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TROLLING MOTOR FOR ATTACHMENT TO OUTBOARD MOTOR

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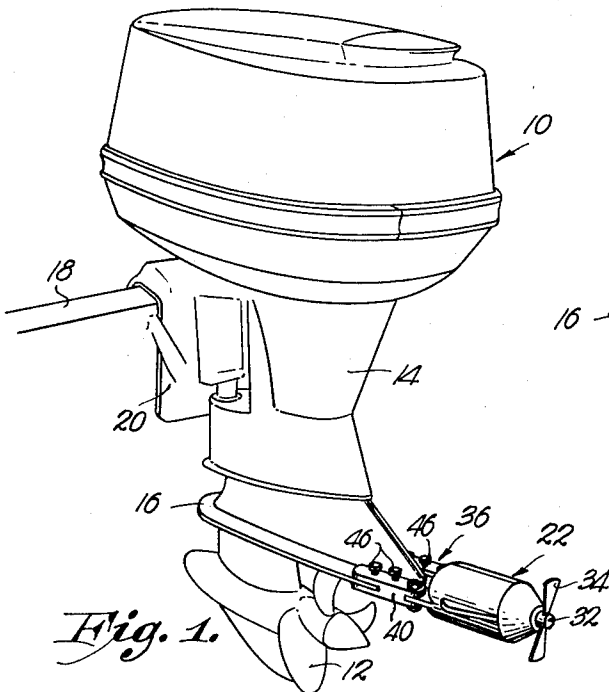


Fig. 1.

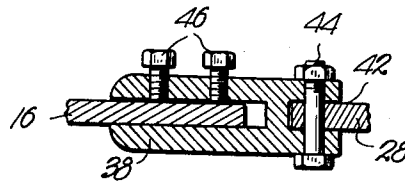


Fig. 4.

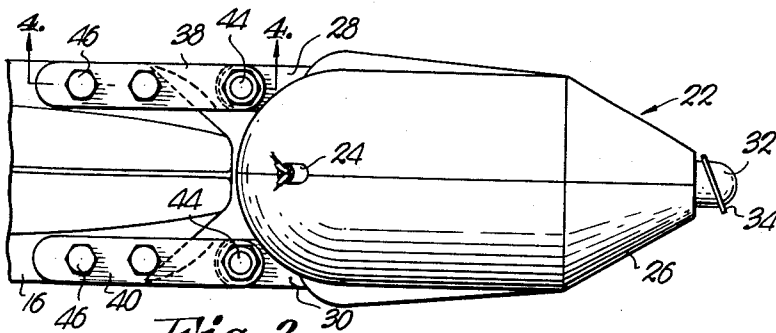


Fig. 2.

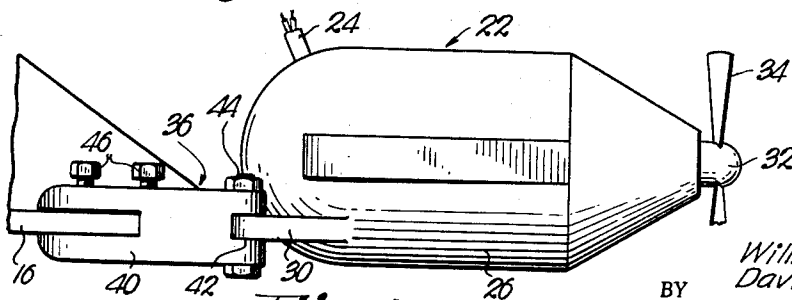


Fig. 3.

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9 Claims. (Cl. 115—17)

This invention relates to a trolling motor for attachment to the anti-cavitation plate of an outboard motor whereby said trolling motor and said outboard motor may be combined into a single, substantially integral unit to be carried by a boat, the said motor combination unit providing an outboard motor for use in traveling at higher speeds, and a trolling motor for use in traveling at reduced speeds when fishing or the like.

It is the most important object of this invention to provide a trolling motor having means thereupon for attaching the same to the anti-cavitation plate which is normally provided on an outboard motor in a substantially horizontal position above the propeller of the outboard motor, the anti-cavitation plate being carried by the housing which surrounds the propeller shaft of the outboard motor. The use of anti-cavitation plates is well-known and the same are positioned with respect to the propeller of an outboard motor whereby to prevent the creation of undesired vacuums and water reactions adjacent the motor and the boat as a result of the rotation of the propeller of the outboard motor.

