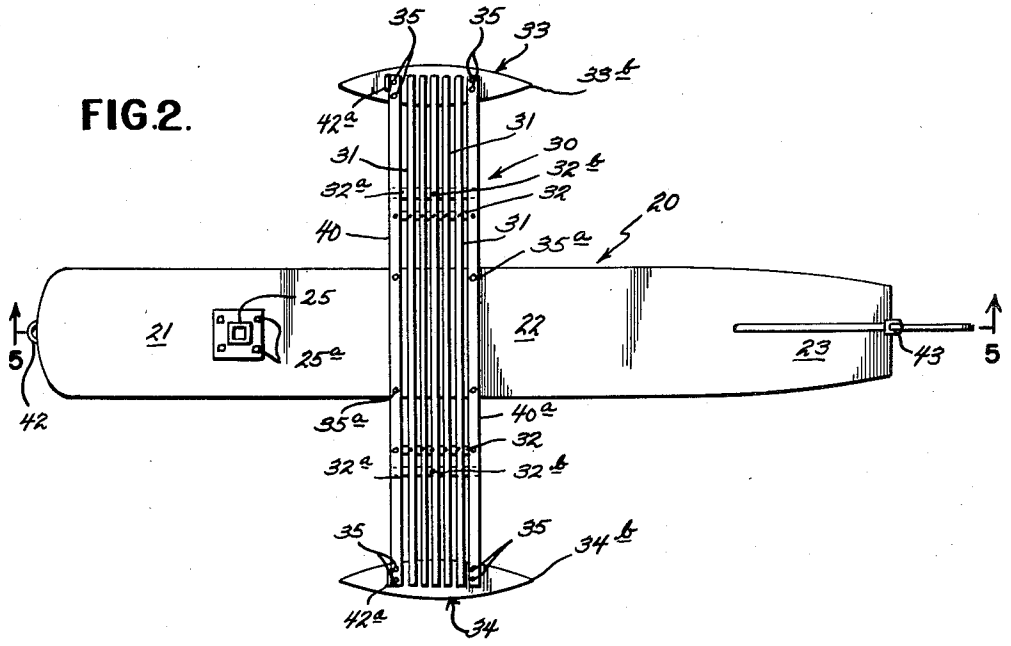
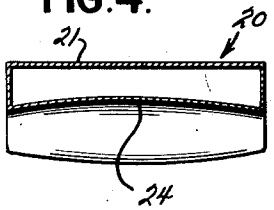


FIG. 4.



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FIG. 3.

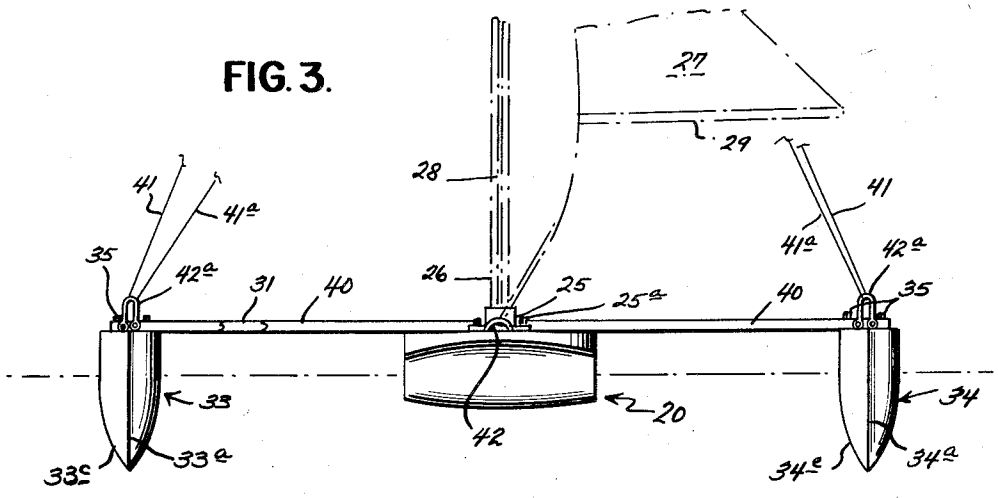


FIG. 5.

