

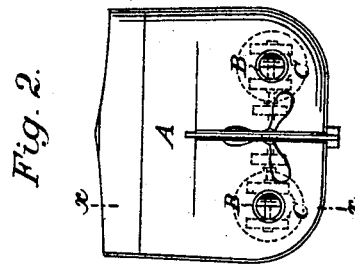
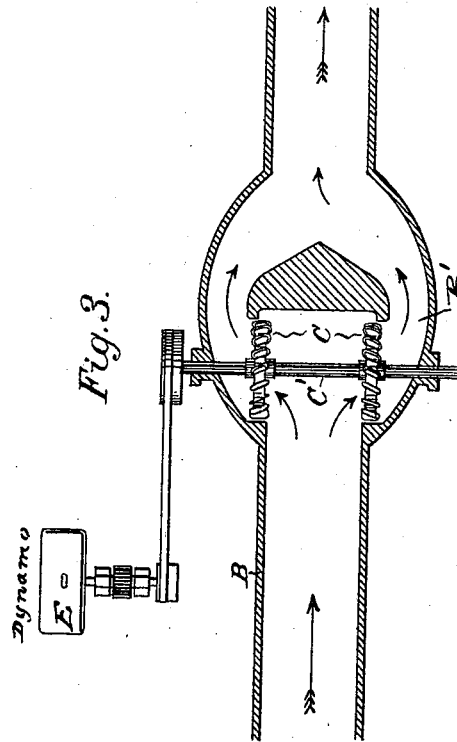
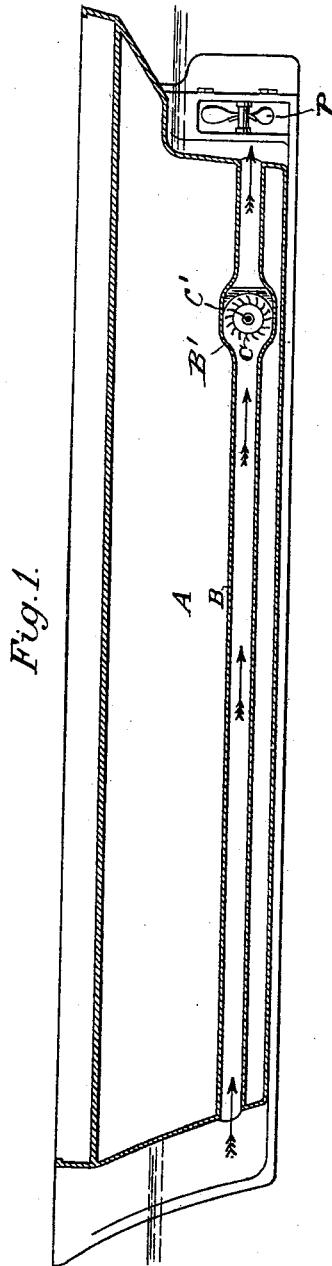
No. 646,374.

Patented Mar. 27, 1900.

R. T. POWER.
AUXILIARY MOTOR FOR VESSELS.

(Application filed Feb. 16, 1899.)

(No Model.)



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UNITED STATES PATENT OFFICE.

RICHARD T. POWER, OF NEW WESTMINSTER, CANADA, ASSIGNOR OF THREE-TENTHS TO RICHARD D. PERRY, OF SAN FRANCISCO, CALIFORNIA.

AUXILIARY MOTOR FOR VESSELS.

SPECIFICATION forming part of Letters Patent No. 646,374, dated March 27, 1900.

Application filed February 16, 1899. Serial No. 705,656. (No model.)

To all whom it may concern:

Be it known that I, RICHARD T. POWER, a citizen of Canada, residing at New Westminster, British Columbia, Canada, have invented an Improvement in Power-Producing Attachments for Vessels; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an attachment for vessels which is designed to produce an independent power to be used for any desired purpose, either upon sailing or steam-propelled vessels.

It consists, essentially, of one or more open ended tubes or passages extending through the vessel below the water-line and essentially parallel with the keelson. Within these tubes turbines or other water-wheels are journaled, so that the rush of water through the tubes caused by the movement of the vessel through the water will propel the turbines or wheels. Connection is made in any suitable or desired manner with the shafts of these wheels, and the power thus derived will be applied either to an electric generator and through the generator or directly if it is a steam-propelled vessel, and the power thus derived may be transmitted to the propeller-shaft to assist in propelling the vessel.

