

No. 649,949.

Patented May 22, 1900.

K. A. POSSE.

STEERING MECHANISM FOR VESSELS.

(Application filed Aug. 25, 1899.)

(No Model.)

Fig. 1

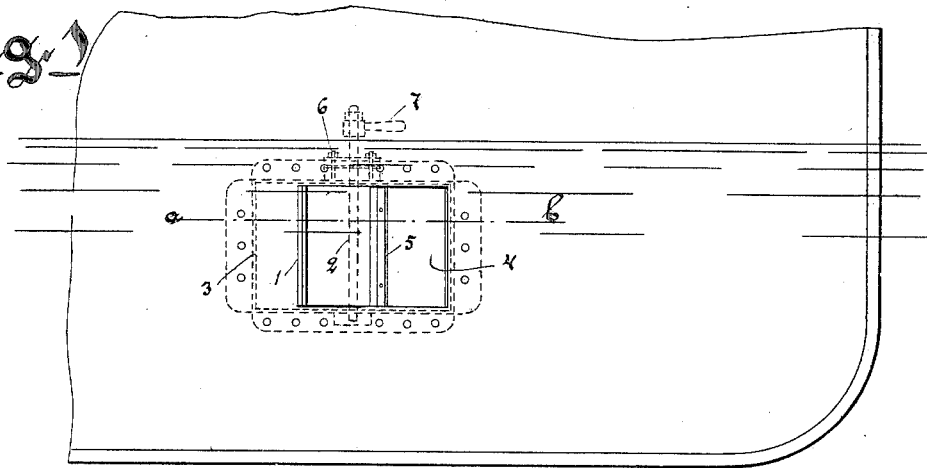


Fig. 2

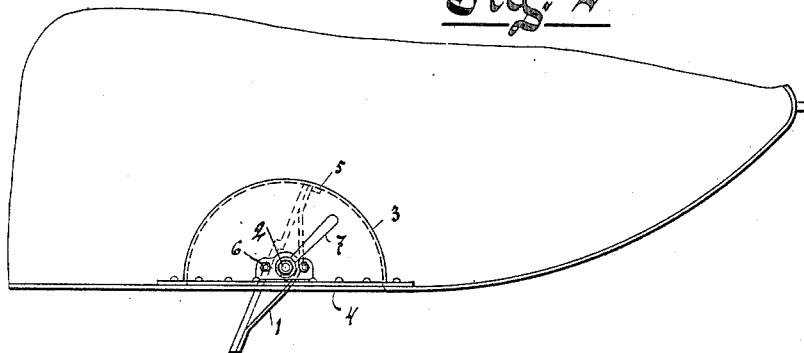
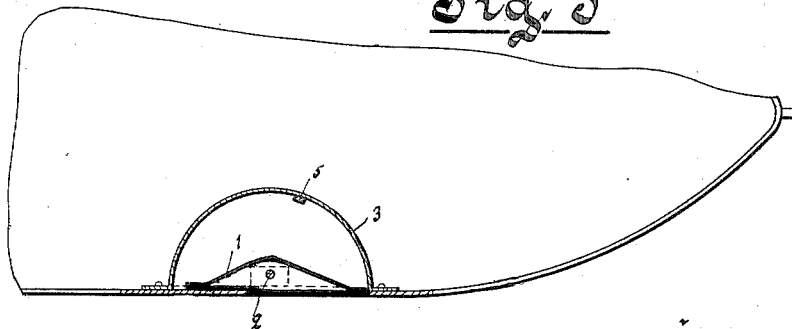


Fig. 3



Witnesses:
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UNITED STATES PATENT OFFICE.

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STEERING MECHANISM FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 649,949, dated May 22, 1900.

Application filed August 25, 1899. Serial No. 728,489. (No model.)

To all whom it may concern.

Be it known that I, KNUT ARVID POSSE, a subject of the King of Sweden and Norway, residing at Wexiö, Sweden, have invented certain new and useful Improvements in Devices for Quickly Changing the Direction of Motion of Boats or Vessels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

The present invention relates to a device for boats or vessels, enabling them to quickly change their direction of motion with a view to preventing such perils as, for instance, collisions with other vessels, which, owing to a fog or some other reason, it has been impossible to notice until at a very close distance.