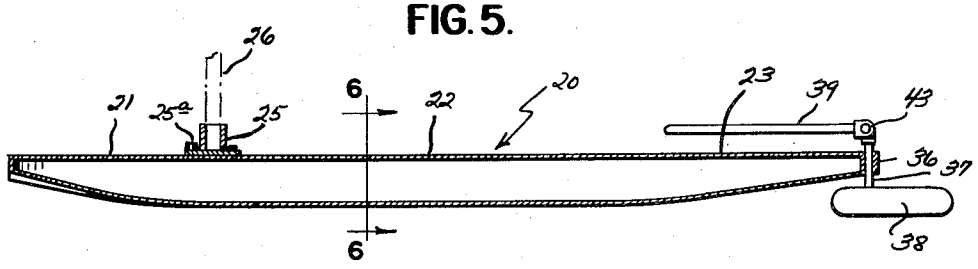


FIG. 6.

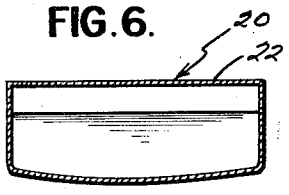
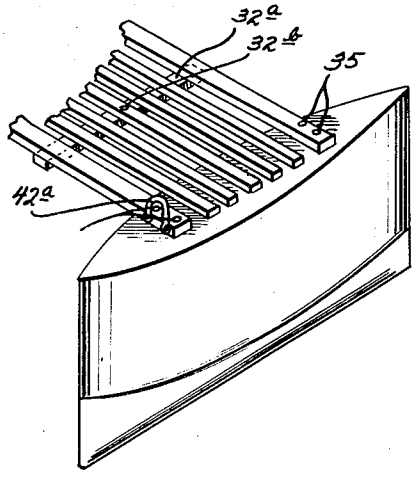


FIG. 7.



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SAILING CRAFT MULTIPLE HULL ARRANGEMENT

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Application March 16, 1953, Serial No. 342,434

1 Claim. (Cl. 114—61)

The present invention relates to a sailing craft, and more particularly to a sailing craft comprising a single hull and being provided with oppositely disposed pontoons which are parallel to each other and to said hull and which pontoons in addition to acting as ballast also serve as keel or centerboard.

The main object of the present invention is to provide a sailing craft so constructed and designed as to eliminate the conventional keel or centerboard and also the cockpit.

Another object is to provide a sailing craft which is light enough in weight for one person to handle in either rigging for use or dismantling for storage.

A still further object of the present invention is to provide a sailing craft in which a sailing deck extends transversely across the mid-portion of the hull and laterally beyond each side of the hull to provide rider carrying portions which in conjunction with the pontoons will provide combined keel and ballast means for the craft.

The present invention aims to provide a craft of this kind in which the bottom of the mid-portion and the stern portion are substantially flat and the bottom of the bow portion is of the sea-sled type formed with a downwardly faced channel where the bow is forced to climb up. Since the bottom of the mid-portion and the stern portion are substantially flat and have less buoyancy, the fact that the bow climbs up will force the mid-portion and stern portion and the pontoons further into the water under pressure so that if the craft tends to capsize to either side the pontoon on that side will resist such capsizing and the edge of the mid-portion and stern portion of the hull on such side will dig into the water and function as an additional keel to augment the action of said pontoon in resisting capsizing.

Other and further objects of the present invention will be apparent from the following description thereof.

In the drawings wherein like numerals refer to like or corresponding parts throughout the several views:

Figure 1 is a side elevation of the sailing craft embodying the features of the present invention;

Figure 2 is a plan elevation of the sailing craft with the sails of Figure 1 removed;

Figure 3 is a front elevation of the sailing craft shown in Figure 1;

Figure 4 is a sectional view taken along the line 4—4 of Figure 1, in the direction of the arrows;

Figure 5 is a sectional view taken along the line 5—5 of Figure 2, in the direction of the arrows;

Figure 6 is a sectional view taken along the line 6—6 of Figure 5, in the direction of the arrows; and

Figure 7 is an enlarged detail view of one of the pontoons.

Referring now to the drawings, there is shown a sailing craft embodying the features of the present invention. The numeral 20 generally refers to the single hull of the sailing craft. As shown in Figures 3, 4 and 5, the hull 20 is subdivided, for the purposes of description, into a front portion 21, a mid-portion 22, and a stern portion 23. The underneath portion of front portion 21 is cupped

or formed with a downwardly faced channel as at 24 to provide a sea-sled type of bow, with the cupping being slight to form an air pocket so as to force the bow to climb up rather than dig into the water when the sailing craft is underway. Also provided on top of the front portion 21 of the sailing craft is a suitable socket 25 to receive a vertical mast 26. The mast supporting member 25 is adapted to receive the mast 26, which is held in place by stays, two sets of three stays each 41 and 41*a*, which in turn supports a main sail 27, and a front sail 28, both of which have been shown in phantom in Figure 1. The stays 41 and 41*a* are connected at one end thereof to the eyelet 42 which is secured to the mid-portion of the front end of hull 20, while other ends of said stays 41 and 41*a* are suitably secured to two eyelets 42*a*, each of which is secured to an end portion of the forward crossarm 40 of the flying deck 30.

