United States Patent [19]

Bloch

[11] **3,924,557**

[45] **Dec. 9, 1975**

[54] **PROPELLER MECHANISM FOR BOATS**

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[52] **U.S. Cl.** **115/38;** 115/38

[51] **Int. Cl.²** **B63H 5/08**

[58] **Field of Search** ..... 9/1 R; 114/56, 43.5 VC, 114/162–163; 115/37, 38, 42

[56] **References Cited**

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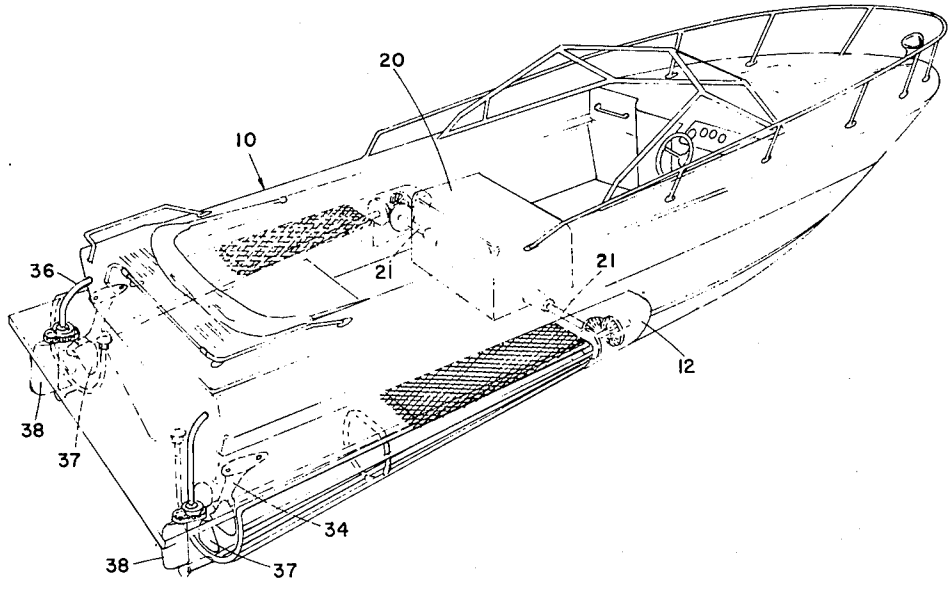
809,064	1/1906	Johnson	115/38
1,247,082	11/1917	Cobb	115/38
3,143,991	8/1964	Anderson	114/43.5 VC
3,611,973	10/1971	Stuart	114/162

Primary Examiner—Trygve M. Blix
Assistant Examiner—Sherman D. Basinger
Attorney, Agent, or Firm—Gilbert A. Thomas

[57] **ABSTRACT**

An improved propelling mechanism for boats powered with inboard motors. The device consists of two shafts attached to gear mechanisms which are enclosed in cowlings mounted opposite each other on the hull of a boat above the waterline. To the ends of the shafts propellers are mounted. Supports are provided attached to the splash board which also supports two rudders mounted behind the propellers. The gear mechanisms are connected to a motor centrally located inside the boat.

