

W. N. DAVIS.
RÜDDER.
APPLICATION FILED OCT. 8, 1920.

1,363,961.

Patented Dec. 28, 1920.

Fig. 1

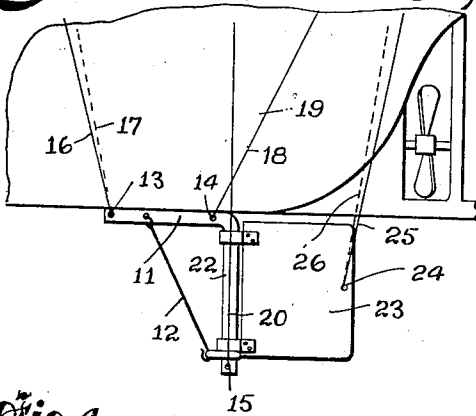


Fig. 2

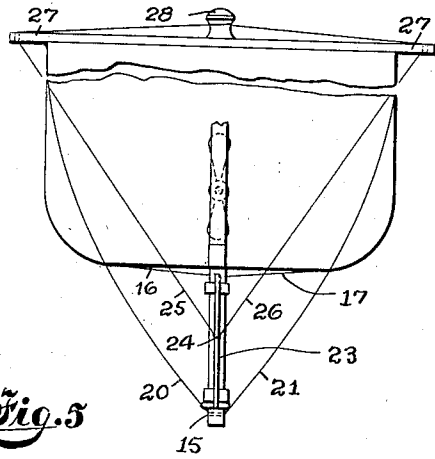


Fig. 4

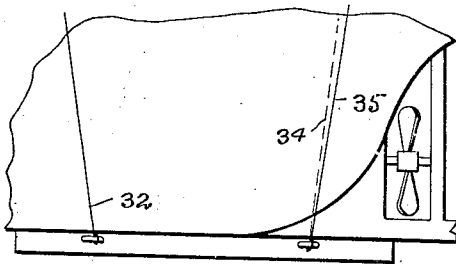


Fig. 5

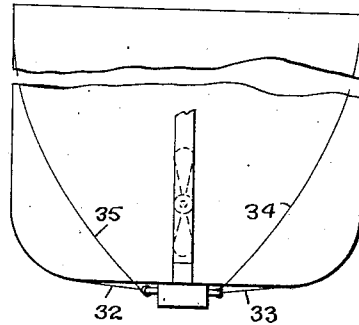
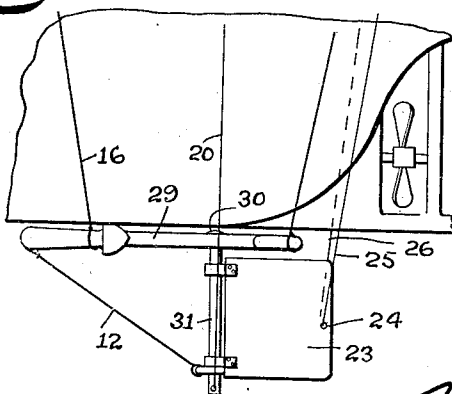


Fig. 3



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RUDDER.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER N. DAVIS, a citizen of the United States, and a resident of the borough of Richmond, city of New York, county of Richmond, and State of New York, have invented Improvements in Rudders, of which the following is a specification.

My invention relates to rudders and more particularly to a temporary or emergency rudder such as is employed only when the usual rudder is disabled and cannot be immediately repaired or replaced. Under such circumstances dry dock facilities or divers are usually unavailable and accordingly the first requisite of a temporary or emergency rudder is adaptability to be placed into position while the ship is afloat by men working above the water. Inasmuch as the need for a temporary or emergency rudder may arise during rough weather it is also desirable that the rudder be so positioned and formed that it will not be carried away by heavy seas.

The object of my invention is to produce a temporary or emergency rudder satisfying these requirements and in the drawings accompanying this specification and forming a part thereof I have shown, for purposes of illustration, several embodiments which my invention may assume. In these drawings,

Figures 1 and 2 are respectively side and end views of one possible embodiment in position beneath a ship;

Fig. 3 is a side view of a second embodiment; and

Figs. 4 and 5 are respectively side and end views of a third embodiment.

