

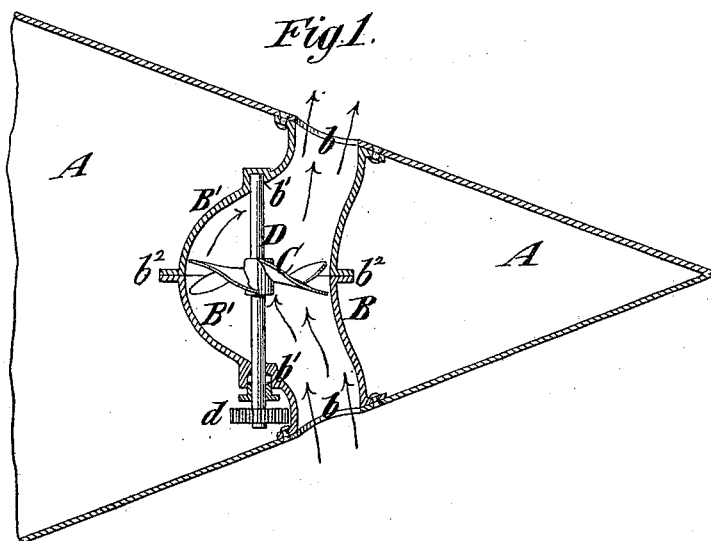
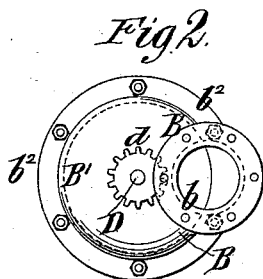
(No Model.)

B. T. BABBITT.

APPARATUS FOR STEERING VESSELS.

No. 347,985.

Patented Aug. 24, 1886.



Witnesses:

O. Sundgren
Emil Hunter.

Inventor:

Benjamin T. Babbitt
By his Attys
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UNITED STATES PATENT OFFICE.

BENJAMIN T. BABBITT, OF NEW YORK, N. Y.

APPARATUS FOR STEERING VESSELS.

SPECIFICATION forming part of Letters Patent No. 347,985, dated August 24, 1886.

Application filed February 17, 1886. Serial No. 192,192. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN T. BABBITT, of the city and county of New York, in the State of New York, have invented a new and useful Improvement in Apparatus for Steering Vessels, of which the following is a specification.

My invention relates to that class of steering apparatus which includes a casing or passage having orifices presented at opposite sides of the vessel, and a propeller-wheel, which may be rotated in one or other direction to draw water in from one side of the vessel and discharge it at the other side thereof, at the will of the pilot or other person controlling the steering. By the taking in of water on one side of the vessel and its discharge at the other side thereof, the head of the vessel, if the apparatus be arranged in its bow, will be turned in a direction toward the side on which water is taken in.

My invention consists in a novel construction of the propeller-casing, and in a novel combination with such casing of a propeller-wheel and its shaft, as hereinafter particularly described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a horizontal section of the bow portion of a vessel embodying my invention, and Fig. 2 is an end elevation of the propeller-casing alone.

Similar letters of reference designate corresponding parts in both figures.

A designates the extreme bow portion of the vessel, and B designates the propeller-casing, which extends transversely across the hull, and has its mouths or orifices *b* presented at opposite sides of the hull.

C designates a propeller-wheel arranged upon a shaft, D, which is journaled at *b'* in the casing, and which may be driven by suitable mechanism transmitting motion through gear-wheels to the gear-wheel or pinion *d* on the shaft D. If desired, a rotary engine geared directly with the pinion *d* may be employed for driving the shaft D and the wheel C, fixed thereon. The wheel C rotates in a plane which is transverse to a line passing through the mouths or orifices *b*. When the wheel C is rotated in one direction, water will be drawn in from one side of the vessel through

one of the mouths or orifices *b* and discharged at the other side thereof through the other mouth or orifice, as indicated by the arrows in Fig. 1; but when the wheel C is rotated in a reverse direction the current of water in the wheel-casing B will also take a reverse direction and be caused to pass through the casing in a direction the reverse of that indicated by the arrows. By thus drawing in water at one side of the vessel and discharging it at the other side thereof, the vessel will, if the apparatus be arranged at the bow, be caused to move in a direction toward the side from which water is taken in.

The casing B is constructed at about midway between its ends with a lateral enlargement, B', extending in one direction from the line of the mouths or orifices *b* and serving to accommodate the propeller-wheel C, and this arrangement of the propeller-wheel in the enlarged portion of the casing enables the shaft D to have its bearings *b'* in the sides of the enlarged portion B', and to project from the casing within the hull of the vessel and at a point laterally beyond the mouths or orifices *b*. In other words, the shaft is arranged parallel with and without a line passing through the mouths or orifices of the casing. As here represented, the shaft D projects at one end only from the casing B B', and its other end is fitted in a socket-bearing formed at the opposite side of the casing.

The wheel-casing B B' may be constructed in halves or sections secured together by a flanged joint, *b''*, in order to afford provision for placing the wheel C within the casing.

The construction of the casing B B' hereinabove described and its novel combination with the propeller-wheel and shaft provide for the use of a large propeller-wheel, and enable power to be readily transmitted to the wheel-shaft from within the vessel.

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

The combination, with the hull of a vessel and a propeller-casing, B, extending across the hull and having mouths presented at opposite sides of the hull, and also having a lateral enlargement, B', on one side of the mouths and about midway between them, a propeller-

wheel arranged to rotate in the enlarged portion of the casing and in a plane transverse to a line passing through the mouths, and a shaft on which the wheel is secured, having
5 its bearings at opposite sides of the enlarged portion B' of the casing, the shaft being arranged parallel with and without a line passing through the mouths of the casing, substantially as herein described.

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Witnesses:

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