

Dec. 4, 1945.

H. B. TOBIAS

2,390,135

DOUBLE SWIVEL BRACKET FOR OUTBOARD MOTORS

Filed Sept. 13, 1944

Fig. 1.

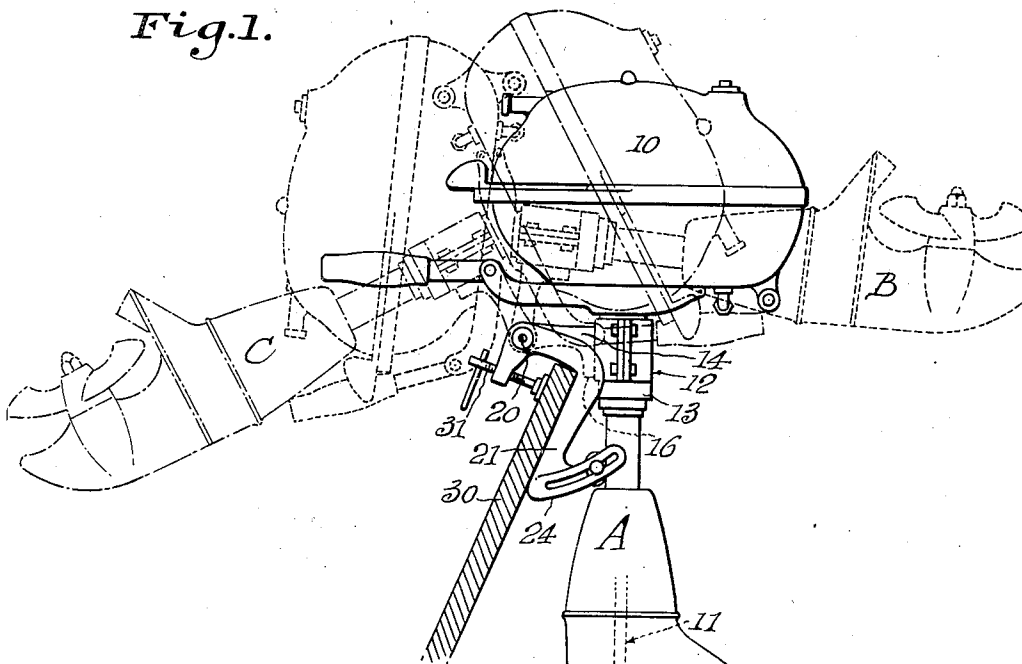


Fig. 3.

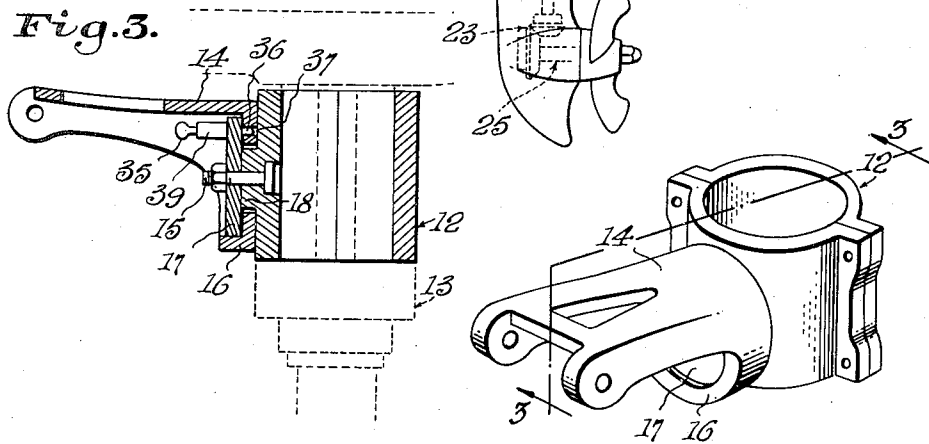


Fig. 2.

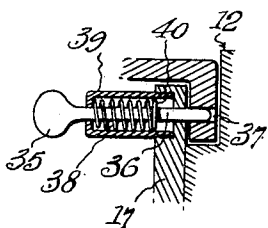


Fig. 4.

Inventor

Herrmann B. Tobias

By

Francis R. Dandeworth and
Joseph H. Brown

Attorneys

UNITED STATES PATENT OFFICE

2,390,135

DOUBLE SWIVEL BRACKET FOR OUTBOARD MOTORS

Herrmann B. Tobias, Washington, D. C.

Application September 13, 1944, Serial No. 553,856

1 Claim. (Cl. 248—4)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without payment to me of any royalty thereon.

This invention relates to small portable outboard motors that are attached to the stern transom of a boat for propulsion purposes.

