May 3, 1938. R. F. McLEOD 2,116,276

MEANS FOR STEERING VESSELS

Filed March 4, 1936

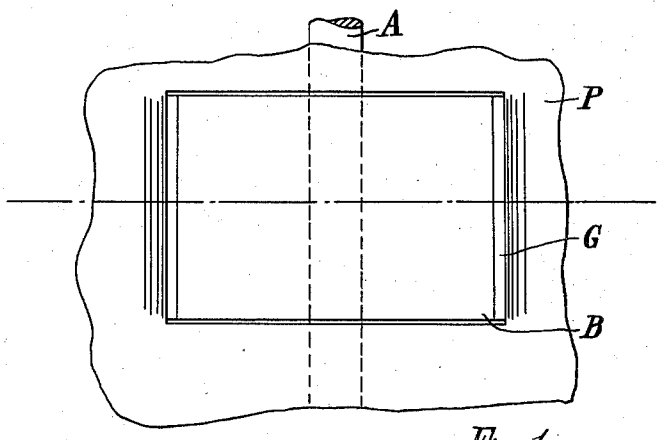


Fig. 1

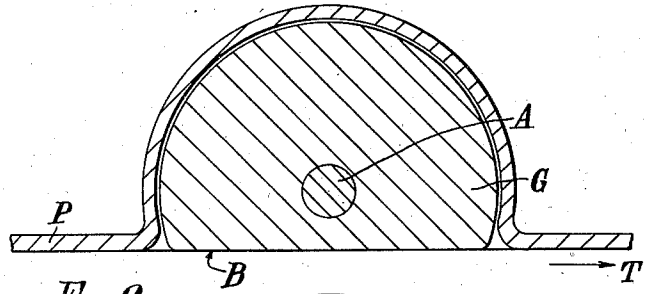


Fig. 2

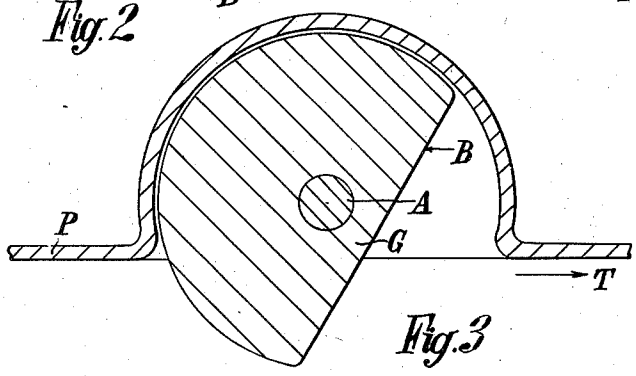


Fig. 3

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Patented May 3, 1938 2,116,276

UNITED STATES PATENT OFFICE

2,116,276

MEANS FOR STEERING VESSELS

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Application March 4, 1936, Serial No. 67,141
In Great Britain August 2, 1935

1 Claim. (Cl. 114—145)

This invention relates to emergency means for steering vessels such as airships, ships, hydroplanes and the like, of the type in which a fin or the like is mounted upon a vertical axis on each side of the ship and is adapted to be rotated about the vertical axis so as to present an inclined plane surface to the water for steering purposes.

The object of the invention is to devise improved emergency means for steering vessels and consists in the novel features to be hereinafter described and pointed out more particularly in the claim.

The invention will now be described by way of example with reference to the accompanying diagrammatic drawing, in which:—

Figure 1 is an elevation of one form of the steering device.

Figure 2 is a plan in section of Figure 1.

Figure 3 is a plan in section showing the device of Figure 2 in operation.

In carrying the invention into effect according to the form illustrated in Figures 1 and 2 by way of example, near the stern of the vessel on each side mounted in suitable bearings on the plating P is provided a shaft A, the axis of which lies substantially in a vertical plane, on which is mounted a plate or fin B which is formed by a plane surface on the rotating body G, the remainder of which is formed by a cylindrical surface. The body G is mounted on a shaft A and housed in a suitable cylindrical recess in the plating P. The shaft A can be rotated through any suitable angle by a rack and a toothed quadrant, the rack being operated by hydraulic or other means. The shaft A may, if desired, be provided with an arm connected to a hydraulic ram, for instance, or a quadrant may be provided about which a chain may be situated which may be operated by any steering gear. Any other means may be provided for rotating the shaft A. If desired, the shaft A may be non-rotatable and the body G may be made to rotate about the shaft by any suitable means.

When the body G is turned anti-clockwise about the axis A, the fin B projects as shown in Figure 3, the direction of travel of the ship being shown by the arrow T when going ahead, and is turned clockwise about the axis A when going astern, so as to steer the vessel in either direction.

It is to be understood that the mechanism for operating the fins may be enclosed within the vessel and connected by watertight means with the fins. Further, instead of having one fin on each side of the vessel, two or more fins may be provided on each side so as to assist in the steering arrangements.

Should the ordinary rudder fail for any reason, the vessel may be steered by displacing the fins from the surface of the hull on one or other side of the vessel and thus turn the vessel in the required direction.

It should be always arranged that the fins when in use point in the opposite direction to the direction of motion of the vessel, so that the water or air in which the vessel is travelling does not tend to get behind and force the fin out, but the pressure due to the movement of the vessel always presses the fin back towards the hull, thus making the fins self-adjusting to the normal position.

It is to be understood that the device may be applied to airships, hydroplanes, and other vessels, without departing from the scope of the invention.

I claim:

An emergency steering means for vessels comprising substantially semi-cylindrical recesses in the sides of said vessel, substantially semi-cylindrical bodies housed in said recesses, adapted to be rotated in either direction from the normal position, shafts forming the vertical axes for said bodies, each of said bodies being formed with an outboard plane surface lying flush with the side of the vessel when said body is in normal position, and means for rotating each body independently of the other in either direction such that said plane surface may be projected outwards at an acute angle to the direction of travel of said vessel in whichever way said vessel may be travelling and always expose a cylindrical surface at the back of said plane surface.

ROBERT FYFE McLEOD.