United States Patent

Jackson

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[54] **BOAT HULLS**

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[52] **U.S. Cl.** ..... **114/66.5 R**

[51] **Int. Cl.** **B65b 1/18**

[58] **Field of Search** ..... 114/66.5 R, 66.5 S

[56] **References Cited**

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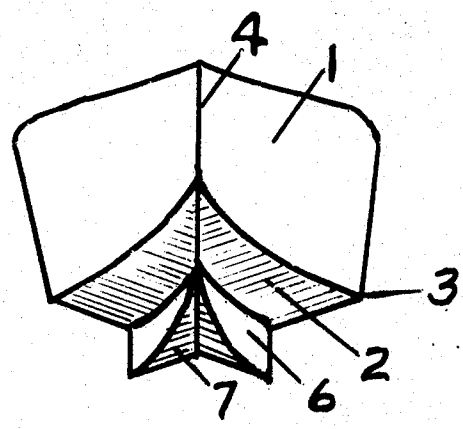
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Primary Examiner—Andrew H. Farrell

[57] **ABSTRACT**

A boat hull constructed with a bottom configuration of generally V cross-sectional shape except with an additional appendage as an integral part of the bottom described herein as a "widened keel form" with a modified W cross-sectional shape. Said "widened keel form" extends along both sides of the longitudinal centerline of the boat hull from the forward section of the hull to the stern. One half of the bottom portion of the said "widened keel form" is located approximately in the same inclined plane or nearly parallel plane to that of the opposite V bottom side of the boat hull. The forward portion of said "widened keel form" extends above the load water line of the boat hull.

