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OUTBOARD MOTOR MOUNT AND STEERING MECHANISM

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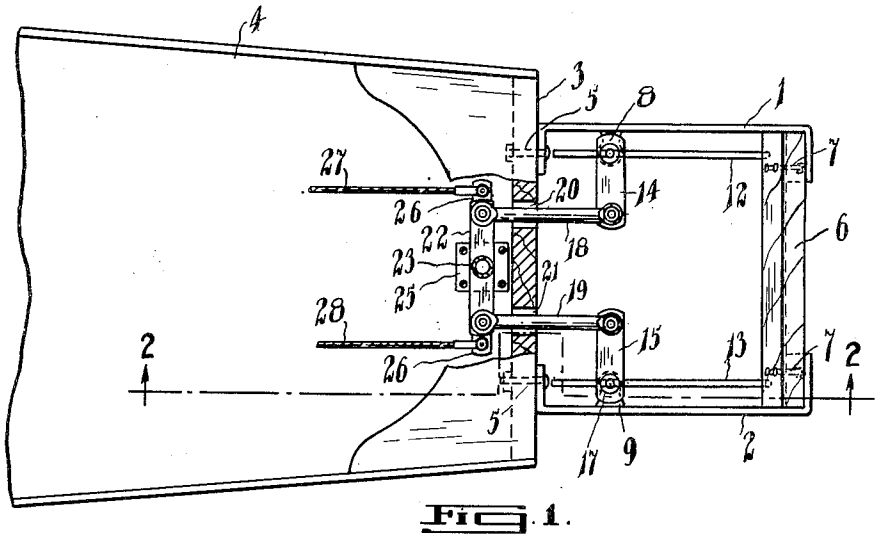


Fig. 1.

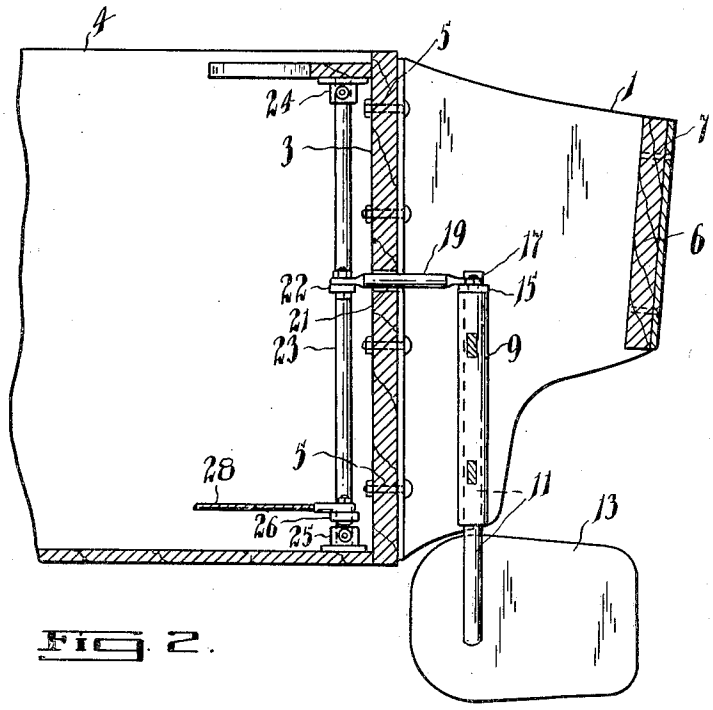


Fig. 2.

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OUTBOARD MOTOR MOUNT AND STEERING MECHANISM

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2 Claims. (Cl. 114—163)

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This invention relates in general to mounting brackets for outboard motors on boats, and more particularly to a bracket mount for outboard motors incorporating steering means operable from a position remote from the stern of the boat.

An object of this invention is the mounting of an outboard motor to the rear of the stern of the boat, thereby eliminating a fire hazard customarily present when gasoline and oil drip from the motor into the boat.

A second object of this invention is the provision of steering means on the bracket so that the direction of travel of the boat may be controlled from a position remote from the stern of the boat.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in conjuction with the accompanying drawings wherein:

Figure 1 is a plan view of the mounting bracket supported on the transom stern showing a broken away portion of the after deck and stern; and

Figure 2 is a vertical section of the mounting bracket taken along the section line 2—2 in Figure 1.

Referring to the drawings in which the same numbers refer to corresponding parts in the two figures, a pair of vertically disposed laterally spaced brackets 1 and 2 are secured to the transom stern 3 of boat 4 by bolts 5. A vertically disposed motor mounting board 6 extends horizontally between the rear edges of brackets 1 and 2 and is secured therebetween by bolts 7.

