May 1, 1951 G. M. GRIGG 2,551,371

THRUST STABILIZER FOR OUTBOARD MOTORS

Filed July 22, 1949 2 Sheets-Sheet 1

FIG. 1.

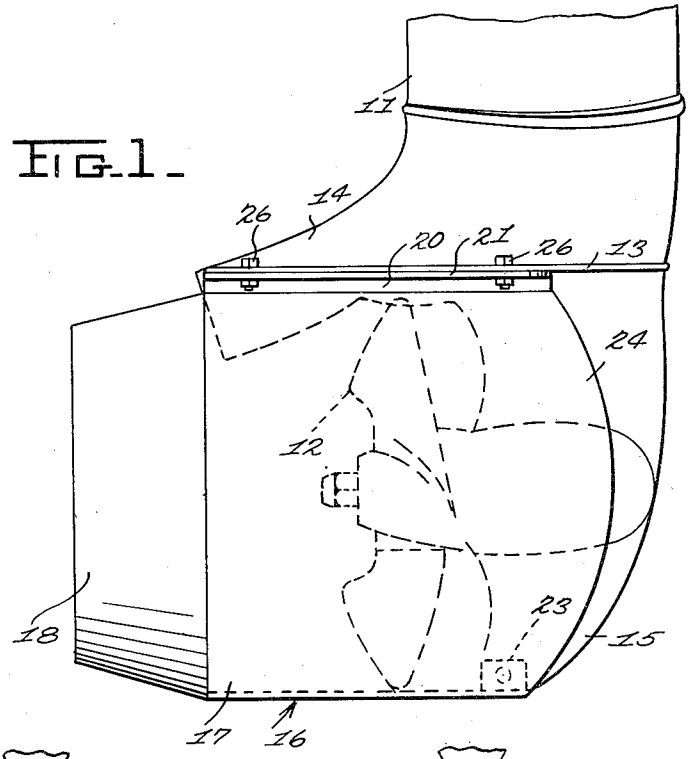


FIG. 2.

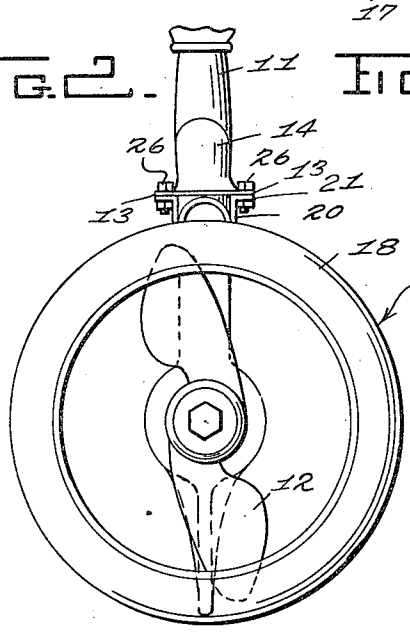
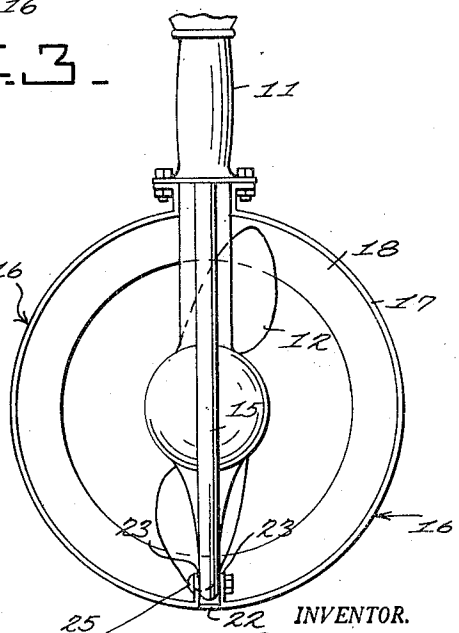


FIG. 3.



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Filed July 22, 1949 2 Sheets-Sheet 2

FIG. 4.

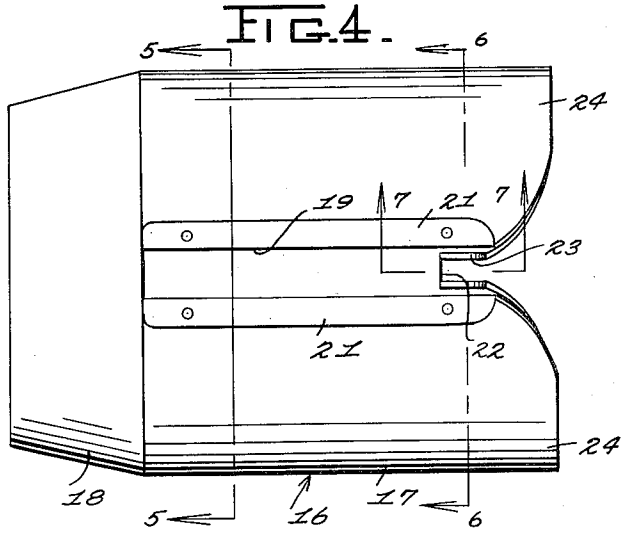


FIG. 5.

