

No. 815,270.

PATENTED MAR. 13, 1906.

T. DAVIDS.
PROPULSION OF VESSELS.
APPLICATION FILED MAY 9, 1905.

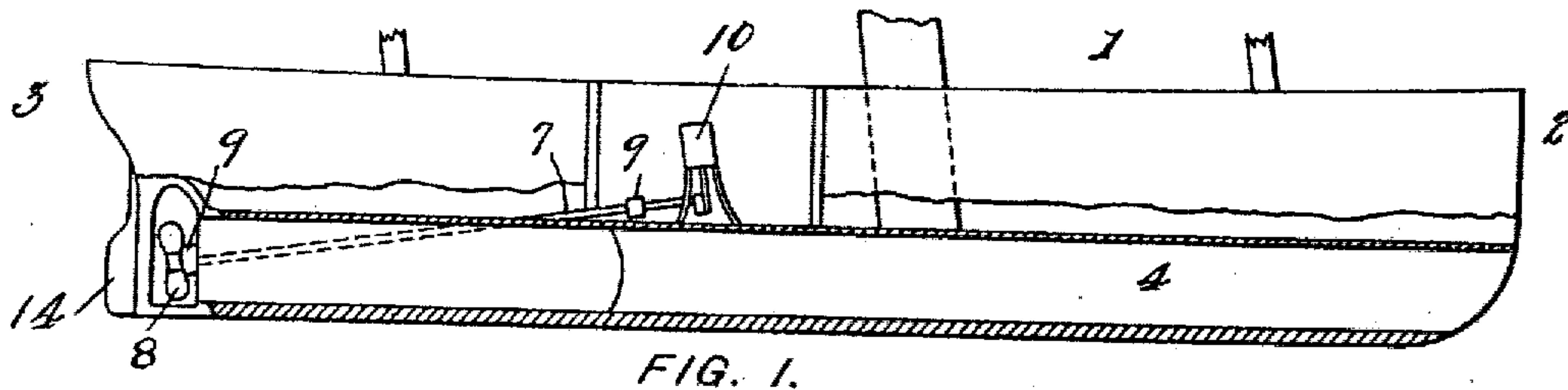


FIG. 1.

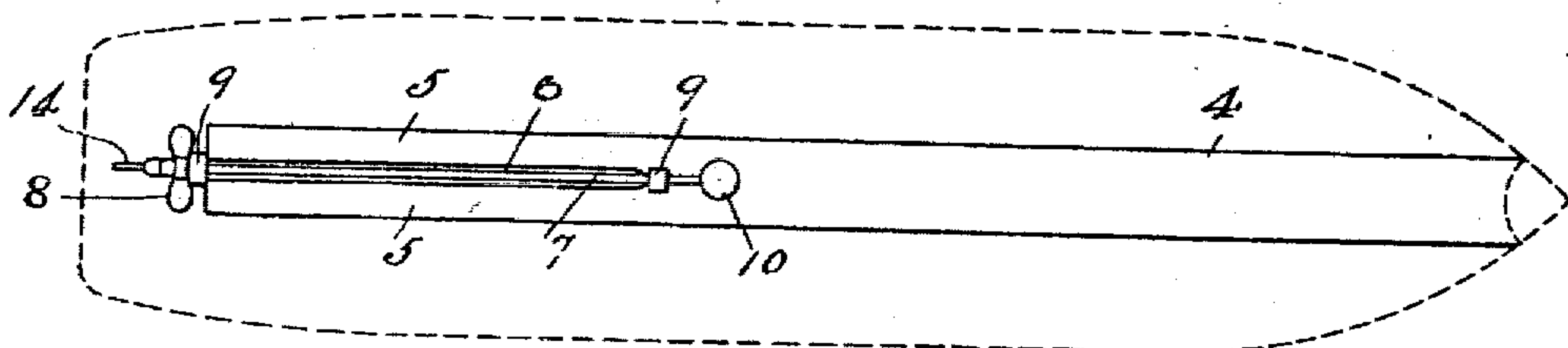


FIG. 2.