Rudder housings or sleeves 8 and 9 are secured to the inner surfaces of brackets 1 and 2 respectively. Within these housings are supported axially rotatable rudder shafts 10 and 11 which at their lower extremities carry rudder blades 12 and 13 and at their upper extremities tiller arms 14 and 15. These arms fit over shoulders in the rudder shafts and are secured thereto by nuts 16 and 17 so that the arms may be used to control rotation of the shafts even when great torsional forces are present as when a sudden change of direction of travel is desired, or when the boat is struck broadside by waves.

Synchronized control of the two tiller arms and hence the two rudder blades is achieved from within the boat by means of connecting rods 18 and 19 which pass through holes 20 and 21 formed in the transom stern of the boat. Within the boat these rods are secured to opposite extremities of arm 22 which is secured at its centre to a substantially vertically disposed rotatable column 23

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which is journalled in bearings 24 and 25 secured to the after deck and hull of the boat.

A lower arm 26 is secured to column 23 near bottom bearing 25. To the extremities of this arm are connected control cables 27 and 28 which pass beneath the floor boards through to control means remote from the steering mechanism. The advantage of attaching arm 26 so close to the bottom of the boat is that the control cables can be carried beneath the floor boards and out of the way, instead of being passed over numerous pulleys, etc. as they extend around the sides near the gunwales.

It should be evident that this invention is not limited in application to boats having transom sterns. By a suitable adaptation in the shape of brackets 1 and 2 this motor mount could also be attached to boats having pointed sterns.

It should also be evident that the height of connecting rods 18 and 19 above the stern of the boat is a compromise between the possibility of water leakage through holes 20 and 21 if they are too low, and interference with the cylinders of the engine, if they are too high when the propeller is swung up out of the water.

Operation of the control means causes a forward movement in one of the control cables which is accompanied by a corresponding rearward movement in the other cable, thereby causing a corresponding turning of lower arm 26, column 23, and upper arm 22. This movement is transferred through the transom stern to the tiller arms by the connecting rods. Since both tiller arms extend inwardly equal distances from the rudder shafts to the connecting rods, opposite direction of movement of the latter is transformed into synchronized rotation of the rudder blades in the same direction.

It is thought that the construction and use of the invention will be apparent from the above description of the various parts and their purpose. It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or the scope of the subjoined claims.

What we claim as our invention is:

1. In an outboard motor boat, the combination of a pair of vertically disposed laterally spaced brackets secured to and extending from the stern of the boat, a vertically disposed motor mounting board extending horizontally between the rear edges of the brackets, a pair of vertically dis-

posed rudder shafts each having a rudder blade attached to the lower end thereof, journal means on each of the brackets for rotatably supporting one of the rudder shafts, a pair of tiller arms each having one end secured to one of the rudder shafts, a substantially vertical column journaled within the boat and adjacent the stern thereof, a pair of transverse control arms extending from the vertical column adjacent the bottom of the boat, said control arms being adapted to be actuated by control means remote from the rudder, a pair of rudder actuating arms extending from the vertical column above the said control arms, and a link connecting each of the rudder actuating arms with one of the tiller arms, the stern of the boat being provided with apertures through which the links pass, said apertures being located sufficiently above the bottom of the boat to avoid leakage of water therethrough and sufficiently below the upper edge of the motor mounting board that the rudder controlling mechanism will not interfere with the motor when it is tilted inwardly to raise the propeller from the water.

2. In an outboard motor boat, the combination of a pair of vertically disposed laterally spaced brackets secured to and extending from the stern of the boat, a vertically disposed motor mounting board extending horizontally between the rear edges of the brackets, a pair of vertically disposed rudder shafts each having a rudder blade attached to the lower end thereof, journal means secured to the inside of each of the brackets for rotatably supporting one of the rudder shafts below the upper edge of the bracket, a pair of tiller arms each having one end secured to the upper extremity of one of the rudder shafts, a

substantially vertical column journaled within the boat and adjacent the stern thereof, a pair of transverse control arms extending from the vertical column adjacent the bottom of the boat, said control arms being adapted to be actuated by control means remote from the rudder, a pair of rudder actuating arms extending from the vertical column above the said control arms, and a link connecting each of the rudder actuating arms with one of the tiller arms, the stern of the boat being provided with apertures through which the links pass, said apertures being located sufficiently above the bottom of the boat to avoid leakage of water therethrough and sufficiently below the upper edge of the motor mounting board that the rudder controlling mechanism will not interfere with the motor when it is tilted inwardly to raise the propeller from the water.

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