July 24, 1951 E. R. SEWARD 2,561,539

SUBMERSIBLE MARINE STABILIZER FOR BOATS

Filed Oct. 19, 1949

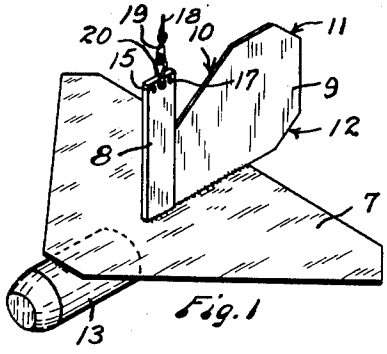


Fig. 1

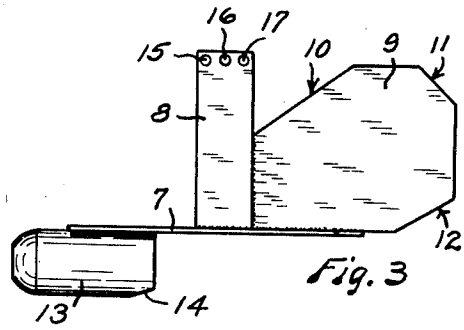


Fig. 3

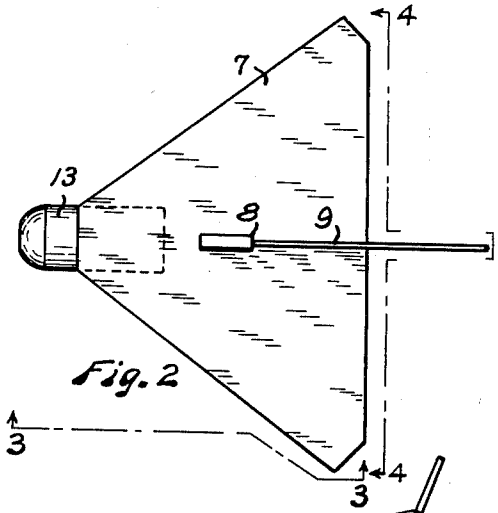


Fig. 2

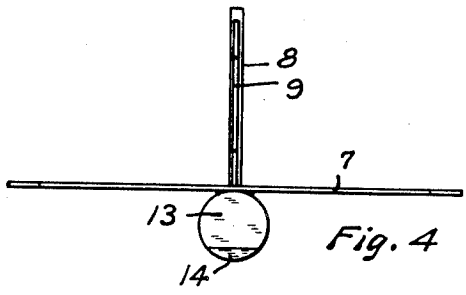


Fig. 4

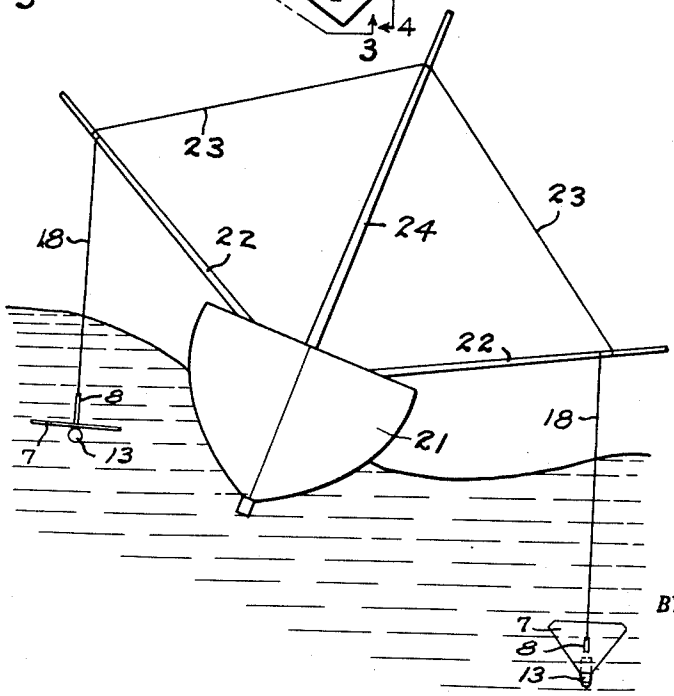


Fig. 5

INVENTOR.
Eugene R. Seward
BY
Fred C. Matheny
ATTORNEY

Patented July 24, 1951 2,561,539

UNITED STATES PATENT OFFICE

2,561,539

SUBMERSIBLE MARINE STABILIZER FOR BOATS

Eugene R. Seward, Neah Bay, Wash.