The particular size and structure of the sails 27 and 28 are not considered to be a part of this invention per se, and therefore have not been described in great detail. The boom 29 for the main sail 27 is ordinarily fourteen feet (14′) long, and the mast 26 is ordinarily eighteen feet six inches (18′ 6″) in height, with the sails 27 and 28 being of a suitable size to conform to the length of the boom 29 and the height of the mast 26.

In dismantling the rig, the mast 26 may be removed from the mast supporting socket 25, it being understood that the mast 26 is supported within the mast supporting element 25 in such a manner that there is no relative rotation and held in place by stays 41 and 41*a*.

As shown in Figure 2 of the drawing, a flying deck generally indicated by the numeral 30, preferably extends transversely from the mid-portion 22 of the hull 20 of the sailing craft embodying the features of the present invention. The flying deck 30 preferably extends transversely of the hull 20, and generally comprises a plurality of elongated spaced apart slats 31, a forward crossarm 40, a rear cross arm 40*a*, with said plurality of slats 31 being tied together by two crossbars 32, which are secured to the slats 31, the forward crossarm 40 and the rear crossarm 40*a*, in any suitable manner as by nuts and bolts. One crossbar 32 is disposed on the flying deck on one side of hull 20 while the other crossbar 32 is disposed on the flying deck 30 on the opposite side of said hull 20.

The outer free end portions of the slats 31 which are positioned between the forward crossarm 40 and the rear crossarm 40*a*, overlie two pontoons, one on either side of hull 20, which have generally been indicated by the numerals 33 and 34. The crossarms 40 and 40*a*, at the end portions thereof, lie on top of pontoons 33 and 34 and are secured in place by double bolts 35, and are welded in such a manner as to provide an airtight jointure so that the pontoons 33 and 34 will not become filled with water in use. The flying deck 30 is secured to the deck of hull 20, preferably at the mid-portion 22 thereof, by means of a plurality of bolts 35*a*, which may be welded or otherwise secured in the deck of hull 20 so as to provide an airtight or watertight jointure.

The flying deck 30 also includes two brace bars 32*a*, each of which is pivoted to a middle slat 31 by means of a bolt 32*b*. The flying deck 30, by "dogging" the braces 32*a*, one on each side of hull 20, under the crossarms 40 and 40*a*, additionally substantially holds the flying deck 30 so that the main weight thereof rests on the pontoons 33 and 34 and the hull 20.

The crossarms 40 and 40*a* are preferably made of tempered steel or other material of comparable strength and weight, and are preferably secured to the deck of hull 20 by four half-inch studs 35*a* which are bolted in place when rigging the sailing craft for use. The studs 35*a* on hull 20 are suitably secured within said hull 20 to sustain the strain at the four spaced apart

points with each point being approximately one inch from the edge of hull **20**.

The pontoon **33** is apexed or pointed at the front end **33***a* thereof and at the rear end **33***b* thereof, so as to permit the pontoon to move through the water with the least amount of water resistance when the sailing craft is in motion. As best shown in Figure 3 of the drawing, the pontoon **33** is provided with a V-shaped or substantially V-shaped bottom **33***c*, which serves as a substitute for a keel or centerboard, which is ordinarily provided in the conventional sailing craft.

The pontoon **34** is identical in structure with the pontoon **33**, and is provided with a forward pointed or apexed portion **34***a*, and a pointed or apexed rear portion **34***b*. The pontoon **34**, like pontoon **33**, is also provided with a V-shaped bottom portion **34***c*, which serves as a keel to thus provide the sailing craft with a single hull **20**, and two keels **33** and **34**, which in addition to serving as keels also acts as ballast.

The rear portion **23** of the hull **20** is provided with a bearing **36** secured to the transom in any suitable manner. The bearing **36** receives an upright leg **37** which is attached at one end to a rudder **38**, and at the other end to a suitable pivoted tiller or steering rod **39** through a pivot connection or socket **43** to permit the tiller **39** to be raised or lowered in a vertical direction. The particular steering assembly of the sailing craft is not considered to be novel per se.

The hull **20**, at the rear portion **23** on the underside, is provided with a slated rear section **23***a* terminating in the transom portion of the stern to which is secured the bearing **36** to support the steering assembly.

