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SAFETY MOUNTING FOR OUTBOARD MOTORS

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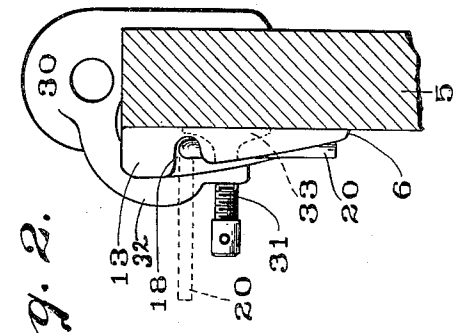


Fig. 2.

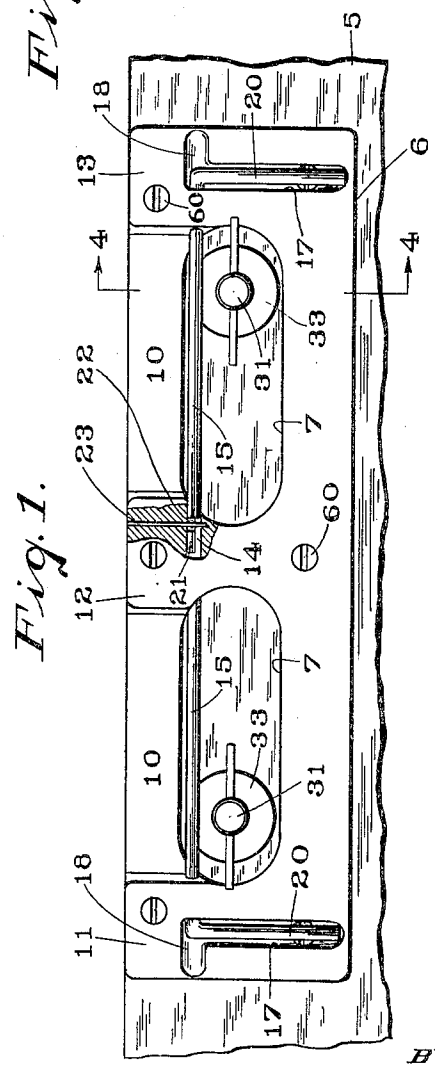


Fig. 1.

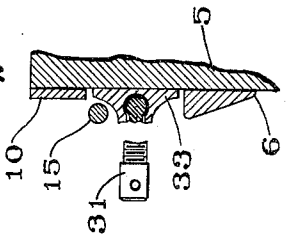


Fig. 4.

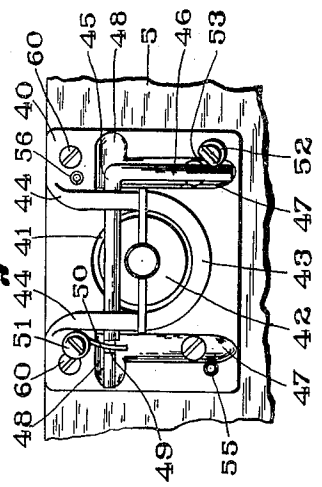


Fig. 3.

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SAFETY MOUNTING FOR OUTBOARD MOTORS

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3 Claims. (Cl. 248—4)

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This invention relates to safety mountings for boat outboard motors.

In attaching outboard motors to boats, it is the usual practice to secure them directly to the wooden transom of a boat by means of clamps which are tightened into place by one or more clamping screws having buttons directly in engagement with the wooden surface of the boat transom.

The gripping force of the clamping screws may be destroyed by the wetting of the transom, thereby reducing the frictional force between the clamping surfaces, or a clamping screw may become loosened due to the vibration of the motor and the forces set up by the thrust of the propeller.

In the usual arrangement, the loosening of the holding force between a clamping screw and the transom is very likely to cause the motor, if it is running, to be lifted from its support and lost overboard. In the case where two clamping screws are used, if one loses its clamping force, the motor may swing in a vertical plane to exert a lifting and turning force sufficient to capsize the boat.