In the past, the use of trolling motors for fishing and the like has been accomplished through the provision of motors which have, as a part thereof, supporting assemblies which are adapted to be positioned over the transom of a boat, the normal use of such trolling motors being in conjunction with an outboard motor, the outboard motor being used to propel the boat relatively long distances to a point where fishing will take place, the outboard motor then being turned off and removed from the water in the well-known manner, the trolling motor then being actuated and utilized to move the boat at slow speeds. The use of both an outboard motor and a trolling motor as separate and distinct units for independent and specific purposes results in the requirement that the user thereof transport heavy and bulky motors and that both of the same be attached to his boat.

It is, therefore, the main object of this invention to create a cooperating combination of power sources for boats and the like wherein the outboard motor is utilized to provide the primary power source and the one of greatest horsepower, and the trolling motor is carried upon the outboard motor, and more particularly, upon the anti-cavitation plate thereof whereby the trolling motor is available at all times, it only being necessary to turn off the outboard motor and actuate the trolling motor to achieve the desired reduced trolling speeds.

To this end, there is provided a trolling motor having means carried thereby for attaching the same to the anti-cavitation plate of an outboard motor, said means including a bracket assembly, which bracket assembly, includes a pair of shiftable arms, one end portion of each of said arms being bifurcated whereby the same can embrace the anti-cavitation plate on opposed sides thereof, there being securing means in the nature of set bolts for removably attaching said end portions of the bracket arms to the anti-cavitation plate. The other ends of the arms of the bracket are likewise bifurcated whereby to embrace corresponding lugs which are formed on the exterior casing of the trolling motor, the said opposite ends of the arms and the lugs being pivotally interconnected as by a pivot pin or the like whereby said arms are shiftable with

respect to the trolling motor and also with respect to the anti-cavitation plate, such shiftable allowing the arms to accommodate an anti-cavitation plate of virtually any size and configuration whereby the trolling motor may be attached to virtually any conventionally known outboard motor.

Other objects of this invention will become apparent from the following specification and accompanying drawing, wherein:

FIGURE 1 is a perspective view showing an outboard motor having the trolling motor attached thereto;

FIG. 2 is a fragmentary, top plan view showing the trolling motor and the manner in which the same is attached to the anti-cavitation plate of an outboard motor;

FIG. 3 is a side elevational view of the components shown in FIG. 2; and

FIG. 4 is a sectional view taken on line 4—4 of FIG. 2.

A substantially conventional outboard motor is designated as 10, said motor including a propeller 12 which is driven by a propeller shaft (not shown), the shaft being encased within a housing 14, which housing 14 carries an anti-cavitation plate 16, said plate 16 normally being disposed in a substantially horizontal position and above the propeller 12 whereby to eliminate and reduce the cavitation effects which would be otherwise created by the rotation of the propeller 12. Such anti-cavitation plates are well-known and form a part of virtually all conventional outboard motors as the same are presently known.

The outboard motor 10 is adapted to be attached to the transom 18 of a boat (not shown) as by an assembly 20, it being understood that said assembly 20 couples said outboard motor 10 to the boat in such a manner that the outboard motor 10 may be pivoted with respect to the boat transom 18 whereby to remove the lowermost portions of outboard motor 10 from the water.

The trolling motor 22 is conventional in construction and is adapted to be electrically operated from a remote source of power such as a battery or the like, there being a cable 24 operably coupling said trolling motor 22 with the source of power (not shown). The trolling motor 22 has an exterior or outer casing 26, which casing has a pair of lugs 28 and 30 formed thereupon, said lugs extending from said casing in a direction opposite to that of the propeller shaft 32 of the trolling motor 22, said propeller shaft carrying a propeller 34 which is rotatable upon actuation of the trolling motor 22.