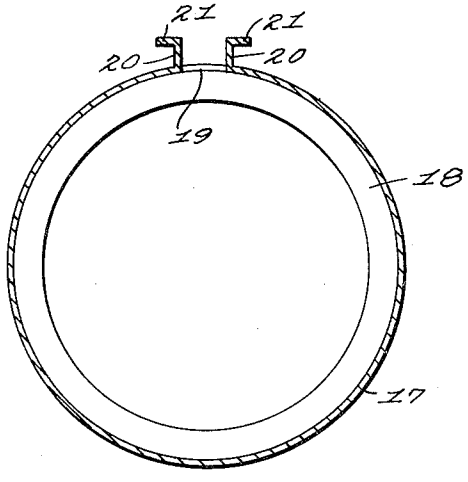


FIG. 6.

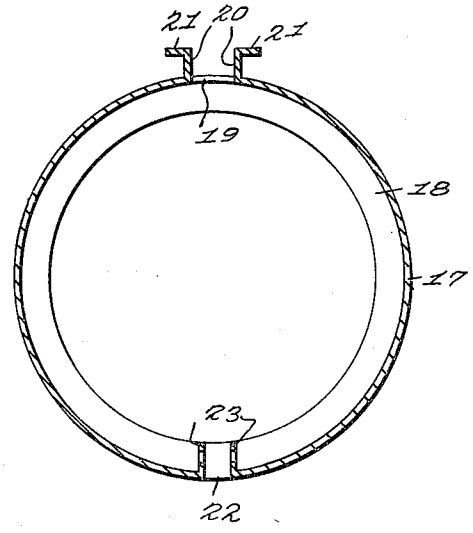
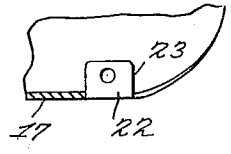


FIG. 7.



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Patented May 1, 1951

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UNITED STATES PATENT OFFICE

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THRUST STABILIZER FOR OUTBOARD MOTORS

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Application July 22, 1949, Serial No. 106,283

2 Claims. (Cl. 115—17)

1

This invention relates to propeller thrust stabilizing attachments for outboard motors, and more particularly to a stabilizing shield adapted to be mounted on an outboard motor around the propeller thereof, said shield being arranged to eliminate the churning effect ordinarily produced by the propeller, and to reduce the wave produced by the motor when mounted on a craft.

A main object of the invention is to provide a novel and improved thrust stabilizer for outboard motors which is very simple in construction, easy to install, which greatly increases the efficiency of the motor, and which provides a more positive longitudinal thrust than is possible to obtain with outboard motors not provided with the attachment of the present invention.

A further object of the invention is to provide an improved thrust stabilizing attachment for outboard motors which is very inexpensive to manufacture, which reduces the churning effect and reduces the amplitude of waves created by the motor when attached to a craft, thereby reducing hazards to nearby light craft, such as canoes and the like, and reducing the amount of disturbance created by operation of the motor at idling speeds, whereby fishing operations may be carried on without stopping the motor.

Further objects and advantages of the invention will become apparent from the following description and claims, and from the accompanying drawings, wherein:

Figure 1 is a side elevational view of the lower portion of a conventional outboard motor provided with a thrust stabilizing attachment constructed in accordance with the present invention;

Figure 2 is a rear end elevational view of the thrust stabilizing attachment as mounted in the manner shown in Figure 1;

Figure 3 is a forward end elevational view of the attachment as mounted in Figure 1;

Figure 4 is a top plan view of the attachment employed in Figure 1;

Figure 5 is a cross-sectional view taken on line 5—5 of Figure 4;

Figure 6 is a cross-sectional view taken on line 6—6 of Figure 4;

Figure 7 is an enlarged cross-sectional detail view taken on line 7—7 of Figure 4.

Referring to the drawings, 11 designates the lower portion of a conventional outboard motor, the propeller thereof being shown at 12. Above the propeller 12 the motor body is formed with

2

the usual horizontal glider ribs 13, 13 and with the vertical trailing rib or vane 14. The body of the motor is likewise formed forwardly of the propeller 12 with the vertical leading rib 15.