The hull **20** can roughly be described as approximately fifteen feet (15′) long, two feet (2′) wide, and eight inches (8″) in depth. As indicated, the hull **20** has a sea-sled type bow which is slightly cupped to form an air pocket to force the bow to climb rather than dig into the water when the craft is underway. The bottom of the hull **20** has approximately a one inch (1″) round on the bottom which is tapered to flat on the stern. Towards the stern, the sides round in until the transom is approximately fifteen inches (15″) in width. As indicated, the rudder assembly is attached to the transom to guide the boat when the same is underway.

The pontoons **33** and **34** are approximately four feet (4′) in length, and six to eight inches (6″-8″) in width at the widest point. From the center point, lengthwise, the ends of each pontoon round off to a point on the front and rear ends thereof so as to reduce water resistance. Each pontoon is eighteen to twenty inches (18″-20″) deep with the bottom coming to a sharp V as described, which structure acts as a centerboard or keel. The pontoons **33** and **34** are secured to the hull **20** by the crossarms of the flying deck **30**, which crossarms are eight feet (8′) long thus making each pontoon three feet (3′) from the nearest side of the hull **20**. The stays or guy wires to the mast are attached to the forward crossarm **40** outside of the flying deck **30**.

The flying deck **30** provides ample space for the riders who will furnish the necessary ballast by shifting weight on the flying deck to the most desirable position depending upon the force and direction of the wind.

The hull **20** has a flat upper deck throughout its length and there is no cockpit. All the riders of the sailing craft will sit either on the deck of the hull or on the flying deck.

The pontoons and/or hull of the sailing craft can be constructed of plywood, lightweight metal, fiberglass or plastic, or any other suitable floatable material which will tend to make the overall boat very light in weight. The mast **26** may be constructed of a lightweight wood, either solid or laminated. The sails **27** and **28** are conventional with wire guys or stays holding the mast rigid. The sailing craft can be rigged with any type of conventional sails on the mast **26**.

This type of boat has several advantages over any other type of sailboat. (1) It is light enough for one person to handle in either rigging for use or dismantling. (2) When not in use, the boat can be dismantled and stored in approximately ten inches of wall space. (3) It provides greater stability in rough weather because of its beam. (4) It is much safer than conventional boats since the hull as well as the pontoons are all airtight and if turned over through carelessness it can easily be righted and is ready to sail again as soon as righted thereby eliminating any wait for assistance to arrive. (5) If completely capsized, as much of the hull and pontoons are still above water as when in the correct position. (6) In the event of a dead calm, this boat can be used as a surfboard by paddling with the hands easily attaining a speed of four knots because of the light construction of the entire sailboat. (7) With skill and the effective use of ballast, it can be used in very rough weather, even though it is designed for lake or bay sailing. (8) It can be readily converted from a sailboat into an iceboat or sailing craft for use on ice. (9) It can be made into an iceboat and later used as a sailboat with no changes or alterations required. (10) The addition of blades or runners for use on ice would not decrease the efficiency of this sailing craft as a sailing craft on water. (11) The buoyancy of this sailing craft provides an additional safety factor when used on ice as it will float if it breaks through the ice whereas most sailing crafts used on ice do not float.

Various modifications of the present invention will be apparent to those skilled in the art without departing from the spirit thereof, and it is therefore desired to be limited only by the scope of the appended claim.

What we claim is:

A craft adapted for sailing comprising, a single keelless hull having a substantially flat deck and having a length approximately seven times its width, said hull having a width greater than its depth, said deck having a mast receiving socket in the forward portion thereof, combined keel and ballast means comprising a flying deck extending laterally beyond each side of said hull and transversely thereto for carrying riders at least on the laterally extending portions thereof for ballasting purposes, said flying deck being secured to said flat deck in substantially the mid-portion thereof, and two water engaging pontoons, each of said pontoons having a depth greater than the depth of the said hull, each of said pontoons being V-shaped at the bottom portion thereof to provide a keel disposed normally in a horizontal plane lower than the horizontal plane of the bottom of the hull, said pontoons being disposed in parallel relationship to said hull and to each other, one of said pontoons being disposed in spaced apart relation from substantially the mid-portion of said hull and secured to the underside of one end portion of said flying deck, the other of said pontoons being oppositely disposed from said first mentioned pontoon on the opposite side of said hull and in spaced apart relationship thereto, and said second pontoon being secured to the underside of the other end portion of said flying deck, the bottom of the mid-portion and the stern portion being substantially flat and the bottom of the bow portion being formed with a downwardly faced channel whereby the bow is forced to climb up.

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