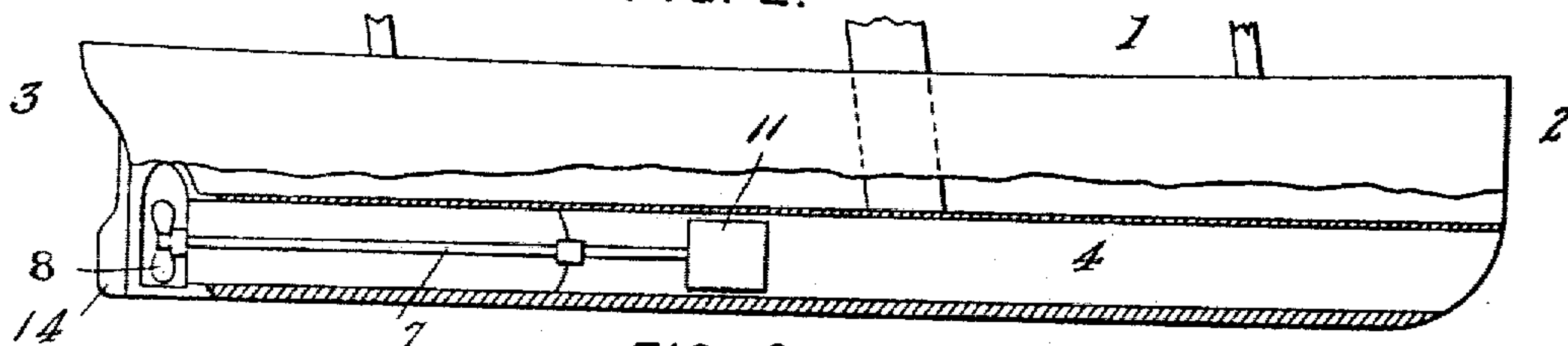


FIG. 3.

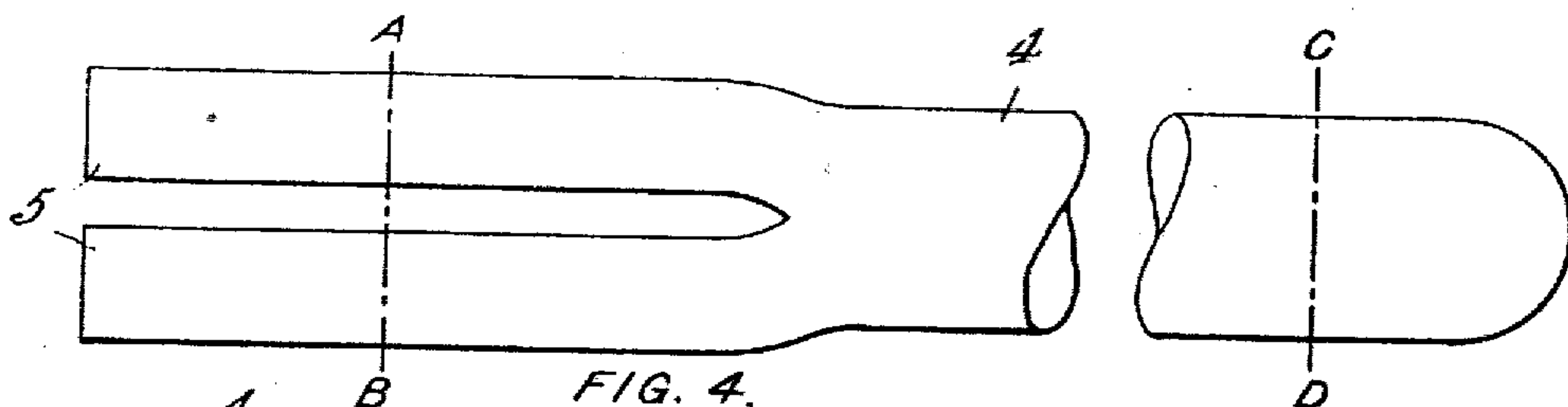


FIG. 4.