Application October 19, 1949, Serial No. 122,304

7 Claims. (Cl. 114—126)

1

This invention relates to submersible marine stabilizers of a type adapted to be suspended from two outwardly and upwardly extending main poles on opposite sides of a fishing boat so that the stabilizers will be submerged in the water alongside the boat.

Some fishing boats of a type used for fishing in rough water are equipped with main poles extending outwardly and at an upward angle from the deck of the boat usually about midway of the length of the boat. To stabilize these boats and minimize the roll of such boats in rough water it is common practice to hang stabilizers from these main poles. The stabilizers heretofore used have not been entirely satisfactory and it is an object of this invention to improve stabilizers of this type so that they will have greater utility and a wider range of usefulness as respects their operation at anchor and at different speeds of the boat and so that they will be more efficient in minimizing the roll of the boat in rough water.

Another object is to provide a stabilizer of this type which will operate efficiently when the boat with which it is connected is at anchor or when such boat is moving at relatively slow trolling speeds or is moving at faster cruising speeds and to provide stabilizer which will move through the water smoothly and without weaving and without objectionable drag on the boat.

Another object is to provide a stabilizer of this type which will operate smoothly to minimize rolling of a boat without exerting any jerking action on the boat or on the rigging by which it is connected with the boat.

Another object of this invention is to provide a submersible marine stabilizer of this type comprising a stabilizer plate of generally triangular shape having a stabilizer mast rigidly attached to its central portion and extending perpendicularly therefrom for connection with a suspension cable and having a weight attached to the front end portion of the stabilizer plate and having a fixed rudder perpendicular to the plate and extending rearwardly from the stabilizer mast.

Other objects of the invention will be apparent from the following description taken in connection with the accompanying drawings.

In the drawings Figure 1 is a perspective view of a submersible marine stabilizer constructed in accordance with this invention.

Fig. 2 is a plan view of the same.

Fig. 3 is a side elevation of the same looking in the direction of broken line 3—3 of Fig. 2.

Fig. 4 is a rear elevation looking in the direction of broken line 4—4 of Fig. 2.

Fig. 5 is a somewhat diagrammatic view in front elevation showing two of these submersible marine stabilizers secured to the main poles of a fishing boat.

2

Like reference numerals designate like parts throughout the several views.

This marine stabilizer comprises a stabilizer plate 7 of approximately the shape of an isosceles triangle. Preferably each of the corners of this triangular stabilizer plate are cut off as best shown in Figs. 1 and 2 so that the plate will not have any sharp corners and is safer to handle.

A perpendicular post or stabilizer mast 8 is rigidly secured to the stabilizer plate 7 approximately in the center of said plate and extends upwardly therefrom. A flat rudder or fin member 9 is rigidly secured to the stabilizer plate 7 and to the mast 8 and extends rearwardly from the mast 8. The fin 9 is positioned substantially perpendicular to the stabilizer plate 7 to the rear of the mast 8 and extends beyond and overhangs the rear edge of the stabilizer plate 7.

Preferably three corner positions of the fin 9 are beveled or rounded off as indicated at 10, 11 and 12 in the drawings.

Obviously the fin 9 and mast 8 can be one integral piece of metal. Also obviously the shape of the stabilizer plate 7 can be varied as long as said plate is plane and flat and is of substantially greater area at the rear edge portion than it is at the front edge or corner portion. Also the shape of the mast 8 can be varied considerably and the mast can still function as a lever arm rigid with the plate and providing a point of connection with a supporting cable which is at a substantial distance from the plate and approximately over the central portion of the plate and which is in a plane which is perpendicular to the plate and which bisects the plate and which passes through the center of the weight 13.

A weight 13 is rigidly secured to the bottom of the stabilizer plate 7 forwardly of the mast 8 and in alignment with said mast. The shape of this weight 13 can be varied but I prefer to make this weight 13 of cylindrical shape and to have it spherically rounded at the forward end. Also preferably the bottom of this weight 13 is beveled at the rear end to provide a flat surface 14 which will rest squarely on a deck without marring the deck or scraping the paint off of said deck when the rear edge portion of the stabilizer plate is resting on a deck.

The top end portion of the stabilizer mast 8 is provided with a plurality of spaced apart holes such as the three holes 15, 16 and 17 whereby a cable 18 can be adjustably connected with said mast 8 for the purpose of supporting the stabilizer in the water. Preferably the cable 18 is connected with the stabilizer mast 8 by a swivel 19 and clevis 20, as shown in Fig. 1. This provides means to prevent twisting or untwisting of the cable 18 and also provides means by which the connection of the cable 18 can be quickly

and easily changed from one hole 15, 16 or 17 to another.

