Feb. 15, 1938. C. S. ATWELL 2,108,574

BOAT

Filed Jan. 18, 1937

Fig. 1.

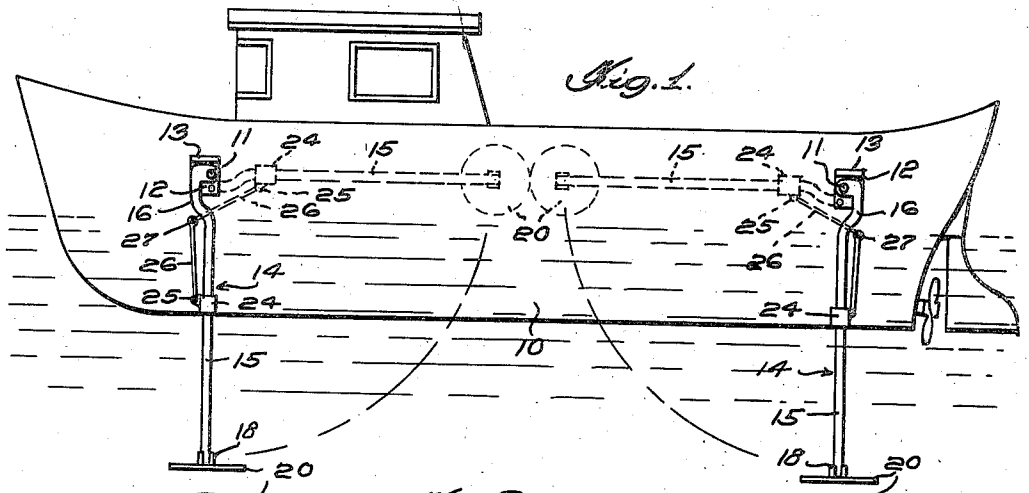
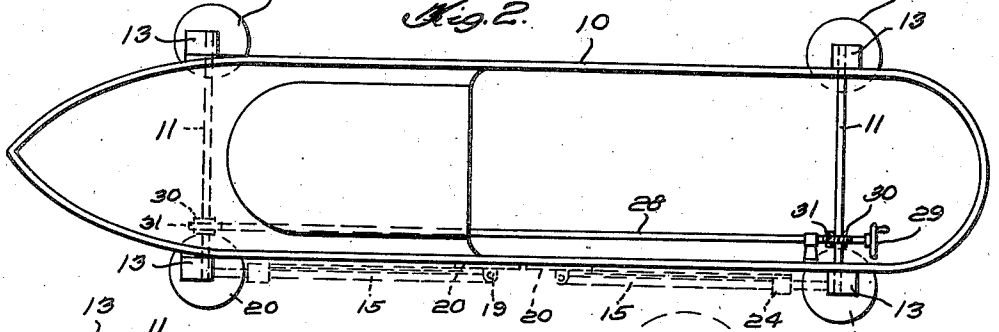


Fig. 2.



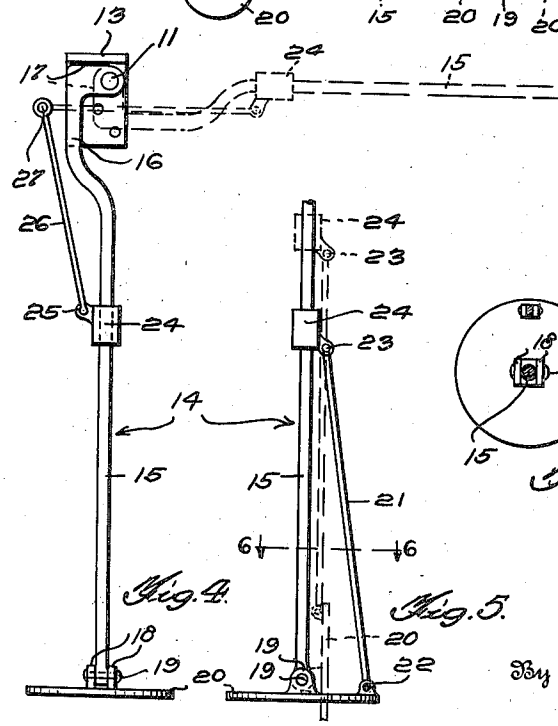


Fig. 4.

