ADJUSTABLE RETRACTING OUTBOARD MOTOR BRACKET

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4 Claims. (Cl. 248—4)

This invention relates to a boat, and more particularly to a mounting bracket for the engine or motor of a boat.

The object of the invention is to provide a mounting bracket which is adapted to be used for supporting an outboard engine or motor on the stern of a boat.

Another object of the invention is to provide a mounting bracket which can be used for supporting an auxiliary engine on the stern of a boat, and when desired the bracket can be moved to a retracted or collapsed position, or if desired the bracket can be used in an extended position.

A further object of the invention is to provide an adjustable retracting outboard motor bracket which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, wherein like numerals are used to designate like parts throughout the same:

FIGURE 1 is a side elevational view showing the bracket of the present invention in the extended position in the stern of a boat.

FIGURE 2 is a sectional view taken on the line 2—2 of FIGURE 1.

FIGURE 3 is a fragmentary sectional view illustrating certain constructional details of the present invention.

FIGURE 4 is a fragmentary side elevational view showing the bracket in raised or retracted position.

FIGURE 5 is a rear elevational view showing the bracket in raised position, and with the parts broken away and in section, and FIGURE 5 also illustrating the use of the bracket on a sail boat and when it is positioned to one side of the rudder of the sail boat.

FIGURE 6 is a fragmentary side elevational view illustrating a further modification wherein the bracket is shown on the stern of a boat and wherein the stern of FIGURE 6 has a different or reversed inclination from the inclination of the stern of FIGURE 1.

FIGURE 7 is a sectional view illustrating certain constructional details of the present invention.

Referring in detail to the drawings, and more particularly to FIGURES 1 through 4 of the drawings, the numeral 10 indicates a portion of a boat which includes an inclined stern 11, and according to the present invention there is provided a mounting bracket which is indicated generally by the numeral 12. The numeral 13 indicates a conventional outboard motor and which is adapted to be supported on the bracket 12, FIGURE 1.

A first pair of spaced parallel bars 14 which are arranged contiguous to the stern 11, and the bars 14 are secured to the stern in any suitable manner, as for example by means of securing elements 15. The bars 14 are provided with diametrically opposed support portions 16, and the support portions 16 each have a plurality of spaced apart apertures or openings 17 therein for a purpose to be later described.

The numeral 18 designates each of a pair of horizontally disposed spaced parallel first cross pieces of tubular or hollow formation, and the cross pieces 18 extend between the pair of bars 14 as shown in FIGURE 3, for example, a bushing or plug 19 is mounted in the outer end of each cross piece 18, and a bolt or securing element 20 extends through the bushing 19 and through a suitable opening in the bar 14 or through the apertures 17, and a securing member or nut 21 is arranged in threaded engagement with the outer end of the bolt 20.

The numeral 22 designates each of the arms of the bracket, and the arms 22 have an end thereof secured to a corresponding cross piece 18 in any suitable manner, as for example by welding.

There is further provided a second pair of spaced parallel bars 23, and a base 24 is secured to the bars 23 as for example by means of securing elements 25.

The base 24 is adapted to have the usual engine 26 arranged in engagement therewith. The outboard engine 13 is provided with a control lever or handle 27.

The numeral 28 indicates a chain which has one end anchored at as 29 to a bar 23, and a portion of the chain 28 is adapted to engage a securing element or bolt 30 on a bar 14. A clip 31 on an arm 22 is adapted to be selectively engaged by a link of the chain 28 for example when the parts are in the position in FIGURE 4 whereby the bracket 12 is maintained in a raised or retracted position.

It is to be noted that as shown in FIGURE 2 for example the bracket 12 is positioned laterally to one side of the main engine 32 so that the bracket 12 can be used for supporting an auxiliary engine as shown in the drawings.

In FIGURE 6 of the drawings the bracket 12 is shown mounted on a boat 33 which has a stern 34 that is inclined in the opposite direction to the stern 11, FIGURE 1. When the bracket is being used on a boat 33 as shown in FIGURE 6, the bracket is reversed so that as for example the support portions 16 are at the top instead of being at the bottom and thus the bracket is adaptable to sterns of different inclinations or angular formations.

Referring now to FIGURE 5 of the drawings, the numeral 35 indicates a portion of a different type of boat such as a sail boat which is provided with a rudder 36, and the bracket 12 is shown arranged laterally or to one side of the rudder 36.

The numeral 37 indicates pivot pins or bolts which connect the flattened ends of the arm 22 to the bars 23 as shown in FIGURE 7.

From the foregoing, it is apparent that there has been provided a mounting bracket which is especially suitable for use in supporting an outboard engine or motor on the stern of a boat. In use the bars 14 are adapted to be fastened to the stern 11 as shown in FIGURES 1 through 4 by means of the securing elements 15, and due to the provision of the bolts or pins 20 and 37, the bracket has a pivot mounting between the bars 14 and the cross pieces 18 as well as between the arms 22 and bars 23.