When a boat equipped with my stabilizers is at anchor then preferably each cable is connected with the rear hole 17 of the stabilizer mast 8. If the boat is to be moved at a slow speed or trolling speed then the cable 18 is preferably connected with the medial hole 16. If the boat is to be moved at a faster than trolling speed or at a cruising speed then the cable 18 is preferably connected with the foremost hole 15. For a cruising speed in the order of six to nine miles per hour it is desirable to connect the cable 18 with the foremost hole 15 in order to balance the stabilizer so that it will tend to move through the water with the plate 7 substantially horizontal. This minimizes the drag or resistance of the stabilizer to forward movement of the boat. The action of the stabilizer will, of course, be modified by the rolling of the boat. Similarly for trolling speeds in the order of one and one half to three miles per hour connection of cable 18 with medial hole 16 provides the balance best calculated to cause the plate 7 to move horizontally through the water with minimum drag. Connection of cable 18 with rear hole 17 provides a balance which causes the stabilizer to operate in the most satisfactory manner when a boat is at anchor. I prefer to provide for adjusting the point of connection of the cable 18 with the stabilizer mast 8, as just hereinbefore described, and can obtain better and smoother operation of the same in that manner but I find that the stabilizer will operate in a fairly satisfactory manner either with the boat an anchor or moving at trolling speed or cruising speed and with the cable 18 connected with any of the holes 15, 16 or 17 in the stabilizer mast 8.

Preferably two of these stabilizers are connected with a fishing boat 21, or with any similar boat, by attaching the cables 18 to main poles 22 which extend sidewise and upwardly from the boat 21 approximately mid way between the two ends of said boat. The main poles 22 are trussed by supporting lines 23 which are secured to a mast 24 of the boat and are connected with the outer end portions of the main poles 22 near the point of connection of the cables 18. The rudder 9 serves to hold the stabilizer on a true course when the boat with which it is connected is moving through the water. This rudder is positioned to the rear of the stabilizer mast 8 with which the cable 18 is connected and will always operate to keep the stabilizer pointed in the direction in which the boat is moving and will prevent weaving of the stabilizer as it is drawn through the water.

When two of these stabilizers are connected with the main poles 22 of a boat 21, as shown in Fig. 5, they will operate in the following manner to stabilize the boat and minimize the rolling of said boat in a rough sea. If the boat rolls to either side obviously one stabilizer will move downwardly and the other stabilizer will be moved upwardly in the water. The main plate 7 of the stabilizer which is being moved upwardly will be approximately horizontal in the water and will tend to retard or decrease the roll of the boat. The weight 13 of the stabilizer which is moving downwardly in the water will orient the plate 7 of this stabilizer into approximately a vertical position and this downwardly moving stabilizer will "dive" or will move downwardly as fast as the slackening of its cable 18 will permit. As soon as the boat starts to roll in an opposite direction the action of the two stabilizers will be reversed with

the previously horizontal stabilizer plate 7 assuming a vertical position and diving or moving downwardly in the water and the previously vertical stabilizer plate 7 assuming a substantially horizontal position so that it offers maximum resistance to the roll of the boat which tends to lift it upwardly through the water.

The plate 7, mast 8, weight 12, and pin 9 are proportioned and positioned and dimensioned so that they cooperate to provide a highly efficient stabilizer capable of minimizing the rolling of a boat in rough water irrespective of whether the boat is at anchor or is moving at cruising speed or at trolling speed. The weight 13, being secured to a corner portion of the triangular plate 7 causes the plate 7 to quickly move from a horizontal to a vertical position when the cable which supports said plate is slackened. This is because the water tends to support the rear edge portion of the plate, which is of relatively large area, while the weight 13 carries downwardly the forward end portion of the plate, which is of smaller area. The plate 7 thus pivots about its own rear edge portion in angularly moving from a substantially horizontal to a substantially vertical position.

In a similar manner the plate 7 is very quickly angularly moved from a substantially vertical to a substantially horizontal position by an upward pull exerted on the cable 18. When said plate 7 is thus moved from a vertical to a horizontal position by the upward lift of the cable 18 the leverage afforded by the stabilizer mast 8 and upward pressure of the relatively wide rear end portion of the plate 7 against the water helps to orient the plate 7 quickly. Thus the retarding pull of the stabilizer will be exerted on the cable 18 the instant upward movement of said cable begins. As the boat rolls toward a stabilizer and then reverses its direction of roll the stabilizer first dives rapidly and then quickly resumes a horizontal position. This insures that there will not be any slack to take out of the cable when the boat reverses its direction of roll, consequently there will not be any jerk or abrupt retarding force applied to the cable 18 or poles 22 and other rigging.