Fig. 5.

Fig. 6.

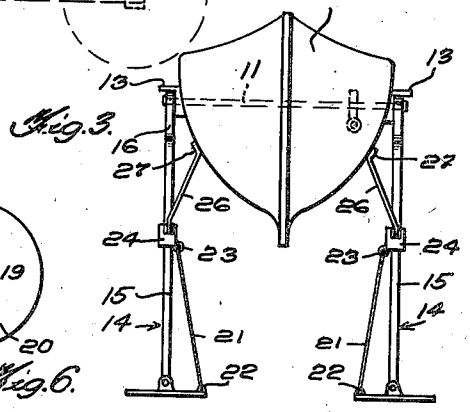


Fig. 3.

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Patented Feb. 15, 1938 2,108,574

UNITED STATES PATENT OFFICE

2,108,574

BOAT

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Application January 18, 1937, Serial No. 121,202

4 Claims. (Cl. 114—126)

My invention relates to improvements in boats, and has particular reference to apparatus applied to boats to serve as a stabilizer and to prevent rocking or like movements of the boat.

An important object of the invention is to provide apparatus of the above-mentioned character, which may be easily applied to a boat, and which may be adjusted so that it will be out of contact with the water, thereby not interfering with the normal travel of the boat.

A further object of the invention is to provide reliable and simple means for shifting elements of the apparatus into the lowered position, whereby the same will hold the boat against rocking or other movements.

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

In the accompanying drawing, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of apparatus embodying my invention, showing the same applied to a boat,

Figure 2 is a plan view of the same,

Figure 3 is an end elevation of the apparatus and boat,

Figure 4 is an enlarged side elevation of one of the stabilizing elements,

Figure 5 is a similar view taken at a right angle to Figure 4, and

Figure 6 is a horizontal section taken on line 6—6 of Figure 5.

In the drawing, wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 10 designates the hull of a boat, of any suitable size or construction. Extending transversely through the forward and rear end portions of the hull 10 are horizontal rock shafts 11, journaled in openings formed in brackets 12. These brackets are rigidly attached to the outer side of the hull 10. Each bracket is provided at its top with a horizontal outwardly projecting flange 13. Each rock shaft extends outwardly beyond the brackets 12, and carries at its ends a pair of stabilizing elements, designated as a whole by the numeral 14. Each stabilizing element embodies a rigid rod or arm 15, which is preferably straight throughout the major portion of its length. At its inner end, the rod 15 is offset to provide an L-shaped attaching portion 16, having a horizontal shoulder 17, to engage beneath the stop flange 13. The free end of this L-shaped attaching portion is apertured to receive the rock shaft 11, which is rigidly held within this aperture. It is thus seen that when the rock shaft is turned in one direction, the pair of rods 15 carried thereby will be swung upwardly to a substantially horizontal position, and when the rock shaft is turned in the opposite direction, the rods will be swung downwardly to a substantially vertical position, the limit of downward movement being effected when the horizontal shoulders 17 engage the stop flanges 13.

The lower end of each rod 15 is apertured and is placed between a pair of apertured knuckles 18, and these parts are pivotally connected by a pin or bolt 19. The apertured knuckles are rigidly secured to stabilizing discs 20. A rigid rod or link 21 is pivotally connected with the disc 20 near its periphery, as shown at 22, and the opposite end of the rod is pivoted, as shown at 23, upon a sliding sleeve 24, mounted upon the rod 15. This sliding sleeve has pivotal connection, as shown at 25, with an operating link 26, which is rigid, and which is pivotally mounted upon the hull of the boat, as shown at 27. The pivot 27 is spaced from the pivot 11 and is so correlated with the same, that when the rod 15 is swung upwardly to the horizontal position, the sleeve 24 will be drawn toward the L-shaped attaching portion 16. This movement of the sleeve will swing the disc 20 upon its pivot so that it will be substantially parallel with the side of the boat. By virtue of the collapsed arrangement of the disc, the rod 15 may be arranged in substantial close relation to the hull of the boat when raised.