The trolling motor 22 is adapted to be coupled to the anti-cavitation plate 16 of an outboard motor such as 10 as by bracket means broadly designated as 36. Bracket means 36 includes a pair of arms 38 and 40 which extend from the trolling motor 22 in a direction opposite to that of propeller shaft 32 and which arms 38 and 40 each have one end thereof bifurcated, as best shown in FIG. 4 of the drawing, whereby said bifurcated ends of the arms 38 and 40 may embrace the anti-cavitation plate 16, all as clearly shown in the drawing. The opposite ends of the arms 38 and 40 are likewise bifurcated as at 42 whereby each of said opposite ends may receive a corresponding lug 28 or 30, there being a pivot pin such as 44 attaching said opposite ends of the arms 38 and 40 to their corresponding lugs 28 and 30 respectively, the pivot pins 44 allowing shiftable movement of said arms 38 and 40 with respect to said lugs 28 and 30. Such shiftable movement is desirable inasmuch as it allows the arms 38 and 40 to be swung in such a manner as to accommodate an anti-cavitation plate of virtually any size or configuration.

The ends of the arms 38 and 40 which embrace the anti-cavitation plate 16 are suitably secured thereto as by set bolts 46 or other suitable means whereby the trolling motor may be removably attached to the anti-cavitation plate 16 through utilization of bracket 36. It will be ap-

preciated that when the trolling motor 22 is mounted as above described upon the anti-cavitation plate 16 of an outboard motor such as 10, there is presented a single composite, over-all motor unit which may then be mounted upon a boat as by the assembly 20, the outboard motor then being utilized to drive propeller 12 whereby to move the boat at higher speeds, which is normally necessary to reach the location where use of the trolling motor will be commenced. When such a location has been reached, the outboard motor is turned off and the trolling motor 22 is actuated, it being appreciated that the propeller 34 of the trolling motor 22 which is positioned rearwardly of the propeller 12 of the outboard motor, will then serve to propel the boat at the desired speed. In this regard, it will be noted that the trolling motor 22 is positioned in substantially the same plane as the anti-cavitation plate 16 whereby said trolling motor 22 normally assumes a horizontal position when the outboard motor 10 is pivoted about assembly 20 to place the entire unit in the water. By the same token, it will be appreciated that when inspection or removal of trolling motor 22 is desired, the entire composite assembly may be removed from the water by pivoting or tilting the outboard motor 10 about assembly 20.

It is contemplated that the trolling motor 22 will be, at all times, carried by the outboard motor 10, making it unnecessary to secure to a board two separate motor units, but yet always having the trolling motor available for use when such is desired. Thus, it is seen that there is presented a trolling motor for attachment to the anti-cavitation plate of an outboard motor which, when attached, serves to create a cooperating combination motor unit which is easy to handle and operate and which may achieve all of the purposes desired by the boat operator.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In combination with an outboard motor having a propeller shaft, a housing for said shaft and a normally horizontally disposed anti-cavitation plate carried by said housing, a trolling motor mounted upon said plate and lying in substantially the same plane as said plate.

2. In combination with an outboard motor having a propeller, a propeller shaft, a housing for said shaft and a normally horizontally disposed anti-cavitation plate carried by said housing above the propeller, a trolling motor removably attached to said plate and lying in substantially the same plane as said plate, the propeller of the trolling motor being positioned rearwardly of the propeller of the outboard motor.

3. The invention as set forth in claim 2, there being bracket means carried by said trolling motor for removably attaching the same to said plate.

4. The invention as set forth in claim 3, wherein said bracket means includes a pair of shiftable arms.

5. The invention as set forth in claim 4, said arms each having a bifurcated portion at one end thereof embracing said plate on opposed edges thereof and securing means for removably attaching said portions of said arms to said plate.

6. The invention as set forth in claim 5, the other end of each of said arms being shiftable attached to said trolling motor.

7. In combination with an outboard motor having a propeller, a propeller shaft, a housing for said shaft and a normally horizontally disposed anti-cavitation plate carried by said housing above the propeller, a trolling motor having bracket means removably attaching the trolling motor to said plate, said trolling motor lying in substantially the same plane as said plate with its propeller positioned rearwardly of the propeller of the outboard motor, said bracket means including a pair of arms, each having a bifurcated portion at one end thereof embracing said plate, securing means for attaching said portions to said plate on opposed sides thereof, and a pivot pin shiftable attaching the other end of each of said arms to said trolling motor.

8. A trolling motor for attachment to an outboard motor having an anti-cavitation plate, said trolling motor including an exterior casing; a pair of lugs formed on said exterior casing; and a pair of arms each having one end thereof secured to said anti-cavitation plate, the other ends thereof each being shiftable attached to a corresponding lug.

9. A trolling motor as set forth in claim 8, each end of each of said arms being bifurcated.

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