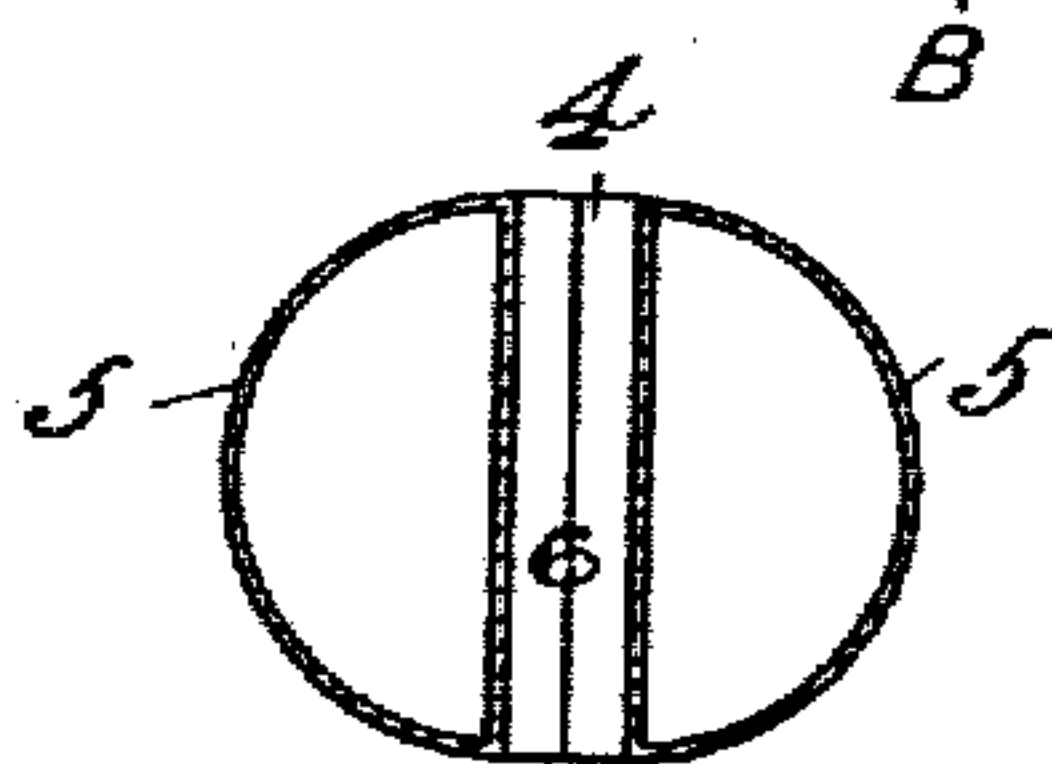


FIG. 5.

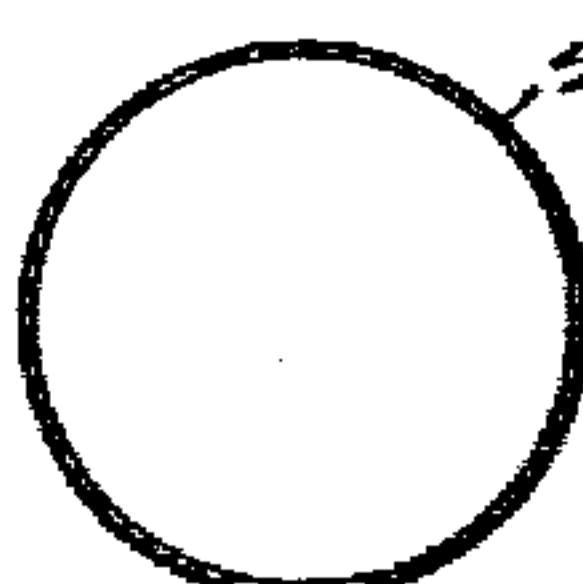


FIG. 6.