1 Claim, 4 Drawing Figures



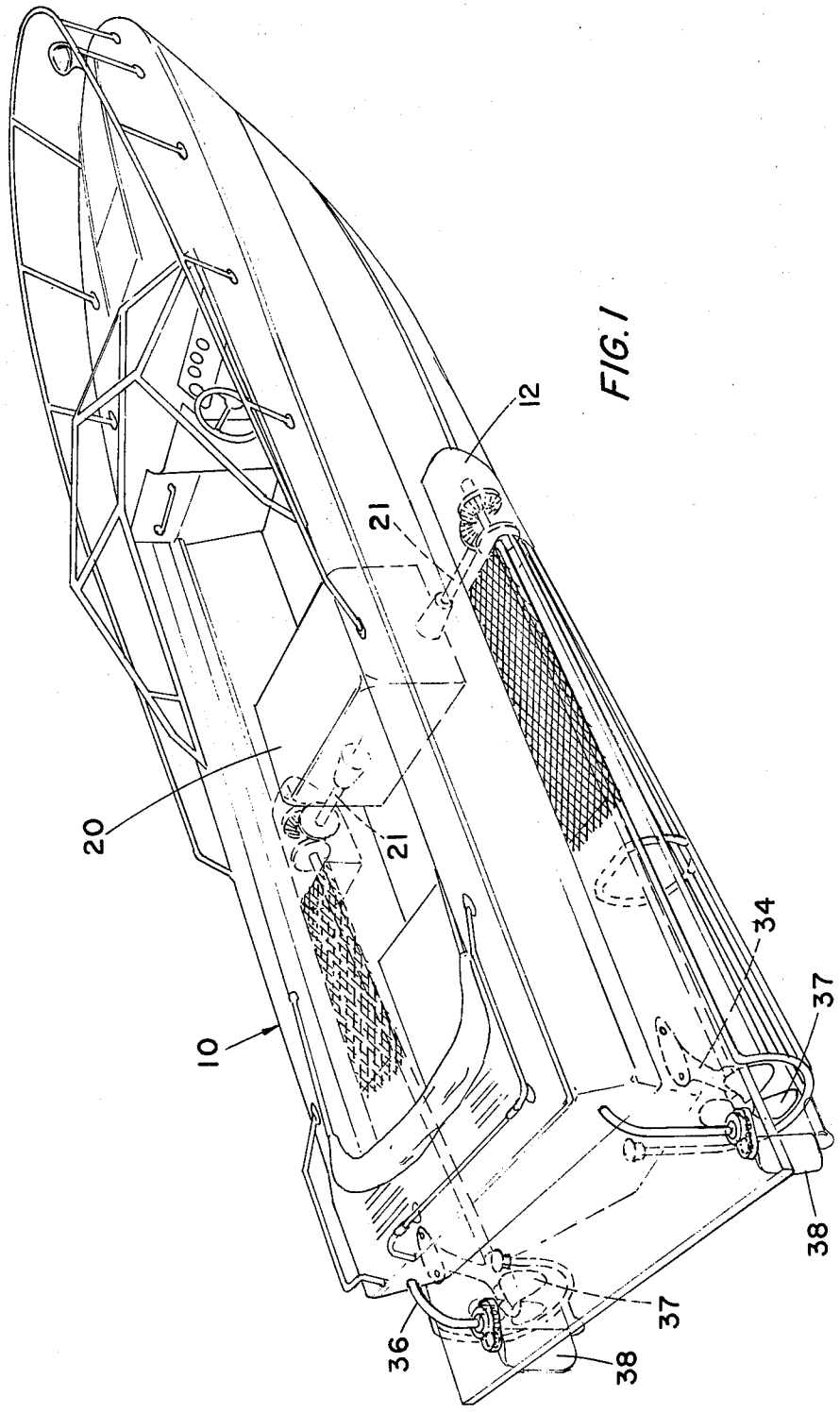


FIG. 1

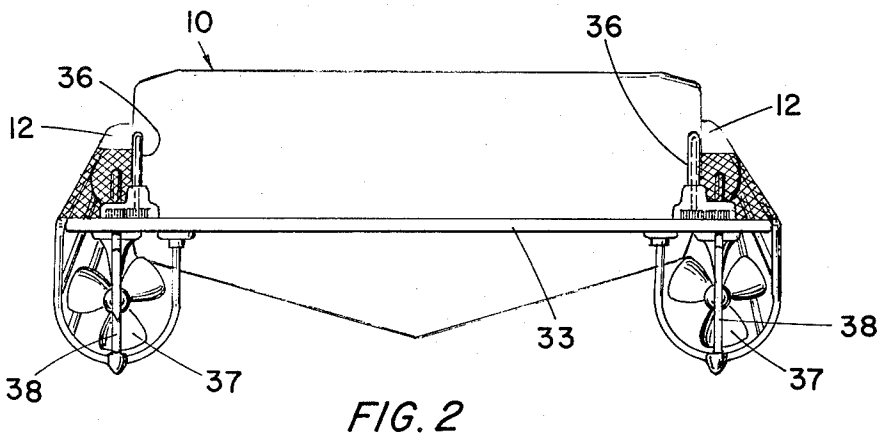


FIG. 2

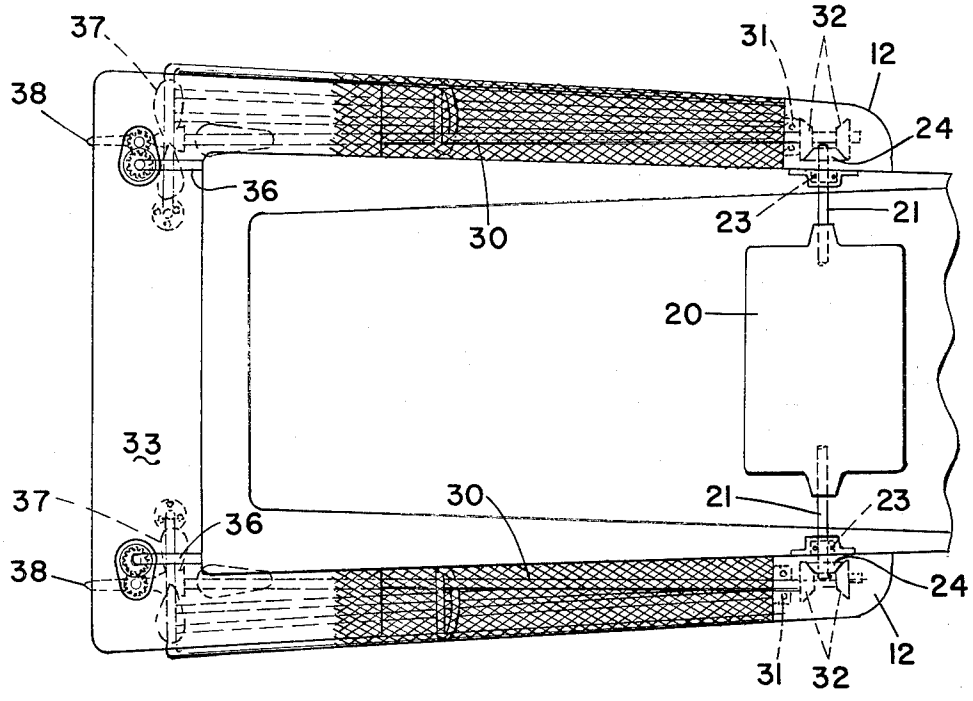


FIG. 3

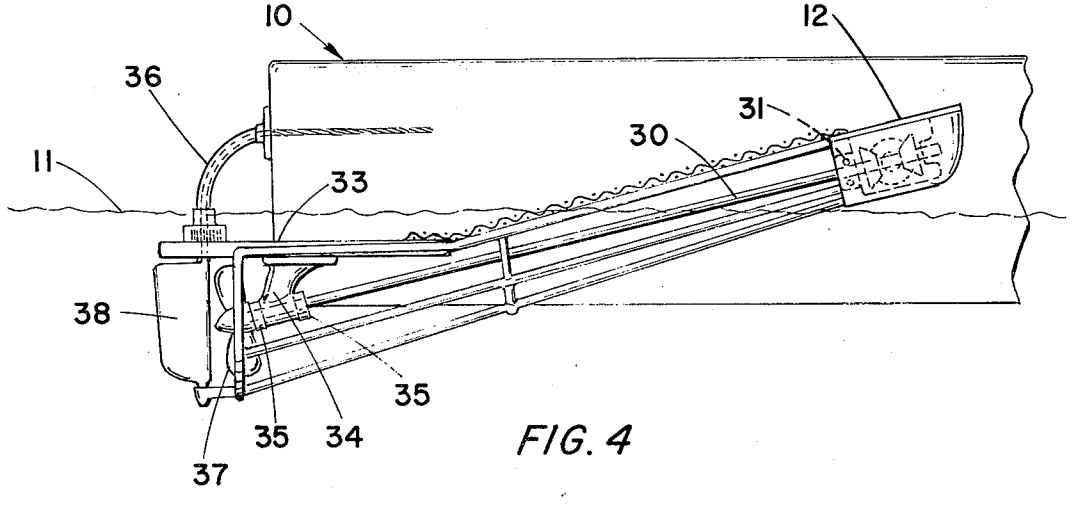


FIG. 4

PROPELLER MECHANISM FOR BOATS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to an improved propelling mechanism for boats powered with inboard motors.

2. Description of the Prior Art

Conventional inboard motor-powered boats have hull openings for one or two shafts at the end of which propellers are mounted. The problem of sealing these hull openings, yet permitting high speed rotating shafts to operate, has never been satisfactorily solved. Various gaskets and seal combinations are used in the industry. However, leaks and sunken boats still result due to a combination of factors which include vibrational stress, and deterioration of the seal and gasket materials. The concept of mounting propellers and shafts outside the hull have been disclosed by Cobb, U.S. Pat. No. 1,247,082 but his device was an auxiliary mechanism for sailboats or was used to supplement the main propulsion mechanism. It could be raised above the water and stored in a non-use position.

Hamilton, U.S. Pat. No. 1,321,304 described propelling mechanisms on opposite sides of a hull but the drawing shafts were below the water line providing no solution to the problem of leakage.

SUMMARY OF THE INVENTION

An object of this invention is to solve the problem of water leakage through openings in a boat hull below the water line which are openings for a propeller shaft or shafts and usually use seals or gaskets, to attempt to prevent such leakage by eliminating the need for such openings.

Another object of this invention is to provide a means of mounting propellers powered by an inboard motor so that the propellers are not under the hull, permitting the boat to operate in shallow waters.