The object of the present invention is to provide a novel swivel bracket that will enable the operator to swing the propeller end of the outboard motor out of the water and then swing said outboard motor in a horizontal plane so as to bring the propeller end within the area of the boat when it becomes necessary to repair the propeller or to clear it of snagging objects.

The above and further objects and novel features of the invention will more fully appear from the following detailed description and the accompanying drawing on which is shown only one of the preferred forms of this invention, it being understood that the drawing is for the purpose of illustration only and is not designed as a definition of the limits of the invention.

In the accompanying drawing like reference characters refer to like parts throughout the several views and where arrows appear the views are in the direction of said arrows.

Figure 1 is a side view of an outboard motor as it is attached to the stern transom of a boat.

Figure 2 is a perspective view of the swivel bracket of a stern bracket.

Figure 3 is a sectional view of the swivel bracket of the stern bracket taken on line 3—3 of the Figure 2.

Figure 4 is a detail of the locking pin.

In the existing art, small outboard motors consist of a power head 10 containing the engine mounted at the top of the driveshaft 11, carried by the swivel bracket 12, secured through the tilting bolt 20 to a stern bracket 21 which is attached to the stern transom 30 and secured in place by the clamp screws 31. The driveshaft 11 extends downward into the water and connects at the bottom, by means of enclosed bevel gears 23, to a horizontally mounted propeller shaft 25.

The motor driveshaft 11 is supported within the sleeve 13 of the swivel bracket 12 to permit the entire motor, with the propeller immersed in water, to rotate on a vertical axis for steering purposes. The tilting bolt 20 permits the motor to swing in a vertical plane from an immersed vertical position shown at A to a horizontal position shown at B in Figure 1. This tilting arrangement is also necessary to allow for a free and automatic tilt of the motor when passing

over a submerged obstruction or when it is necessary to beach the boat. The vertical position of the motor is regulated by a suitable thrust block bolted to quadrant 24 integral with the stern bracket 21.

With the present motor supports it is possible to steer a boat by turning the entire motor around a vertical axis and it is also possible to ride over obstructions by allowing the motor to swing freely in a vertical plane but when it becomes necessary to remove any obstructions from the propeller, or to replace a sheared propeller pin, or to clear the water scoop, or to make any other adjustments or repairs to the lower part of the motor assembly, it is necessary to remove the entire motor off the stern transom, a difficult and dangerous task while in a small boat since it may result in capsizing the boat or dropping the motor overboard.

My present invention overcomes this difficulty by a novel swivel bracket construction comprising two members 12 and 14, joined around the swivel bolt 15, disposed at an approximate right angle to both the axis of crankshaft sleeve 13 and tilting bolt 20.

A ring flange 16 integral with the member 14 and concentric with the bolt 15 is held in position against a boss 18 of the member 12 and by a retaining plate 17 which is secured by the swivel bolt 15.

The ring flange 16 is secured against rotation by a lock knob 35 integral with a locking pin 36 that is actuated by a spring 38 which retains the lock pin 36 engaged in register hole 37 of the ring flange 16. The expansion spring 38 bears against a flange 40 integral with the pin 36 and is housed in a cup case 39 secured to the retaining plate 17.

When the motor is in the horizontal position, as shown at B in Figure 1, a pull on the lock knob 35 disengages member 12 from member 14 of the swivel bracket and permits the rotation of member 12 of the swivel bracket in relation to member 14, allowing the entire motor assembly to swivel in a horizontal plane from the position shown at B to the position shown at C in Figure 1, thus bringing the propeller end of the motor within the boat. When the motor is swung into the position shown at C, it is possible for the operator to work on the lower or propeller end of the motor assembly in comfort and safety.

While there has herein been shown and described the invention in connection with a specific embodiment of the same, it is not intended to be limited to the specific details of construction shown and described, but only insofar as

defined by the spirit and scope of the appended claim.

Having thus described my invention, what I claim as new and wish to secure by Letters Patent is:

In combination with a stern bracket supporting a tilt bolt, an outboard motor swivel support comprising a member having one end thereof pivotally attached to said tilt bolt to permit rotation therearound and the other end thereof terminating in a ring flange, a sleeve supporting said

motor and having a boss thereon positioned in said ring flange, a retaining ring contacting said boss confining the ring flange between the retaining ring and the sleeve and permitting rotation around said boss, a bolt and nut assembly clamping said retaining ring to said boss, and a depression in said ring flange arranged to receive a releasable spring plunger attached to and extending through the retaining ring thereby locking the said members against rotation.

HERRMANN B. TOBIAS.