Referring to Figs. 1 and 2 it will be seen that my rudder consists of an angular frame 11 braced between its ends by a strut or cable 12 and provided with a plurality of holes 13, 14, and 15 for the reception of cables 16—17, 18—19, and 20—21, the cables 16, 18, and 20 being passed up one side of a ship and secured thereto at a point readily accessible and the cables 17, 19, and 21 being passed up the other side of the ship and similarly secured. Pivoted upon the vertical portion 22 of the angular frame 11 is the blade and this blade is provided with an aperture 24 by means of which cables 25 and 26 may be secured to the rudder. These cables are then passed up opposite sides of the ship to a point where they will be ac-

cessible for operation of the rudder. This may conveniently be done in the manner shown in Fig. 2 where the cables are passed over pulleys on outriggers 27 and then carried to a winch 28. It will be apparent, however, that the cables could also be connected to the regular steering mechanism. The two cables 16 and 17 are preferably secured to the ship at a point forward of the rudder while the two cables 18 and 19 are preferably secured to a point aft and the two cables 20 and 21 preferably have no inclination either way. In this manner the cables 16—17 and 18—19 prevent forward and backward movement of the rudder mechanism while the cables 20—21 exert a maximum bracing effect. The rudder is preferably located toward the stern but sufficiently forward to enable the cables 25 and 26 to clear the propeller, if there be one, by a safe distance.

The frame 11 employed in the device of Figs. 1 and 2 is not likely to be available on ship board and accordingly this form of my device could probably only be employed when the ship was so situated as to render the services of a blacksmith available. The modification disclosed in Fig. 3 employs in place of the frame 11 an anchor 29 and in this way obviates the objection to the device of Fig. 1. When an anchor is used one end of the stock is cut off as shown at 30 while the other end forms the pivot post 31 for the rudder and provides facilities for attaching the ends of the cables 20 and 21. The same strut or cable 12 is employed to brace the parts but the cables 16—17 are preferably secured to the flukes in order to assist the cables 20—21 in their bracing action.

A still simpler form of rudder is disclosed in Figs. 4 and 5 wherein a few spars lashed together or a stock of timber is slung beneath the ship by means of chains or cables 32 and 33 attached to the timber and tensioned to hold that point of the timber stationary. Further chains 34 and 35 are attached to the timber at the rear end and carried up in the same manner as the chains 25 and 26 of the devices of Figs. 1 and 3 to permit the timber to be swung in a horizontal plane about the point of attachment of the chains 32 and 33 as a center to thus steer the ship.

It will be obvious from the above description that any one of these forms of rudder

may be slung under the ship and accurately positioned without dry dock or diving facilities. It will also be apparent that the arrangement herein disclosed positions the
 5 rudder at a point where it is below the action of the waves and accordingly removed from the danger of destruction by a heavy sea.

It will be understood that the disclosure
 10 herein is for purposes of illustration and my invention is, therefore, not limited to the embodiment herein disclosed.

I claim:

1. A temporary rudder comprising sup-
 15 porting means secured to the ship, a blade pivoted to said supporting means at a point beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship.

2. A temporary rudder comprising sup-
 20 porting means secured to a readily accessible portion of the ship, a blade pivoted to said supporting means at a point beneath the keel of said ship, and means for swinging
 25 said blade on its pivot to thus steer said ship.

3. A temporary rudder consisting of sup-
 porting means comprising cables secured to the ship, a blade pivoted to said supporting
 30 means at a point beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship.

4. A temporary rudder consisting of sup-
 porting means comprising cables secured to a readily accessible portion of the ship, a
 35 blade pivoted to said supporting means at a point beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship.

5. A temporary rudder comprising sup-
 40 porting means secured to the ship, a blade pivoted to said supporting means at a point beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship, said last means comprising cables
 45 extending to the deck of the ship.

6. A temporary rudder comprising sup-
 porting means secured to the ship, a blade pivoted to said supporting means at a point
 50 beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship, said last means comprising cables

extending to the deck of the ship through outriggers.

7. A temporary rudder comprising sup-
 porting means secured to a readily accessible
 55 portion of the ship, a blade pivoted to said supporting means at a point beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship, said last means comprising cables extending to
 60 the deck of the ship.

8. A temporary rudder comprising sup-
 porting means secured to the ship, a blade pivoted to said supporting means at a point
 65 beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship, said last means comprising cables extending up the sides of the ship to the usual steering gear.

9. A temporary rudder comprising sup-
 porting means secured to a readily accessible
 70 portion of the ship, a blade pivoted to said supporting means at a point beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship, said last means comprising cables extend-
 75 ing up the sides of the ship to the usual steering gear.

10. A temporary rudder comprising cables
 secured to a readily accessible portion of the
 80 ship, a blade pivoted to said supporting means at a point beneath the keel of said ship, and means for swinging said blade on its pivot to thus steer said ship, said last means comprising cables extending up the
 85 sides of the ship to the usual steering gear.

11. The method of rigging a temporary
 rudder which comprises pivotally securing a
 blade to one or more pairs of cables, fixing
 a pair of operating cables to said blade at a
 90 point remote from the pivot thereof, sling-
 ing the entire device beneath the ship with the cables of each pair on opposite sides of the ship, fastening the securing cables to
 pivotally mount the blade beneath the keel,
 95 and passing the operating cables to a point where they are accessible to operate said blade and thus steer said ship.

In testimony whereof, I have signed my
 name to this specification this 6th day of Oc-
 100 tober, 1920.

WALTER N. DAVIS.