Another object of this invention is to provide an inboard powered boat that a fisherman can use to troll from the rear and not have the water behind the boat disturbed by the wake or have his line entangled on the normally rear centrally mounted propellers.

Another object of this invention is to provide a means for propelling a boat with twin propeller drive which can be shielded so as to prevent swimmers from being injured by the propellers.

Another object of this invention is to provide a means for propelling a boat with twin propeller drive which can have the propeller drive shafts removed or replaced with the boat remaining in the water.

Another object of this invention is to provide a means for propelling a boat with twin propeller drive which can have the propellers removed or replaced with the boat remaining in the water.

Other objects and advantages of the invention will become apparent from the following detailed description considered in conjunction with the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a partially cutaway, elevational view of a boat with the instant invention

FIG. 2 is a rear view of the propellers mounted on a boat hull

FIG. 3 is a top transverse section through the hull shaft housing and rudder drive mechanism

FIG. 4 is a side transverse section of a hull with the invention in its preferred mode.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings FIGS. 1 – 4 are various views of the instant invention. A boat hull **10** is pierced above the waterline **11** and a housing **12** is mounted over the pierced section.

An inboard engine **20** is mounted inside the boat with its drive shaft perpendicular to the length of the boat and aligned with the hull openings. While the drawings illustrate a mode of the invention with one engine, dual engines could be used each driving a propeller shaft on one side of the hull. The engine has two drive shaft extensions **21** connected at one end with the motor drive shaft extending at the other end through a support bearing **23** located in the hull. The end of this shaft which extends through the bearing is connected to one element **24** of bevel or miter gear.

Perpendicular to the motor drive shafts two propeller shafts **30** are mounted on the outside of the hull, one end of the shafts extend through a bearing **31** mounted in hull housing **12** the end of such shafts contain the other elements **32** of the miter or bevel gear in interconnected operating relationship with element **24** on the motor drive shaft **21.**

The propeller drive shafts **30** extend downward at an angle of from 20° to 30° depending upon the length of the hull. A support member **33** is mounted at the rear of the hull which extends around the rear section to the housings **12** this support member acts as a splash board to reduce water splashage into the boat. The support member contains a propeller shaft support bracket **34** which houses two bearings **35** through which the shafts extend. At the end of the shafts propellers **37** are mounted.

The shafts extend beyond the bearings to the depth required by the hull dimensions and configuration to provide maximum drive without cavitation. At a rearward extension of the support member **33** a hollow bracket **36** is mounted to rigidly secure support member **33** to the rear of the hull.

A rudder **38** is attached to the support member **33** its control cables passing through hollow bracket **36** to steering mechanisms as seen in FIG. **1** and shown as a well known boat type steering wheel located inside the boat.

In operation single or dual inboard motors are interconnected by a forward, reverse and neutral clutch mechanism to propeller shafts through openings in a boats hull above the water line.

The shafts are angled to obtain the most efficient thrust without cavitation.

A support member splash board combination encircles the rear of the hull above the waterline. To this is attached through support brackets an arm bearing through which the propeller shafts extends the rudders and their control mechanisms. Propellers of various configurations are attached to the ends of the shafts.

A boat designed using this invention will never leak through under water openings since they are not in this design. The other objects and advantages cited above will be obtained.

Without further elaboration, by studying the drawings and specifications those skilled in the arts may adopt this invention to various size and configurations of water crafts. Any desired or necessary changes may

be made in the formed proportions of the several parts of the device without departing from or sacrificing any of the features of the inventive combination.

I claim:

1. An improved propeller drive and rudder mechanism for boats comprising in combination;

a boat hull having an opening disposed on each side thereof positioned above the waterline;

an inboard motor means having a pair of drive shafts extending outwardly therefrom and received within each of said openings in said boat hull;

a watertight housing mounted over each of said openings;

a shaft drive means operably disposed within each of said housings and connected to respective motor drive shafts;

a pair of propeller shafts positioned along the outer sides of said hull wherein one end thereof is connected to said shaft drive means whereby said motor means operates said propeller shafts;

a propeller means located at one end of each propeller shaft;

a support member secured to said hull above the waterline thereof and positioned along the rear and sides of said hull extending forwardly to said housing whereby said propeller shaft is disposed thereunder;

bearing means attached to said support member and arranged to operably receive respective propeller shafts therethrough;

rudder means positioned to the rear of said propeller means in alignment therewith and attached to said support member; and

a steering mechanism operably mounted within said hull and operably interconnected to each of said rudder means whereby the movement of said rudders is controlled thereby.

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