Designated generally at 16 is the propeller thrust stabilizing attachment. Said attachment comprises a large cylindrical body member 17 formed at its rear end with an inwardly-tapering skirt 18. The top of body member 17 is formed with a longitudinal opening 19 having the upstanding marginal flanges 20, 20, each flange 20 being bent outwardly at its top portion, as shown at 21. As clearly shown in Figure 4, the slot 19 extends along the top of the body member 17 and has one end terminating contiguous to the tapering skirt 18 and has the other end terminating contiguous to the free end of the body member 17. At its rear bottom portion, body member 17 is notched, as shown at 22, and is formed with upstanding parallel apertured lugs 23, 23 at the side margins of the notch 22. The side portions of the body member 17 extend forwardly of the notch 22 and flanges 22, as shown at 24.

As shown in Figures 1 to 3, the attachment 16 is secured to the lower portion 11 of the outboard motor around the propeller 12 and coaxially therewith, the radial plane of the propeller being located well within the cylindrical body portion 17 of the attachment. The leading vertical rib 15 is received in the lower notch 22 and is secured between the lugs 23, 23 by a transverse bolt 25. The trailing vertical rib 14 is received in the top longitudinal opening 19 of body portion 17 between the flanges 20, 20 and the horizontal flange portions 21, 21 are respectively secured to the under sides of the glider rib 13 by bolts 26.

In operation, the attachment acts as a longitudinal conduit and the propeller forces water through said conduit, producing a longitudinal thrust at the discharge end 18 thereof (for forward propulsion). The attachment completely damps out lateral pulsations produced by the propeller and converts said lateral pulsations into longitudinally-directed pulses of force, greatly increasing the propulsion efficiency of the propeller 12 and reducing the amount of disturbance in the water radially of the propeller shaft.

The tapered skirt 18 improves the action of the attachment by operating as a nozzle to insure longitudinal rearward emission of water from the cylindrical body portion 17. The usual churning effect obtained from outboard motors is thereby completely eliminated and the amplitude of the lateral waves produced by the craft, when trav-

eling is substantially reduced. This minimizes hazards to adjacent light craft, such as canoes or the like.

The use of the attachment of the present invention also enables fishing operations to be carried on while the motor is running, since the water adjacent the motor is shielded against disturbances by said attachment.

Although a specific embodiment of a thrust stabilizing attachment for outboard motors has been disclosed in the foregoing description, it is understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. A propeller thrust stabilizer for attachment to an outboard motor including a motor body formed with opposed horizontal glider ribs, a vertical trailing rib positioned contiguous to the rear end of said glider ribs and dependingly supported therefrom, a vertical leading rib positioned contiguous to the forward end of said glider ribs and dependingly supported therefrom, and a propeller positioned below said glider ribs intermedaite the ends thereof and mounted on said body for rotary movement, said stabilizer comprising an open ended cylindrical conduit member positioned below said glider ribs and adapted to house said propeller axially therein, the top of said member being formed with means for receiving said vertical trailing rib, means extending through said top and adapted for engagement with said glider ribs for securing said member to the latter in surrounding relation with respect to said propeller, the bottom of said member contiguous to the end adjacent said vertical leading rib being provided with means for receiving said vertical leading rib, and securing means extending through said bottom and adapted for engagement with said vertical leading rib for securing said member to said vertical leading rib.

2. A propeller thrust stabilizer for attachment to an outboard motor including a motor body formed with opposed horizontal glider ribs, a

vertical trailing rib positioned contiguous to the rear end of said glider ribs and dependingly supported therefrom, a vertical leading rib positioned contiguous to the forward end of said glider ribs and dependingly supported therefrom, and a propeller positioned below said glider ribs intermediate the ends thereof and mounted on said body for rotary movement, said stabilizer comprising an open ended cylindrical conduit member positioned below said glider ribs and adapted to house said propeller axially therein, the top of said member being formed with means for receiving said vertical trailing rib, means extending through said top and adapted for engagement with said glider ribs for securing said member to the latter in surrounding relation with respect to said propeller, the bottom of said member contiguous to the end adjacent said vertical leading rib being provided with means for receiving said vertical leading rib, and securing means extending through said bottom and adapted for engagement with said vertical leading rib for securing said member to said vertical leading rib, and a skirt positioned in end to end aligned relation with respect to the other end of said member and having one end secured thereto and having the other end terminating at a point spaced rearwardly of said member, said skirt being tapered inwardly from said one end toward said terminating end.

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