It also comprises details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a longitudinal section on the line *x x* of Fig. 2. Fig. 2 is a stem view of Fig. 1. Fig. 3 is an enlarged section of the pipe B, showing turbines.

A represents the hull of a vessel of any description. The vessel may be propelled by sails in the manner of any sailing vessel, or it may be propelled by steam, electricity, or other known or suitable motor, or by means of propellers or other propulsive devices. Through the hull of the vessel and essentially parallel with the keelson, below the water-line, are fitted one or more tubes B, having a considerable diameter and open at both bow and stern of the vessel. The movement of the vessel through the water by whatever means it is propelled will cause a correspond-

ing current to pass through the tubes, having, with due allowance for friction within the tubes, a speed approximately equal to that with which the vessel is being driven through the water, and as the current is confined in the tube the momentum of this long column is available for propulsive effect in the same manner as the head of water is used for driving a water-wheel. In order to take advantage of this current within the tube, one or more turbines or other suitable water-wheels will be rotated by the action of the flowing current in the manner of such wheels.

If desired, the tube may connect with a suitable casing B', within which double or single turbines C are journaled, with the shafts C' projecting through the sides, the wheels being so disposed that the flow of the current would strike them in a manner to revolve them, as shown. In another form the turbines may have their shafts journaled in the line of the tubes, so that the water passing through the wheels will cause them to rotate.

In the case of vessels using propellers, the tubes discharging at the rear in close proximity to the propellers P, the action of the propellers which tends to draw the water from the front and to force it rearwardly will increase the velocity of the water through the tubes, acting as a suction through the tail-race, and produce a very important effect in the operation of the apparatus.

Power may be transmitted from the shafts of the turbines or other wheels within the tubes either directly, as in the first-named construction, or by beveled gears so disposed that a second or counter shaft will pass out through stuffing-boxes or other joints to prevent water from escaping, and upon the end of these shafts will be fitted suitable transmitting wheels, gears, or like attachments, from which power may be transmitted to operate dynamos, pumps, hoisting apparatus, or any of the devices for which power is needed about the vessel. The power derived from the dynamos E may be used for lighting purposes or a connection may be made directly with the propeller-shaft where the device is connected with vessels propelled by steam or

like power, and the additional power thus derived from the turbine can be applied to assist in propelling the vessel. These tubes and the wheels within them may be made of
5 as large diameter as possible without essentially interfering with the interior capacity of the vessel or reducing its buoyancy, and when a vessel has a speed of from fifteen to twenty knots an hour it will be seen that a
10 very considerable power will be produced from the action of the turbine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

- 15 1. The combination with a vessel of one or more tubes extending through the vessel parallel with the keelson having the front and rear ends open for the free passage of water, enlarged casings in the length of the tubes,
20 and wheels journaled within the casings and adapted to be propelled by the current of water passing therethrough and connections whereby the motion of the wheels may be transmitted for useful effect within the vessel.
- 25 2. The combination with a vessel and the propeller thereof, of one or more tubes extending through the vessel below the water-line parallel with the keelson having front and rear ends open, enlarged casings in the
30 length of said tubes and wheels journaled

within the casings and adapted to be rotated by the current passing through the tubes, and mechanism connecting with said wheels whereby the motion and power thereof may be transmitted for useful effect within the
35 vessel.

3. The combination with a vessel and the propeller thereof of open-ended tubes extending through the vessel parallel with the keelson, water-wheels disposed within the tubes
40 so as to be rotated by the current passing therethrough and mechanism connecting said wheels with electromotors, substantially as described.

4. The combination in a vessel of open-
45 ended submerged tubes parallel with the keelson, and allowing the free passage of water therethrough, one or more turbine wheels journaled to be acted upon by the momentum of the water flowing in the tubes, and a pro-
50 peller or propellers at the stern of the vessel acting in conjunction with the tubes to produce a suction therefrom, and a clearance for the interior turbines.

In witness whereof I have hereunto set my
55 hand.

RICHARD T. POWER.

Witnesses:

GEO. H. STRONG,
S. H. NOURSE.