It is one of the objects of my invention to eliminate these hazards by means of an attachment which will prevent vertical movement of the motor with respect to the transom in case the clamping force between the motor and the transom becomes reduced in the operation of the motor.

Another object of my invention is to provide a simple, sturdy safety support which may be easily secured to the boat.

Another object of my invention is to provide a securing means for outboard motors which will permit of easy attachment and removal of the motor.

Another object of my invention is to provide a safety attaching means for outboard motors adapted for use with different types of motors with a variation in distance between the clamping bolts of the motors.

Other objects and features of my invention will be apparent from the detail description and drawings, and will be pointed out in the claims.

My invention is illustrated in the accompanying drawings, in which

Fig. 1 is a front elevational view of one form of my invention.

Fig. 2 is an end elevational view of the device showing an outboard motor clamping member.

Fig. 3 is a front elevational view of a modified form of my invention, and

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Fig. 4 is a fragmentary sectional view taken upon line 4—4 of Fig. 1.

Referring first to Fig. 1 of the drawings, 5 is a fragmentary view of a boat transom to which the structure of my invention is applied. Attached to the transom 5 is a metal plate 6 which may be of cast aluminum, brass, bronze or other metal of a corrosive resistant character.

The plate 6 is generally rectangular in shape and is provided through its face with two uniformly spaced elongated openings 7 for the purpose to be hereinafter described. As shown in Fig. 2, the plate is provided with a thickened portion at its upper edge, and tapers from top to bottom except adjacent to and above the elongated openings 7, where it is provided with thin flattened surfaces 10. Portions 11, 12 and 13 of the plate which define the end limits of the elongated openings are of the greatest thickness at the upper portion of the plate. These thickened portions are each provided with a hole 14 running lengthwise of the plate 6, as indicated in the broken away portion of Fig. 1. Latching rods 15 extend through the drill holes 14 adjacent the upper edges of the elongated openings and slightly in front of them.

Adjacent the outer ends of the plate 6, the portions 11 and 13 are each provided with cutaway or grooved portions each comprising a vertical groove 17, and a horizontal portion 18. The horizontal portion provides a way or guide for withdrawing the latching rods 15. The vertical grooves are adapted to receive right angled ends 20, of the locking rods 15, in the locking positions of these rods. Each of the grooves 17 is sufficiently shallow at its lower end to expose the lower end of the right angled member 20 to permit its being grasped for turning. Each of the horizontal grooves 18 is of a depth to permit easy withdrawal of the rod 15 therethrough.

At its inner end, each of the latching rods 15 is provided upon one side with a flattened portion 21 and a notch or groove 22 to receive a latching strip or spring member 23. The spring member 23 extends vertically downward from the upper edge of the plate 6. While the structure is illustrated in connection with only one of the rods 15, it will be understood that both are exactly the same with respect to this feature.

In a normal position of a latching rod 15 with its right angled end 20 lying within the vertical groove 17, the spring member 23 will be within the groove 22. If the right angled end 20 of a rod 15 is swung from its vertical into a horizontal

position, as shown in dotted lines in Fig. 2, the flattened portion 21 will permit the rod 15 to be slid past the spring member 23 so that it may be withdrawn from the plate 6, through the groove 18.

In the use of this device, the plate 6 is secured to the inner face of a boat transom 5, by means of screws 60, in a position to receive clamp brackets 30 for an outboard motor. Threaded clamp screws 31, extending through an inner leg 32 of the bracket 30, carry clamp buttons 33 on their inner ends.

To mount the motor, the latching rods 15 are withdrawn from the plate and the clamp brackets are slid over the boat transom 5, and plate 6, until the clamp buttons 33 are opposite the elongated openings 7, through which they may be passed by turning the clamp screws 31 until they become firmly engaged with the inner face of the boat transom. When the clamp screws 31 are set in position, the latching rods 15 will be slid into position back of the upper portion of the buttons 33, and turned downwardly to engage the spring member 23 with the locking groove 22.