In order that both rock shafts 11 may be simultaneously turned, I provide a longitudinal shaft 28, journaled in suitable bearings, and provided at its rear end with a hand wheel 29, or the like, to turn the same. This rock shaft has worms 30, engaging worm wheels 31, carried by the rock shafts. The pitch of the worm and worm wheel associated with one rock shaft, is opposite to that of the worm and worm wheel associated with the other rock shaft, so that these rock shafts are turned in opposite directions. This drive not only serves to raise and lower the several rods 15, but will serve to lock the same in the adjusted raised or lowered positions.

When the several rods 15 are in the upper horizontal position, the discs 20 are above the water level and hence do not interfere with the normal travel of the boat. When the rods 15 are in the depending vertical position, the discs 20 are horizontal and at a substantial elevation below the level of the water. These horizontally arranged discs now serve to stabilize the boat, preventing

rocking or like movements of the boat, which frequently cause seasickness, when a boat is anchored, as when fishing.

The stabilizing apparatus may be applied to a small boat, such as a row boat, or a larger boat, or a ship, or to floats or landing platforms. The size of the stabilizing apparatus will naturally vary depending upon the size of the boat to which the same is applied.

It is to be understood that the form of my invention herewith shown and described is to be taken as the preferred example of the same, and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having fully described my invention, what I claim is:

1. The combination with a floating body, of an arm pivotally connected with the floating body at a point substantially above the level of the water so that the arm may be swung to generally horizontal and vertical positions, a plate pivotally mounted upon the arm to assume a position with its surface at substantially a right angle to the longitudinal axis of the arm and to be shifted from this position so that its surface will be generally parallel with the longitudinal axis of the arm, a sleeve slidable upon the arm, a link connecting the sleeve and plate, and a second link pivotally connected with the sleeve and means pivotally connecting the second link with the floating body and being eccentric with respect to the pivot of the arm.

2. The combination with an elongated floating body, of an arm pivotally connected with the floating body to swing substantially vertically in a direction longitudinally of the longitudinal axis of the floating body, a plate hinged to the arm near its free end to swing with relation thereto in a direction at substantially a right angle to the direction of swinging movement of the arm so that the plate may assume a folded position between the arm and floating body and be generally parallel with such arm and floating body and means automatically operated upon the swinging of the arm to the upper position to swing the plate upon the arm to the folded position.

3. A combination with an elongated floating body, of an arm pivotally connected with the floating body to swing substantially vertically in a direction longitudinally of the floating body, means to swing the arm, a plate hinged to the arm near its end so that the plate is adapted to swing in a direction at substantially a right angle to the direction of swinging movement of the arm, a sleeve slidably mounted upon the arm, a link pivotally connected with the sleeve and arranged upon that side of the arm next to the floating body and having pivotal connection with the plate, and a second link pivotally connected with the sleeve and the floating body.

4. A combination with a floating body, of a bracket attached to the floating body and provided with a generally horizontal stop flange, an arm provided with an offset attaching portion, means to pivotally connect the offset attaching portion with the bracket so that the offset attaching portion is arranged beneath the flange to engage therewith when the arm is swung to a lower substantially vertical position, the arm swinging in a direction longitudinally of the longitudinal axis of the floating body, a plate hinged to the arm, a sleeve slidable upon the arm, means connecting the sleeve and plate, a link pivotally connected with the sleeve and having a fixed pivot with the floating body, and means to swing said arm.

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