3 Claims, 6 Drawing Figures



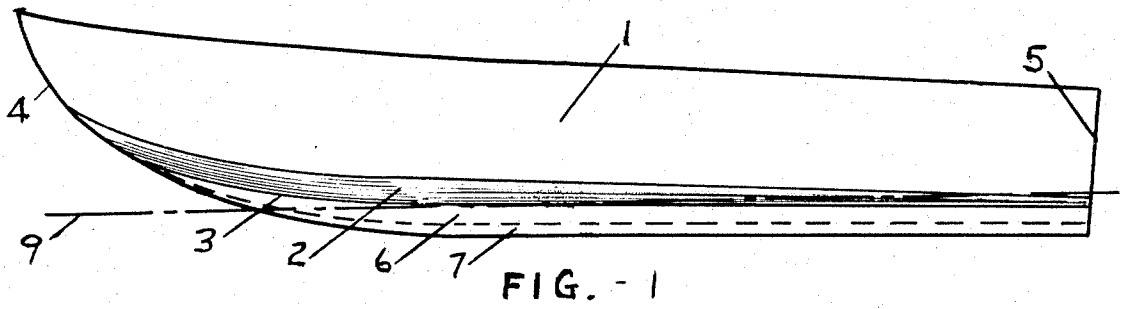


FIG. - 1

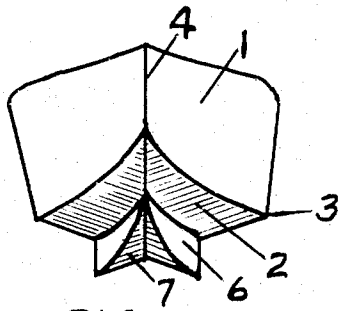


FIG. - 2

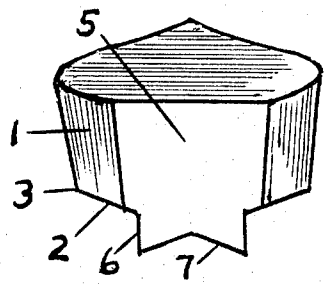


FIG. - 3

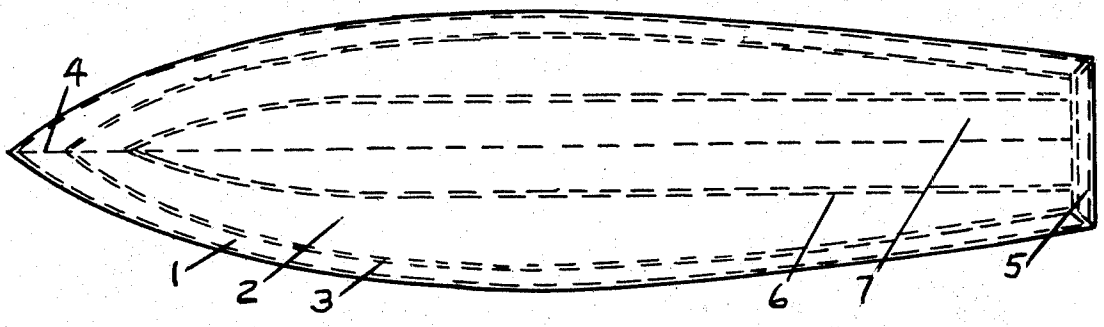


FIG. - 4

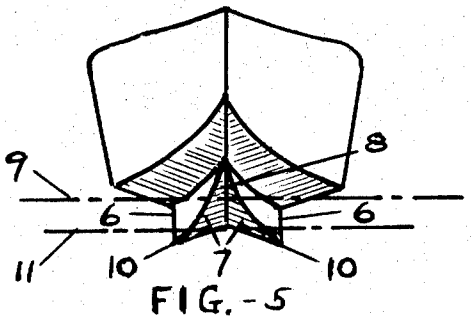
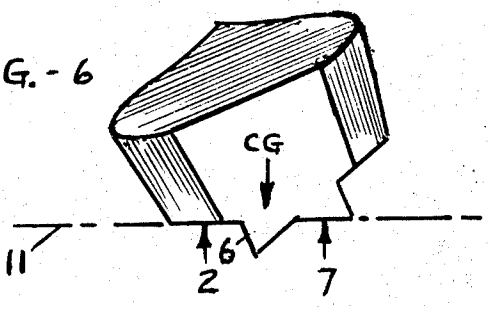


FIG. - 5

FIG. - 6



BOAT HULLS

BRIEF SUMMARY OF THE INVENTION

The primary object of this invention is to provide an improved boat hull configuration with more efficient displacement characteristics that smoothly achieves a planing mode of operation at low speeds with a minimum of water to hull friction resistance, yet retaining maximum hull stability and better than conventional operational handling features. A further object of this invention is to provide an improved boat hull configuration that, when operating at an angle of incline as in a turning maneuver or heeled to the wind under sail power, will position a more effective bottom surface for lifting the weight of the boat hull out of the water while maintaining or obtaining planing speeds during forward motion and at the same time providing an efficient keel form under the boat for retaining directional stability.

By the invention, the boat hull configuration is described as having a generally V bottom cross-sectional shape except with an additional appendage as an integral part of the bottom herein referred to as a "-widened keel form" with a modified W cross-sectional shape. Said "widened keel form" extends along both sides of the longitudinal centerline of the boat hull from the forward section of the hull to the stern. One half of the bottom side of the said "widened keel form" is located approximately in the same inclined plane or nearly parallel plane to that of the opposite V bottom side of the boat hull.

BRIEF SUMMARY OF THE DRAWINGS

Other objects and features of this invention will become apparent when considered in conjunction with the following detailed description and the accompaning drawings wherein:

FIG. 1 is a side elevation of a boat hull embodying this invention.

FIG. 2 is a front elevation view of FIG. 1.

FIG. 3 is a rear elevation view of FIG. 1.

FIG. 4 is a plan view of FIG. 1.

FIG. 5 is a front elevation view of FIG. 1 illustrating a horizontal operating position of said boat hull operating either at displacement or at planing speeds.

FIG. 6 is a rear elevation view of FIG. 1 illustrating an inclined operating position of said boat hull at planing speed.

DETAILED DESCRIPTION

The boat hull as disclosed and claimed herein may be constructed of various materials and by many methods known to those skilled in the art, however, since the precise method or material employed constitutes no part of this invention, the boat hull hereinafter to be described in detail, will be considered for purpose of clarity, to have been molded in one piece from some suitable plastic material and/or fiberglass. Mechanical power, sail power, steering, and other installations would be considered conventional installations and are not included in the following description.

