

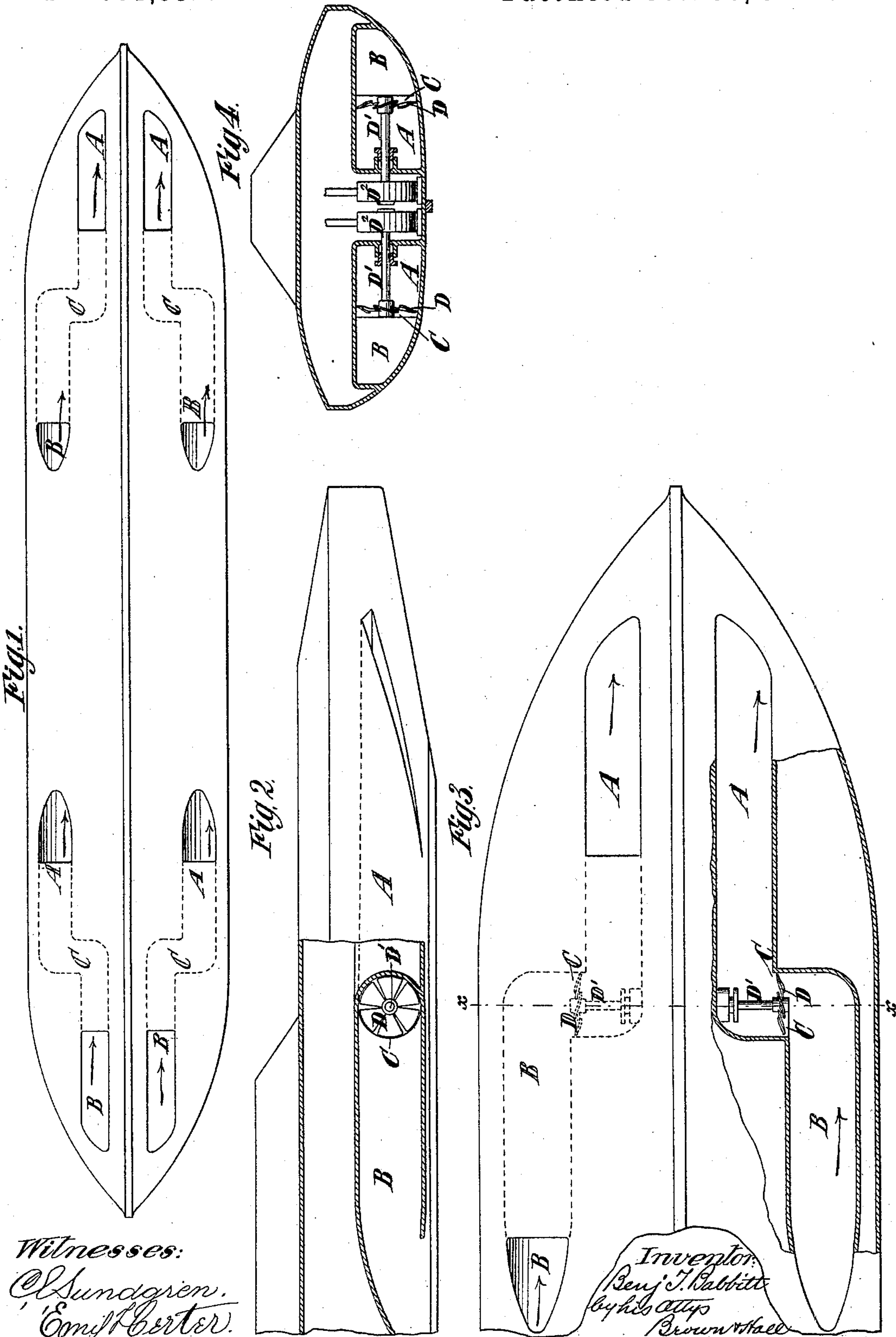
(No Model.)

B. T. BABBITT.

APPARATUS FOR PROPELLING VESSELS.

No. 391,932.

Patented Oct. 30, 1888.



Witnesses:
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UNITED STATES PATENT OFFICE.

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

APPARATUS FOR PROPELLING VESSELS.

SPECIFICATION forming part of Letters Patent No. 391,932, dated October 30, 1888.

Application filed March 24, 1886. Serial No. 196,314. (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
5 useful Improvement in Apparatus for Propelling Vessels, of which the following is a specification.