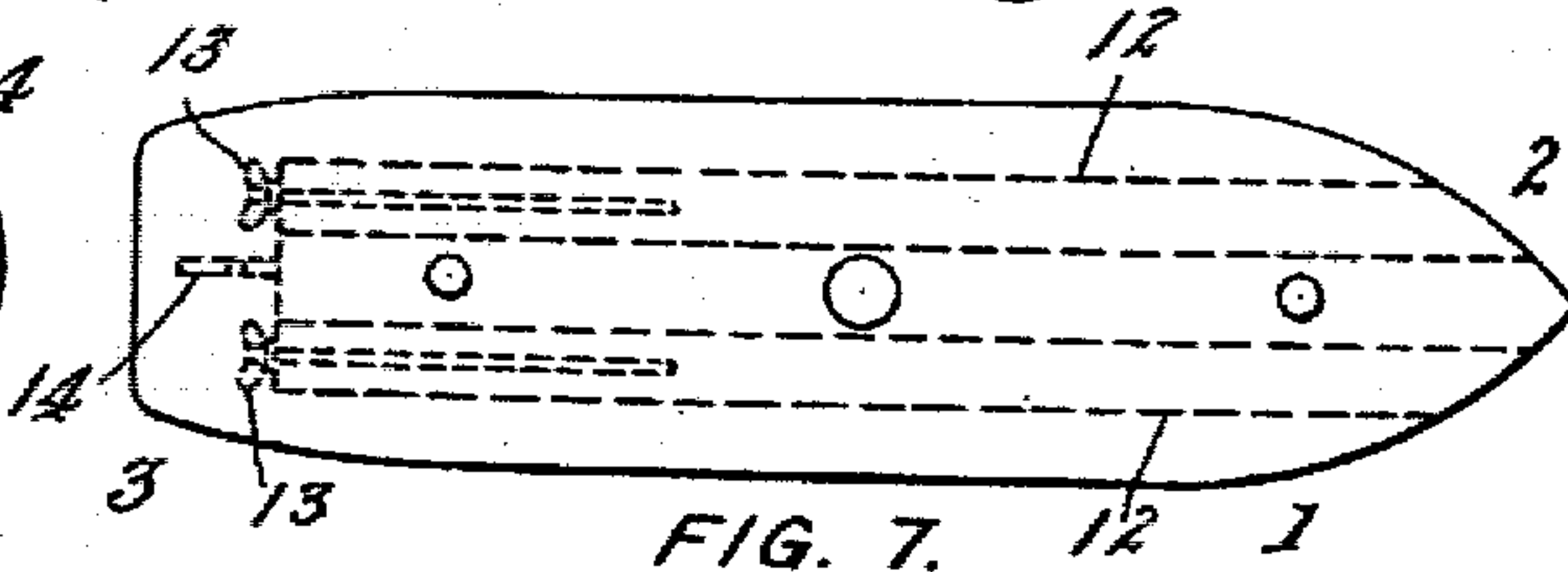


FIG. 7.

Witnesses
Robert W. Leib
W. B. Ingles

Inventor
Thaddeus Davids,
Attorney F. B. Stebbins.

UNITED STATES PATENT OFFICE.

THADDEUS DAVIDS, OF LITTLE NECK, NEW YORK.

PROPULSION OF VESSELS.

No. 815,270.

Specification of Letters Patent.

Patented March 13, 1906.

Application filed May 9, 1905. Serial No. 259,628.

To all whom it may concern:

Be it known that I, THADDEUS DAVIDS, a citizen of the United States, residing at Little Neck, in the county of Queens and State of New York, have invented new and useful Improvements in the Propulsion of Vessels, of which the following is a specification.

The object of my invention is the provision of means in connection with a vessel for allowing water to pass from the bow through the hull to the stern and there be delivered to the propeller in a solid mass, thus preventing in a great measure the churning up of the water and the eddies caused by the water coming in around the sides of the stern to the screw.

My invention consists in a vessel provided with a tube passing through the hull or extending from the bow to the stern of a vessel and with a propeller located directly at the end of the tube.

It further consists in certain novelties of construction and combinations of parts hereinafter set forth and claimed.

The accompanying drawings illustrate three examples of the physical embodiment of the invention constructed according to the best modes I have so far devised for the practical application of the principle.