The boat hull embodying this invention is generally symmetrical in cross sectional shape and for clarity purposes, the reference numbers of the detailed drawings are only noted on half of the hull structure

details except where required in the following description. Refering to FIGS. 1, 2, 3, and 4, the boat hull as disclosed consists of sides 1 extending between a bow 4 and a stern 5. The sides 1 join a generally *v* bottom 2 to form a hard or rounded chine line 3 from just aft of the bow 4 and extending to the stern 5. An integral part of said boat hull bottom contains a "widened keel form" shaped with vertical or sloping sides 6 that are located symmetrically along the longitudinal centerline of the boat hull starting aft of the bow and fairing into maximum keel width in the forward half of the boat hull and extending to the stern of the boat with a modified W in cross sectional shape. Referring to FIG. 3, one half of the bottomside 7 of said "widened keel form" is located approximately in the same inclined plane or nearly parallel plane to that of the *v* bottom side 2 of the boat hull. The inclined angle or angular plane for the boat hull's V bottom side 2 and the bottom side 7 of the "widened keel form" is of predetermined design according to the desired operating condition of said boat hull. Referring to FIGS. 1 and 5, the bottom side 7 portion of said "widened keel form" is generally of an inverted V cross-sectional shape and extends over a majority of the length of the boat hull in a position slightly inclined or parallel to the water, and is of sufficient area to raise said boat hull above the water at low speeds to provide a planing surface for the boat hull with practically no visible wake or stern wave drag when the boat hull is in forward motion at planing speeds. The width of said "widened keel form" is dependent upon the area necessary on the bottom sides 7 to lift the weight of said boat hull out of the water at desired speeds. Referring to FIGS. 1 and 5, the bottom side 7 of said "widened keel form" has the forward part of the W cross-sectional shape extending above the load water line level of the boat hull and when operating as a displacement hull, the W or tunnel shaped form 8 scoops and entraps air bubbles between the hull surface 7 and the water level 9 to reduce surface to water friction. In addition, said "widened keel form" with its modified W and tapered shape 8 in the forward part of the boat hull, is capable of dividing the waves and water during forward movement at both displacement and planing speeds to provide a smoother ride in choppy water. Said "widened keel form" 6 and 7 extending downwardly below the bottom of said boat hull enables the longitudinal parts of said "widened keel form" to establish two keel edges 10 which remain in the water, while operating in a horizontal position at planing speeds, to retain directional stability and better handling characteristics.

Referring to FIG. 6, the configuration of said boat hull with one side of its V bottom 2 and one half of the bottom side 7 of said "widened keel form" positioned in approximately the same inclined plane and parallel to the water level 11 provides a more effective surface 2 and 7 for lifting the boat hull out of the water when operating at an incline and at planing speeds. The angle of incline for the boat hull would be a condition caused by a turning maneuver or heeled to the wind under sail power. In addition, when said boat hull is in an inclined operating position, the longitudinal side 6 of the "-widened keel form" extends below the planing surface sufficiently to retain directional stability which includes minimizing side slipping and continued travel in a straight line.

It is understood that minor variations from the form of the invention disclosed herein may be made without departure from the spirit and scope of the invention and the detailed description and drawings are to be considered as illustrative rather than limiting.

What we claim is:

1. A boat hull constructed with a configuration that includes a bottom of generally V cross-sectional shape except with an additional appendage as an integral part of the bottom and described as a "widened keel form" with a modified W cross-sectional shape, said "widened keel form" extending along both sides of the longitudinal centerline of the boat hull from the forward section of the hull to the stern, wherein approximately one half of the bottom side of said "widened keel form" is located approximately in a nearly parallel plane to that of the opposite V bottom side of the hull.

2. A boat hull as defined in claim 1, whereas said "-widened keel form" with its modified W cross-sectional shape extends above the load water line of the boat hull at the forward section of the hull.

3. A boat hull as defined in claim 1, whereas said bottom side of the widened keel form is in the same inclined plane as the opposite V-bottomed side of the boat hull.

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