These stabilizers will operate efficiently to minimize the roll of a boat in rough water either when the boat is at anchor or is moving at trolling speed or at cruising speed. This makes it possible to operate a fishing boat in rougher water than it can be operated in without the stabilizer and in so doing often makes it possible to operate a boat more hours per day. Also the use of these stabilizers make it safer and easier to work on the deck of a boat in rough water. Also the use of these stabilizers on a boat at anchor often makes it possible to sleep comfortably in a bed or bunk on a boat, which without the stabilizers, would roll so badly as to make it impossible for a person to stay in the bunk.

The foregoing description and accompanying drawings clearly disclose a preferred embodiment of my invention but it will be understood that changes in the same may be made within the scope of the following claims.

I claim:

1. In a submersible marine stabilizer, a flat stabilizer plate adapted to be suspended in the water alongside of a boat clear of the boat, said plate being of decreasing area from its rear toward its front portion; a weight carried by the front portion of said plate; and stabilizer mast means rigid with the stabilizer plate, said mast means having cable connection means positioned

outwardly a substantial distance from the medial portion of the stabilizer plate and in a plane perpendicular to the plate and which bisects the plate and passes through the center of mass of said weight.

2. In a submersible marine stabilizer, a flat stabilizer plate adapted to be suspended in the water alongside of a boat clear of the boat, said plate being of decreasing area from its rear toward its front portion; a weight carried by the front portion of said stabilizer plate; stabilizer mast means rigid with the stabilizer plate, said mast means having cable connection means positioned outwardly a substantial distance from the medial portion of the stabilizer plate and in a plane which is perpendicular to the plate and which bisects the plate and which passes through the center of mass of said weight, and a flat rudder member rigid with the plate and perpendicular to the plate and positioned in said aforementioned bisecting plane to the rear of said cable connection means.

3. In a submersible marine stabilizer, a flat triangularly shaped stabilizer plate adapted to be suspended in the water alongside of a boat clear of the boat; a weight secured to one corner portion of said stabilizer plate; and a stabilizer mast means rigid with the stabilizer plate, said mast means having cable connection means positioned outwardly a substantial distance from the medial portion of the stabilizer plate and in a plane which is perpendicular to the plate and which bisects the plate and passes through the corner of the plate to which said weight is secured.

4. In a submersible marine stabilizer, a flat stabilizer plate adapted to be suspended in the water alongside of a boat clear of the boat, said plate being substantially the shape of an isosceles triangle; a weight secured to one corner portion of said stabilizer plate; stabilizer mast means rigid with the stabilizer plate, said mast means having cable connection means positioned outwardly a substantial distance from the medial portion of the stabilizer plate and in a plane which is perpendicular to the plate and which bisects the plate and passes through the corner of the plate to which said weight is secured; and a flat rudder member rigid with the plate and perpendicular to the plate and positioned in said aforementioned bisecting plane to the rear of the cable connection means of said mast means.

5. In a submersible marine stabilizer, a triangularly shaped stabilizer plate adapted to be suspended in the water alongside of a boat clear of the boat; a weight secured to one corner portion of said plate; and a stabilizer mast rigidly secured to a medial portion of said plate and extending substantially perpendicularly from said plate, the outer end portion of said mast having means for the connection therewith of a supporting cable.

6. In a submersible marine stabilizer, a flat stabilizer plate of generally triangular shape adapted to be suspended in the water alongside of a boat clear of the boat; a weight secured to the forward corner portion of said plate; and a stabilizer mast rigidly secured to a medial portion of said plate and extending substantially perpedicularly from said plate, said stabilizer mast having a plurality of spaced apart holes in its outer end portion whereby a supporting cable can be adjustably connected with said mast.

7. In a submersible marine stabilizer, a substantially triangularly shaped stabilizer plate adapted to be suspended in the water alongside of a boat clear of the boat; a weight secured to the forward corner portion of said plate; a stabilizer mast rigidly secured to a medial portion of said plate and extending substantially perpendicularly from said plate in a plane which is perpendicular to said plate and which bisects said triangular plate and which passes through said weight; a supporting cable connected with the outer end portion of said stabilizer mast; and a fixed rudder member perpendicular to said plate and positioned to the rear of said stabilizer mast in the aforementioned plane which bisects said plate.

EUGENE R. SEWARD.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
513,856	Zertuche	Jan. 30, 1894
1,261,168	Sachar	Apr. 2, 1918
1,299,186	Imaizumi	Apr. 1, 1919
1,325,385	Watlington	Dec. 16, 1919