My invention relates to that class of propelling apparatus for vessels which comprises
10 passages extending lengthwise of the vessel, and a propelling-wheel by the operation of which water will be drawn in through one of these passages and discharged rearward through the other of these passages in order to propel
15 the vessel by the force of reaction.

In carrying out my invention I provide, in combination with the hull of a vessel, passages which extend lengthwise thereof and are arranged out of line with each other and lap-
20 ping one on another, and which communicate by a circular aperture or throat, and in this circular aperture or throat I arrange the propelling-wheel, having its axis transverse to the vessel and rotating in a plane between the lap-
25 ping passages, and by the operation of which water is drawn in through one of the passages from a direction toward the bow of the vessel and is discharged through the other of said passages in a direction toward the stern of the
30 vessel, so as to cause the vessel to move ahead. By reversing the direction of rotation of the propeller-wheel the flow of water through the passages may be reversed and the vessel will be backed. I prefer to arrange corresponding
35 passages on opposite sides of the center of the vessel in connection with two propeller-wheels, and the engine or engines which operate these propeller-wheels is or are arranged between these passages, as hereinafter described, and
40 pointed out in the claims.

In the accompanying drawings, Figure 1 represents the bottom of a vessel to which my invention is applied. Fig. 2 is a side elevation, partly in section, of one end portion of
45 the vessel, illustrating my invention upon a larger scale. Fig. 3 is an inverted plan of the bottom of one end portion, partly in horizontal section and upon the same scale as Fig. 2; and Fig. 4 is a transverse section upon the
50 plane of the dotted line $x x$, Fig. 3, and also upon the same scale.

Similar letters of reference designate corresponding parts in all the figures.

In the hull of the vessel are provided passages A and B, which extend lengthwise of
55 the vessel and are out of line or offset one from another, as best shown in Fig. 3. The passages A B, however, lap one on another at their adjacent ends and communicate with each other at their points of lapping by a cir-
60 cular aperture or throat, C, as also best shown in Fig. 3. In the circular aperture or throat C is arranged a propeller-wheel, D, and by the rotary movement of this wheel water will be drawn in through one of the passages and
65 discharged through the other of the passages in a direction lengthwise of the vessel, and will by the force of reaction cause the vessel to move ahead.

I have indicated by arrows in Fig. 3 the
70 direction of the flow of water through the passages A B when the wheel D is turned in one direction, and by reversing the rotary motion of the wheel the flow of water through said passages will also be reversed. It will be ob-
75 served that this wheel is not in line with either passage A or B, but rotates in a plane between the two passages and in the short throat or circular aperture C.

I prefer to arrange a similar system of pas-
80 sages A B on opposite sides of the center line of the vessel, as shown in Figs. 1 and 3, so that the throats or apertures C between the passages of each pair will be in line trans-
85 versely of the vessel, and so that the shafts D' of the two propeller-wheels D will also be in line, as shown in Fig. 4. In this arrangement the engine or engines for operating the two propeller-wheels D will be arranged be-
90 tween the passages A A, as shown in Fig. 4, and I may provide a separate rotary engine, D², for operating each propeller-wheel D, as here shown. This arrangement of machinery will be very compact and will be entirely be-
95 low the water-line, so as to be out of reach of an enemy's shot. I may provide a similar system of passages on opposite sides of the center line of the vessel and near each end thereof, as shown in Fig. 1, and this arrange-
100 ment will give a powerful propelling force for driving the vessel.

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

1. The combination, with the hull of a ves-
sel, of passages A B, extending lengthwise
105 thereof and arranged out of line with each

other, but lapping one on another and communicating by a circular aperture or throat, C, and a propeller-wheel, D, having its axis transverse to the vessel and working in the
5 aperture or throat, the plane of rotation of the wheel being out of line with each passage and between the two passages, substantially as herein described.

10 2. The combination, with the hull of a vessel, of passages A on opposite sides of the center and extending in one direction lengthwise of the vessel, other passages, B, extending in the opposite direction and arranged out of

line with but lapping on the passages A, and communicating with the passages A by circular apertures or throats C, propeller-wheels D, having their axes transverse to the vessel and working in said apertures or throats, and an engine or engines arranged between said passages A for operating the propeller-wheels, 20 substantially as herein described.

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Witnesses:

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