(Model.)

A. MAYNARD.

PNEUMATIC PROPELLER.

No. 253,215. Patented Feb. 7, 1882.

Fig. 2.

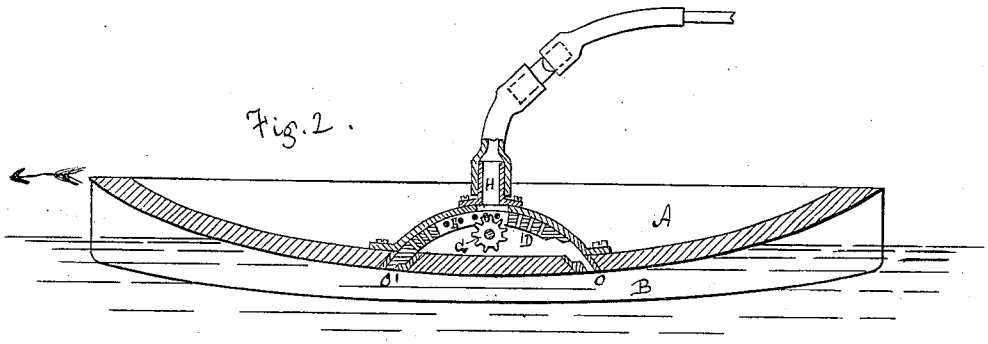


Fig. 1.

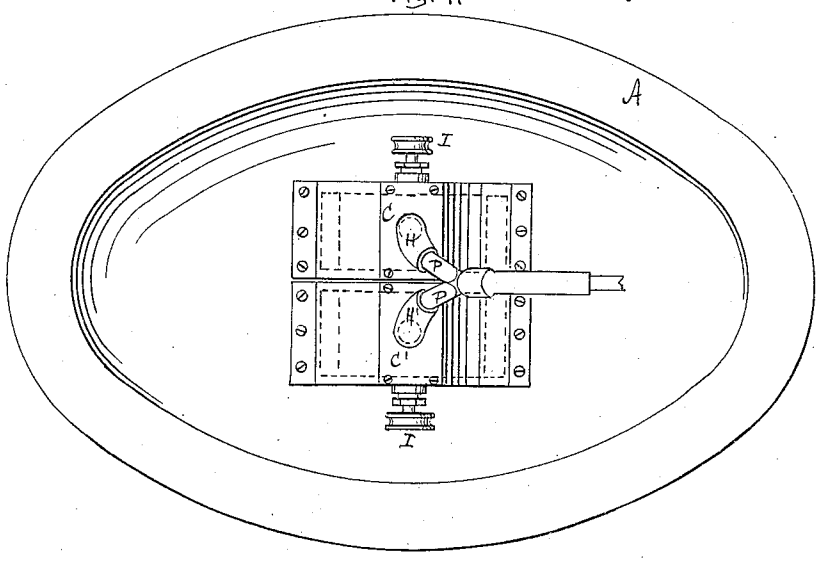
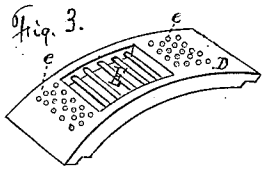


Fig. 3.



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UNITED STATES PATENT OFFICE.

ALFRED MAYNARD, OF BROOKLYN, NEW YORK.

PNEUMATIC PROPELLER.

SPECIFICATION forming part of Letters Patent No. 253,215, dated February 7, 1882.

Application filed April 1, 1881. (Model.)

To all whom it may concern:

Be it known that I, ALFRED MAYNARD, of Brooklyn, New York, have invented certain new and useful Improvements in Propelling Vessels by Means of Compressed Air, of which the following is a correct specification.

My invention belongs to that class of propellers in which compressed air is forced against the water by a suitable air-compressor engine, through openings in the bottom and near the center of the ship.

My improvement consists in the construction and operation of the air-chest and the double-acting slide-port for directing and regulating the current of air into and against the water.

In the drawings, Figure 1 is a plan view. Fig. 2 is a longitudinal vertical section. Fig. 3 is a perspective view of the slide-port.

The vessel shown in the drawings is of about the proportions of length nine, beam six, and depth one. These are good proportions for use with my improvement, but they may be varied to suit the builder. The bottom of the vessel is provided, if preferred, with one or more keels, but they are not necessary. The drawings show one keel.

A is the body of the vessel; B, the keel.

C C′ are the air-chests, one on each side of the keel. These air-chests are so constructed that their lower surface conforms to the bottom of the vessel, and so that at each end a part thereof containing the ports *o o′* shall pass through the bottom and be flush with the outer surface of the bottom, as seen in Fig. 2. The upper surface of the chest is curved, having its top or cover riveted securely to the casting, which constitutes the other part of the chest.

D is the slide-port, (one to each air-chest.) This slide-port is more fully shown in Fig. 3. It is a casting whose upper surface coincides with the under surface of the top of the air-chest, which serves to retain the slide-port in its proper position. Each end of the slide-port is shaped to correspond with and fit in its respective port *o* or *o′*. About one-fourth or one-third, more or less, of the center of the slide-port, on its under surface, is provided with a rack-bar, E, to be operated by the pinion G, to which power from the engine-room or pilot-house is communicated in any suitable way. *e e* are small perforations through slide-port, for the purpose of blowing out dirt or small obstructions.

H H′ are the chambers on top of and communicating with the air-chests C C′. These chambers H H′ are connected by pipes P, leading to the air-pump which supplies the power.

I I′ are pulleys on the ends of the shafts of the pinions G.

It will be noticed that the ports *o o′* are at such an angle through the chest that the air enters the water at an incline. This angle may be varied to suit.

In operating my invention, if the slide-port be in the position shown in Fig. 2 and power be applied from the pump or air-engine, the air passes out through port *o* at an incline into and against the water, thereby propelling the vessel in the direction of the arrow.

To change the vessel's direction, power is applied to the pinion so as to make the slide-port close the port *o* and open the port *o′*, when a reverse motion is obtained.

I make no claim to the shape of the vessel, to the number of keels, or to the use of air-pumps or air-engines; but

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

The air-chest C, provided with ports *o o′*, in combination with the slide-port D and pinion G, constructed to open and close either port and admit and cut off the pressure of the air through the bottom of the vessel.

ALFRED MAYNARD.

In presence of—

J. C. CLAYTON,

THOS. F. FARRELL.