Jan. 14, 1930. R. WIERNIKOWSKI 1,743,508

SHIP PROPELLING MEANS

Filed April 15, 1929

Fig. 1

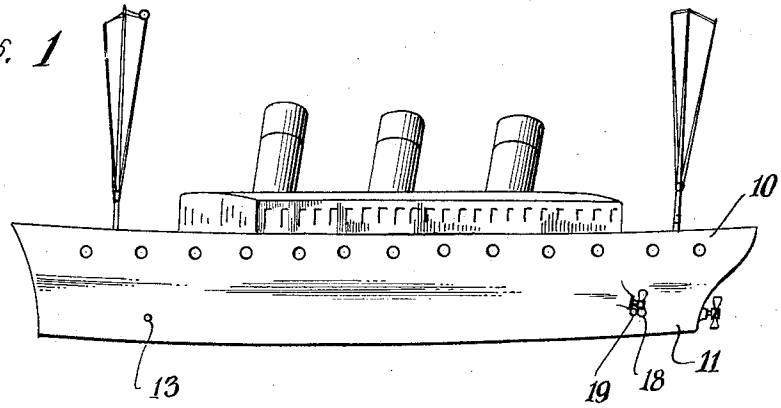


Fig. 2

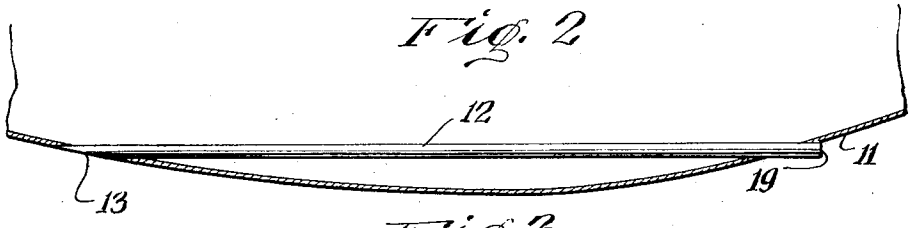


Fig. 3

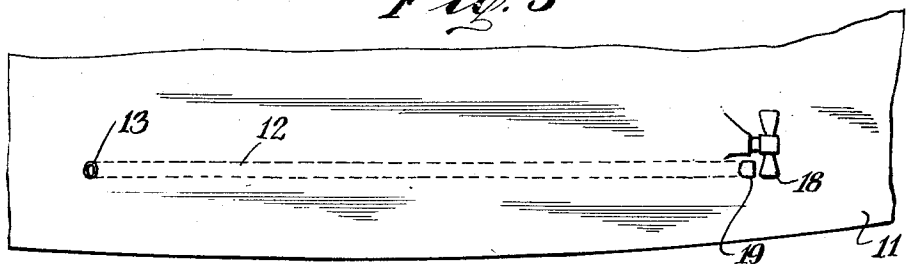


Fig. 4

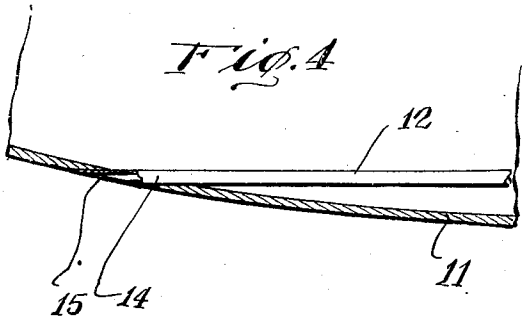
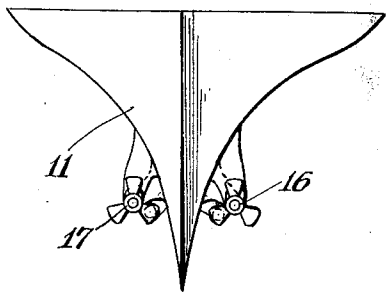


Fig. 5



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UNITED STATES PATENT OFFICE

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SHIP-PROPELLING MEANS

Application filed April 15, 1929. Serial No. 355,018.