With the plate 24 fastened as at 25 to the bars 23, it will be seen that the bracket 12 can be used as shown in FIGURE 1, or else it can be arranged as shown in FIGURE 4. The chain 28 has one end anchored as at 29 to the bars 23, and by arranging a suitable link of the chain 28 in engagement with the clip 31 or securing element 30 the bracket 12 can be raised or retracted as shown in FIGURE 4 when desired.

The parts can be turned to the position of FIGURE 6 so that the support portions 16 are at the top instead of being at the bottom as shown in FIGURE 1 as for example when a different inclined stern is being used as the anchoring means for the bars 14.

The parts can be made of any suitable material and in different shapes or sizes.

Herefore similar devices have been based on the idea of adjusting the depth of the motor in the water and protecting the motor from damage in the event an obstruction is encountered. Actually the depth of the motor in the water is, on ordinary outboard motor, controlled by the height of the boat stern or transom and...
most of the outboard motors are built by a factory so that they will tilt up and forward if they hit bottom or an obstruction.

In the bracket of the present invention the side arms may be either cast integrally or welded to the cross members so that for example in the case of a hard turn when the motor's thrust is directed to the side, the arms or supports will actually have to be bent to allow any lateral movement so that the bracket of the present invention has the advantage of lateral and where the structure is rugged so that the same will give efficient performance even when used under various types of conditions.

Furthermore, the present invention does not contain any springs or trigger devices which often cause trouble especially in salt water and the bracket of the present invention has no springs or triggers and is adapted to be supported by a simple chain and is also latched in the "up" position by the same chain 28.

When the bracket is used on a sail boat as shown in FIGURE 5 it will solve the knotty problem of supplying a small sail boat with auxiliary power. Furthermore the bracket provides a good answer for the motor boat owner who wishes to carry a small spare engine for use in the event the main engine fails. Furthermore the bracket is ideal for carrying a spare motor on an outboard motor boat with one large engine.

The bracket is adapted to be used primarily for attaching an auxiliary outboard motor to the stern or transom of a boat such as a sail boat. Use of the bracket eliminates the need for the often used "motor well" in a sail boat and also makes it unnecessary to remove the motor when not in use since the bracket with the motor attached can be retracted up and against the transom with the motor's lower unit and propeller clear of the water so as to eliminate drag. In view of the fact that the motor is pulled in tight against the transom of the boat, the danger of snagging the unit against the post, pier, or other boat is greatly reduced and this is the case with rigid type brackets or the sliding types that are presently on the market.

In addition to its use on a sail boat, the bracket is also ideal for the boat owner who wishes to carry a small auxiliary motor on his motor boat, cruiser, house boat, barge or the like for use in the event the main unit of the power unit. In the case of either a sail boat or a motor boat, the bracket can be mounted on either side of the transom to allow clearance for the boat's rudder or main engine. With a small lightweight motor attached, the bracket will be easily raised by hand or if desired a small hand winch can be used with heavier engines.

It is to be understood that different types of construction such as die castings, metal stampings or even high strength plastic castings can be used on the bracket. In the drawings the structure is shown to comprise members which are secured together and which are made of tubular metal stock, angle iron or the like and due to the provision of the extra openings 17, the bracket can be adjusted to fit different boats which have their transoms pitched at different angles. The bracket is constructed so that the entire assembly is a true parallelogram and will fold flat against the boat's transom without binding or changing angles. The chain attached to an extension as at 30 which may be a bolt or the like and the chain be adjusted to different lengths to control the depth of the lower unit of the motor in the water. When the boat is raised or pulled up the chain can be slipped into the claw or slip 31, with the bracket in the raised position. The chain can be attached to either side of the bracket or similar chains can be used on both sides if necessary for a heavy motor. When the bracket is lowered, the boat motor is in operating position, and when the bracket is completely raised, the chain may be latched in the claw or clip 31 on the arm 22.

The bracket is intended primarily to carry an auxiliary motor on a sail boat or a motor for emergency use on a motor boat, and the bracket is normally mounted to one side of the center since in the case of most small sail boats, the rudder is usually located in the center. In the case of an outboard boat the main or large motor such as the motor 32 would be mounted in the center. While it is true that a motor mounted off center does tend to make the boat travel on a curved angle, nevertheless the tendency is easily overcome by steering the motor. While in the adjustable outboard motor bracket is designed primarily for auxiliary power on a sail boat or emergency use on a motor boat, it is to be understood that the present invention is not limited to these purposes as for example the bracket may be used for mounting the main engine or engines on a boat. In FIGURE 2 the bracket 12 is shown positioned to one side of the main engine 32 so that it can be used for standby or emergency motor service. Thus, the bracket may be used on an outboard boat having one large main motor and one small motor for use in the case of failure of the main engine or motor.