The invention is illustrated in the drawings adjoined, wherein—

Figure 1 shows the device viewed from one side. Fig. 2 shows it in a top view. Fig. 3 is a section on line *a b* of Fig. 1, the blade or vane, however, mentioned below being in its withdrawn or shut position.

The device, which is applied at both sides of the boat slightly below the water-line and forward of the center of gravity of the vessel, preferably at a distance of one-third or one-fourth of the length of the vessel from the bow, is composed of a vertically-placed blade or vane 1, which can swing horizontally by means of the vertical shaft 2, attached to it and passing through it, said shaft being journaled in a semicylindrical casing 3, bolted or in other suitable manner secured to the vessel, so as to make the joint water-tight. The shaft has such a position in relation to the blade or vane that it divides it in two parts, so as to make the part on one side of the shaft somewhat longer than that on the other. In the boat or vessel is an aperture 4, through which the longer one of the two parts mentioned can be swung out, as seen in Figs. 1 and 2. The said aperture is of such shape that it is completely closed by the blade when the latter is shut, the outer side of the portion of the blade which closes the aperture being then brought flush with the outside of

the vessel, as seen from Fig. 3. The blade or vane is so placed in relation to the aperture 4 that it finds a bearing against the rear edge of the latter when occupying a certain position slightly inclined rearward. To give a still surer support to the blade in this position, there is secured to the casing a flange or rib 5, on which the inner portion of the blade bears, as seen from Fig. 2. At the upper journal-box of the shaft 2 a stuffing-box 6 is provided on the casing 3, and to the upper end of the shaft is secured a lever 7, so as to admit of operating the blade or vane from the bridge of the vessel by means of a steam-winch or the like. The water pressing through the aperture against the inner part of the blade partly counteracts the turning moment about the shaft 2, produced by the pressure on the outer part of the blade when swung out. The blade as a consequence is easily operated.

The device operates as follows: If it is desired, for instance, that the boat or vessel shall quickly deviate into the starboard direction, the blade or vane attached to the starboard side is simultaneously with the shifting of the rudder in usual manner thrown open by means of a winch or the like, and the water-pressure instantly forces the said blade or vane into the position shown in Fig. 2—*i. e.*, slightly inclined backward. In the forward motion of the vessel the body of water in front of the blade will now act to swing the vessel toward the same side on which the blade is attached—*i. e.*, in this case to starboard. When the vessel is to stop suddenly, both blades or vanes are opened perpendicularly simultaneously with reversing the engine.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A vessel provided in its opposite sides with a chamber whose front is partly closed and partly open to the sea and an abutment within said chamber; in combination with a blade or rudder mounted to be partly swung out through said opening and to close the same when in a normal position, the movements of said rudder limited by the partially-closed front of the chamber and the abutment therein, for the purpose set forth.

2. A vessel provided in its opposite sides

with a chamber whose front is partly closed and partly open to the sea, and an abutment within said chamber; in combination with a blade or rudder mounted to be partly swung
5 out through said opening and to close the same when in a normal position, the outward swing of such rudder limited by the aforesaid abutment, for the purpose set forth.

3. A vessel provided in opposite sides with
10 a chamber the front of which is partly closed and partly open to the sea, said opening being of a width greater than one-half the width of said chamber, a vertical shaft stepped in said chamber, a blade or rudder secured ec-
15 centrically to said shaft, the longer portion of the blade fitting the open portion of the chamber, said blade having a step or offset fitting against the edge of the closed portion of said chamber, and means for revolving the
20 shaft in either direction, for the purpose set forth.

4. A vessel provided in its opposite sides

with a chamber of segmental form in cross-section and having its front flush with the vessel's side and partly closed and partly
25 open to the sea, the open portion of greater width than one-half the greatest width of the chamber, and a vertical stop-rib 5 secured to its inner face; in combination with a vertical shaft stepped in said chamber, a blade or
30 rudder secured eccentrically to the shaft, the longer portion of the rudder fitting the opening in the chamber, said rudder having a step or offset fitting against the edge of the closed portion of said chamber and means for re-
35 volving the shaft in either direction, for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

KNUT ARVID POSSE.

Witnesses:

CARL EDWARD LINDBLOM,
ERNST HOLFER LINDBLOM.