This invention relates to improvements in ship propulsion particularly to a device for increasing the driving power of the propellers by means of a body of water under pressure directed against propellers for accelerating the speed of the ship considerably.

Another object of my invention is the provision of a pair of tubes having their inlets forwardly directed to both sides of the ship's bow and tending to break the water resistance encountered at the bow during the forward motion of the ship. The rear openings or outlets of the tubes adapted to direct the stream of water entering at the inlets of the tubes under considerable pressure against the blades of the propellers.

A further object of my invention is the provision of a pair of tubes laterally disposed within a ship's keel, and having their forwardly directed inlets equipped with suitable gratings to protect the tubes against the entrance of ice or débris and other matter tending to injure or damage the ship or its propellers.

A still further object of my invention is the provision of a comparatively simple and inexpensive device for accelerating the speed of the ship which can conveniently be installed in any ship without necessitating material change, and which will considerably cheapen the cost of operation by causing a saving in fuel and in running time.

With these ends in view, the device according to my invention consists of a number of tubes having a diameter selected to suit the size of the vessel.

These and other objects and advantages of my invention will become more fully known as the description thereof proceeds, and will then be specifically defined in the appended claim.

In the accompanying drawing, forming a material part of this disclosure:

Fig. 1 is a side elevation of a ship constructed according to my invention.

Fig. 2 is a fragmentary sectional detail view of a ship's keel showing one of the tubes.

Fig. 3 is a fragmentary side elevation of a ship's keel showing one of the propellers, and the inlet and outlet openings of a tube.

Fig. 4 is a fragmentary sectional detail view showing on an enlarged scale the inlet of a tube constructed according to my invention.

Fig. 5 is a fragmentary end view of the stern of a ship.

As illustrated, a ship 10, of any conventional type, with keel 11 has embedded near the side walls thereof within the ship, tubes 12 of a diameter selected to suit the size of the vessel, preferably varying between five and six feet.

The forward ends or inlets 13 of the tubes project preferably at both sides of the bow of the ship tending to break to some degree the water resistance encountered during the forward movement of the ship. If desired, the inlets may be formed as indicated at 14, Fig. 4, and equipped with a protecting grating 15 or the like consisting of bars of substantially triangular cross-section for preventing ice, débris or the like to enter the tube inlets, and liable to damage the propellers.

These inlets, when provided with the protecting gratings must have a larger diameter than the tubes themselves in order to not materially change the intake capacity and to ensure and maintain a uniform pressure corresponding to the width of the outlets of the tubes at the propeller end thereof.

The ship here shown as an example is equipped at its stern with the usual twin propellers 16 and 17, and propellers 18, the latter directly behind the rear outlets 19 of the tubes directing the column of water leaving the tubes under pressure against the propeller blades.

The operation of my device will be evident from its foregoing description by simultaneous inspection of the drawing, and it will be clear that the water rushing into the tubes at the inlets to both sides of the ship's bow will enter the tubes under pressure controlled by the resistance which the water offers to the forward motion of the ship, so that increased velocity of the ship will also increase the pressure of the water entering the tubes, rushing through the same, and

discharged at the tube outlets against the blades of the propellers, thus materially increasing the speed of the vessel and effecting a considerable saving of fuel and in the running time of the ship and the expense incident thereto. The gratings will effectively prevent the entrance of débris, ice, etc., thus protecting tubes and propellers against damage thereby.

It will be understood that I have described and shown the preferred form of my invention as an example of the many possible ways to practically construct the same, and that I do not wish to limit myself to the exact construction shown, but desire to preserve my right to make changes within the scope of the appended claim without departure from the invention.

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

In a ship including its keel, a pair of tubes embedded in said keel, the forward ends or inlets of said tubes projecting at both sides of the ship for breaking the water resistance, a grating of bars having substantially triangular cross-section in each tube inlet, said inlets of a greater diameter than the tubes, outboard propellers having their blades located directly behind the rear outlets of said tubes to be propelled by the water issuing under pressure from said outlets controlled by the speed of the vessel.

In witness whereof I have signed my name to this specification.

RERAD WIERNIKOWSKI.