All outboard boats are constructed with the stern or transom inclined outward at the top to an angle of about 82° to 85°, and outboard motors are made with adjustments so that they can be mounted on the transom so that when the boat is under weigh, the motor will be exactly perpendicular to the water level. Many sail boats however are constructed with their transoms inclined outward at the top to a much greater angle and that is the reason that the bracket of the present invention is provided with the plurality of adjustment holes 17. In some cases the extra adjustment holes will not be needed as for example where the transom of the boat is at the same angle as the motor support at the back of the brackets.

The pivoting frames or arms are exactly the same length and form a parallelogram or pantograph, and will maintain the same angle at the motor support 24 regardless of whether the bracket is raised or lowered. This is an important point since when the motor is retracted or pulled up close to the boat it will not be likely to snag piers, posts, or other objects behind the boat when it is moored.

In some cases boats have vertical transoms or even transoms which are inclined forward, as for example as shown in FIGURE 6 and in such a case it is necessary to mount the bracket on the transom in such a way that the two attaching angle bars or pieces 14 and other parts inverted so that the adjusting holes 17 are at the top so that the bracket can be adjusted to the required 82° to 85° angle previously described. The bracket is ruggedly constructed and is strong so that it will support a heavy load.

The support arms are of the same length and as stated previously many sail boats have their transoms at a much greater outward angle than the 82° to 85° angle required for all standard outboard motors. In this case the bracket will have to be adjusted to one of the outer holes 17 in the members which are attached to the boat. Where the bracket is mounted on an outboard boat which already has its transom made to the proper angle for a motor, no adjustment is necessary. Where the bracket is mounted on a boat with a vertical or slightly forward leaning transom the bracket has the two attaching angle bars 14 and other parts inverted and adjusted to one of the extra holes provided. At any rate in all cases it is to be noted that the angle 1 as shown in FIGURE 1 remains constant at about 82° to 85° and the members 22 are all exactly the same length. In addition the motor 13 is exactly vertical.

In the motor case of a motor such as the motor 13, the parts are constructed so that the motor could not be adjusted to fit vertically on a transom, or on the adjustable retracting outboard motor bracket of the present invention unless the support 24 was adjusted to the 82° to 85° angle. FIGURE 1 may be taken as illustrative to illustrate a boat with a transom having an extreme outward angle and with the bracket adjusted to compensate for the difference in the angles 1 and 2. Where the outboard has
the transom angle to fit a standard outboard motor, the angle 2 equals the angle 1 so that no adjusting is necessary. In an arrangement such as that shown in FIGURE 6, the motor boat, cruiser or the like may have a vertical transom or a transom which is angled slightly forward so that the support pieces or bars 14 are inverted and adjusted to compensate for difference in the angles.

The arms 22 are adapted to be welded or cast integral with the pieces 18. The arms 22 are attached by bolts and bushings to the angle pieces 23 which are in turn bolted or fastened to the motor support piece 24.

Minor changes in shape, size and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

What is claimed is:

1. In a motor mounting bracket, a pair of spaced parallel bars, a first pair of spaced parallel horizontally disposed tubular cross pieces extending between said bars, a bushing mounted in each end of each cross piece, securing elements extending through said bushings and engaging said bars, a pair of spaced parallel arms secured to each cross piece, a second pair of spaced parallel bars spaced from said first bars, securing elements pivotally connecting said arms to said second bars, and a rectangular base affixed to said second bars.

2. In a motor mounting bracket, a pair of spaced parallel bars, a first pair of spaced parallel horizontally disposed tubular cross pieces extending between said bars, a bushing mounted in each end of each cross piece, securing elements extending through said bushings and engaging said bars, a pair of spaced parallel arms secured to each cross piece, a second pair of spaced parallel bars spaced from said first bars, securing elements pivotally connecting said arms to said second bars, and a rectangular base affixed to said second bars.

3. The structure as defined in claim 2 and further including diametrically opposed support portions extending outwardly from said first bars, said support portions being provided with a plurality of spaced apart apertures therein, one of said cross pieces having its securing element extending through apertures in said support portions.

4. A motor mounting bracket comprising a pair of bars arranged in spaced parallel relation with respect to each other, a first pair of spaced parallel horizontally disposed tubular cross pieces extending between said pair of bars, a bushing mounted in each end of each cross piece, a securing element extending through said bushing and engaging a corresponding bar, a pair of spaced parallel arms secured to each cross piece, a second pair of spaced parallel bars spaced from said first bars, securing elements pivotally connecting said arms to said second bars, and a rectangular base affixed to said second bars, said first bars being reversible.

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