It will be noted by reference to Fig. 3 that the latching rod 15 is separated from the adjacent face of the button 33 a distance less than the thickness of the metal at the edge of the elongated opening 7, so that even though the clamp screw 31 should become loosened, it is limited in its backward movement to a distance equal to the space between the rod 15 and the adjacent face of the button 33. This movement will not be sufficient to permit the face of the button to clear the edge of the opening 15 so that double insurance against vertical movement of the motor is provided by this structure.

Fig. 3 illustrates the invention as applied to a single clamping screw such as may be used with the smaller type motors. In this modification there is shown a plate 40, provided with a single circular opening 41, to receive a clamp screw button 42. The metal of the plate 40, surrounding the opening 41, is raised or projected outwardly from the face of the plate to provide a semi-circular or U-shaped projection 43, having legs 44, which extend upwardly to the upper edge of the plate 40. Aligned openings through the legs 44 receive a latching bar, comprising a horizontal portion 45, and a right angled portion 46. The plate 40 is provided at each end with vertical depressions 47 and horizontal depressions 48 to receive and permit the removal of the latching bar. A notch or groove 49 in one end of the latching bar receives a latching spring 50, secured by a screw 51, upon the face of the plate 40. A screw 52, having its head flattened upon one side, as at 53, is secured in the plate 40 adjacent the lower end of the vertical groove or depression 47, and may be turned to engage and lock the lower end of the right angled portion of the latching bar.

By moving the screw 52 from the lower righthand corner of the plate 40 to the hole 55, provided at the lower lefthand corner, and the screw 51 from the upper lefthand corner to the hole 56 in the upper righthand corner of the plate 40, the device may be converted from righthand operation to lefthand operation.

A modification of the device which will readily suggest itself to one skilled in the art, will be the use of a single elongated latch mechanism as shown in Fig. 3 in place of the double latch mechanism shown in Fig. 1.

The device of this invention provides a simple, easily applied safeguard for the lives and equipment of the users of outboard boat motors. By its use, all danger of the motor jumping from the boat in case the clamping screws become loosened will be obviated so long as the latch mechanism is in place. The simplicity of the apparatus makes it an easy matter to attach and detach a motor, thus readily adapting itself to a quick change of motors as may ofttimes be necessary in outboard motor boat races.

Because of the elongated openings 7 in the device of Fig. 1, this form may be used for different types and sizes of motors where there is a variation in separation of the clamping screws.

Although I have shown and described my invention with respect to certain details of construction, it is to be understood that I do not wish to be unduly limited thereto, many modifications being possible without departing from the spirit or scope of my invention.

I claim:

1. The combination with a boat transom and an outboard clamping screw, of a safety attachment for the motor comprising a plate secured to the transom, said plate being provided with a transverse opening to receive the clamping screw button, and with longitudinally aligned openings spaced horizontally and forward of the button receiving opening and a retaining member removably supported in the longitudinal openings.

2. The combination with a boat transom and an outboard motor clamping screw, of a safety attachment for the motor comprising a metal plate secured to the transom of the boat, said plate being provided with a transverse opening to receive the clamping screw button and with longitudinally aligned openings forward of and above the transverse opening, a retaining member longitudinally and rotatably movable in the aligned openings, and means for latching the retaining member in one position of its rotational movement.

3. The combination with a boat transom and an outboard motor clamping screw, of a safety attachment for a motor comprising a plate secured to the transom, said plate being provided with a transverse opening to receive the clamping screw button and with longitudinally aligned openings spaced horizontally forward of the button receiving opening a distance less than the thickness of the button and a button retaining member extending through the longitudinally aligned openings.

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REFERENCES CITED

The following references are of record in the file of this patent:

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