Figure 1 is a side view of a vessel, partly in section, showing my improvements. Fig. 2 is a plan view illustrating the location of the shaft between the two legs of the tube. Fig. 3 is a sectional view showing the propeller-shaft and a steam-turbine located within the tube. Fig. 4 shows the tube on an enlarged scale. Fig. 5 is a section of Fig. 4 on line A B. Fig. 6 is a section of Fig. 4 on line C D. Fig. 7 is a plan view of a vessel provided with two tubes and two screws or propellers.

Referring to the figures of the drawings, the numeral 1 designates the hull of a vessel; 2, the bow; 3, the stern; 4, the tube; 5 5, the branches or legs of the tube; 6, the space between the branches of the tube for the reception of the propeller-shaft; 7, the propeller-shaft; 8, the propeller; 9 9, the bearings of the shaft, which may be of any suitable type; 10, in Fig. 1, a motor; 11, in Fig. 3, a steam-turbine located within the tube; 12 12, in Fig. 7, two parallel tubes, in this instance located one on each side of the keelson; 13 13, two propellers located at the ends of the tubes, and 14 indicates the rudder.

In Fig. 1 the motor, which may be any species of engine, is located above the tube so

that the shaft slants downwardly to the propeller, the space 6 being provided for the said shaft by bifurcating the rear end of the tube for a suitable distance. As shown in Fig. 5, the two branches are each made half round in cross-section in order that the water may be delivered to the screw throughout the entire area of its sweep less the area of the section of the space 6 between the legs of the tube. In Fig. 3 the steam-turbine is located within the tube and the propeller-shaft parallel therewith. Fig. 7 shows two tubes, one each side of the keelson, with a screw-propeller located at the rear opening of each tube. It will be observed that the propeller in each example is located directly at or in front of the rear opening or openings of the tube and that the tube extends in substantially a straight line from bow to stern, so as to eliminate the friction of the water against the inner surface thereof as much as possible. When the tube or tubes pass through a part of the hull of the vessel, the passage for the water should as far as is practical be in a straight line. This location of the propeller is of importance for the following reason: The movement of a fluid through a pipe or tube is somewhat analogous to the movement of a rope through the same—that is, it can be drawn through with greater facility and with less friction than it can be pushed or forced through. As the propeller displaces the water at the stern it is obvious that gravity and the forward movement of the vessel will cause a constant discharge of the water from the tube and in a solid mass directly to the blades of the propeller, and consequently the encircling eddies caused by the water flowing in from the sides of the vessel will be diminished and the churning of the water with the accompanying waste of energy to an appreciable degree be eliminated.

Changes and modifications of the construction in practice may of course be introduced without constituting substantial departures.

What I claim is—

1. A vessel provided with an open tube extending from the bow to the stern and having a propeller located at the stern and outside of and directly at the rear open end of the said tube.

2. A vessel provided with an open tube extending from the bow to the stern, the rear portion of said tube being bifurcated, and having a propeller located directly at the

rear open ends of the branches of the tube, and beyond and outside the ends of said tube.

3. A vessel provided with an open tube extending from the bow to the stern, the rear portion of said tube being bifurcated and each branch thereof half round in cross-section, and having a propeller located at the open ends of the branches of the tube.

4. A vessel provided with an open tube extending from the bow to the stern and having a propeller located at the stern and outside of and directly at the rear open end of the tube; the area in cross-section of the rear end of the tube corresponding substantially to the area of the sweep of the propeller-blades.

5. The combination with a vessel having an open tube extending through the hull, said tube being bifurcated, of a propeller located at the rear open end of the branches, and a propeller-shaft located between the branches of the tube.

6. A vessel having an open tube extending through the hull, and a propeller located at the stern and outside of and directly at the rear open end of the tube; the area in cross-section of the tube corresponding substantially to the area of the sweep of the propeller-blades.

7. A vessel having an open tube extending through the hull, and a propeller located at the stern and outside of and directly at the rear open end of the tube, whereby the water which passes through the tube will be delivered in a solid mass uniformly to the propeller throughout the area of the sweep of the propeller-blades.

In testimony whereof I affix my signature in presence of two witnesses.

THADDEUS DAVIDS.

Witnesses:

STEPHEN WILSON,

CHAS. A. VAN NOSTRAND.