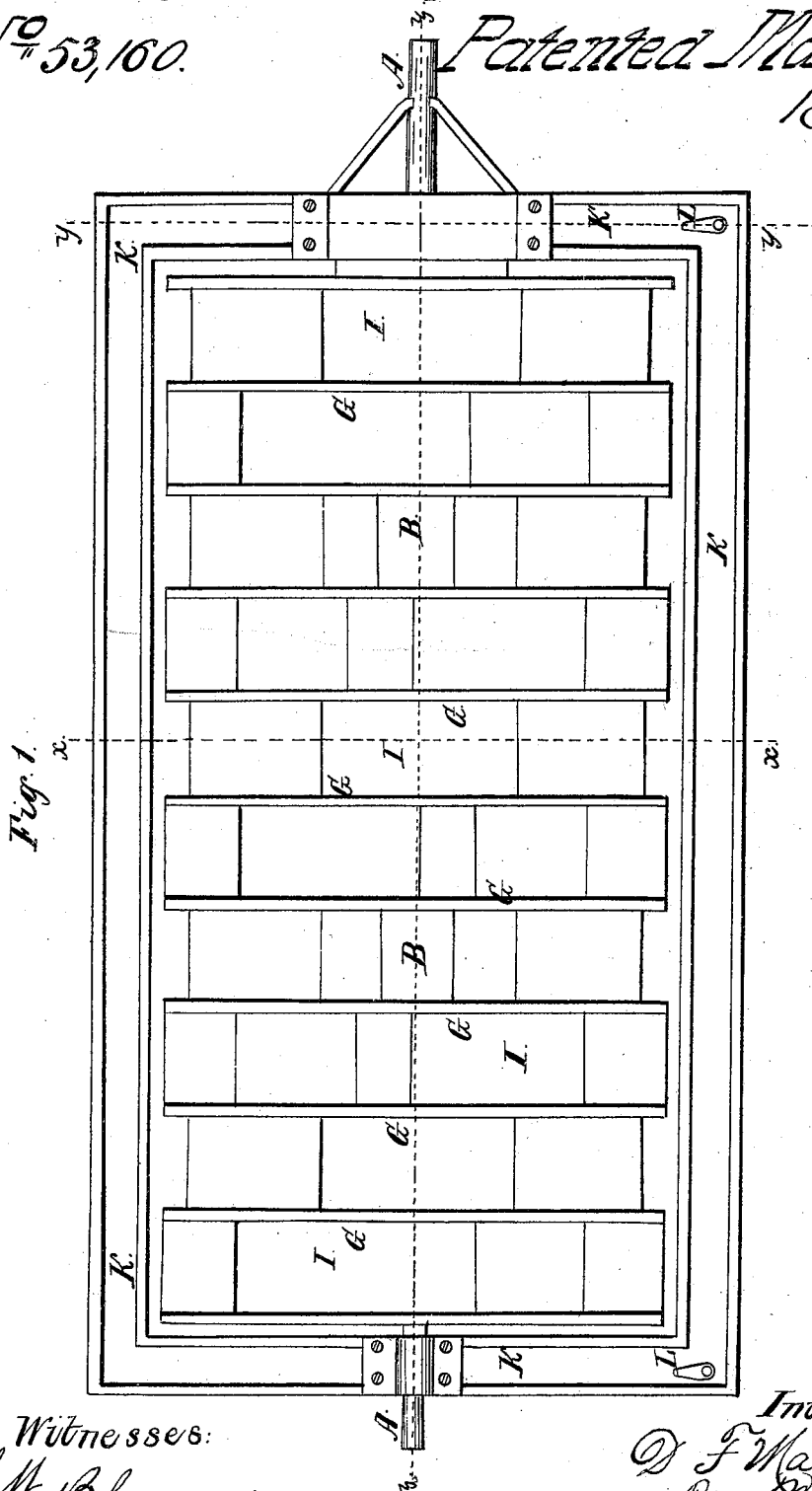


*D. F. Masnata. Sheet 1, 3 Sheets.*

*Buoyant Propeller.*

*Nº 53,160.*

*Patented Mar. 13.  
1866.*



*Witnesses:  
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*Inventor:  
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Per [Signature]  
Atty*

Sheet 2, 3 Sheets.

D. F. Masnata.

Buoyant Propeller.

N<sup>o</sup> 53,160

Patented Mar. 13, 1860.

Fig. 2.

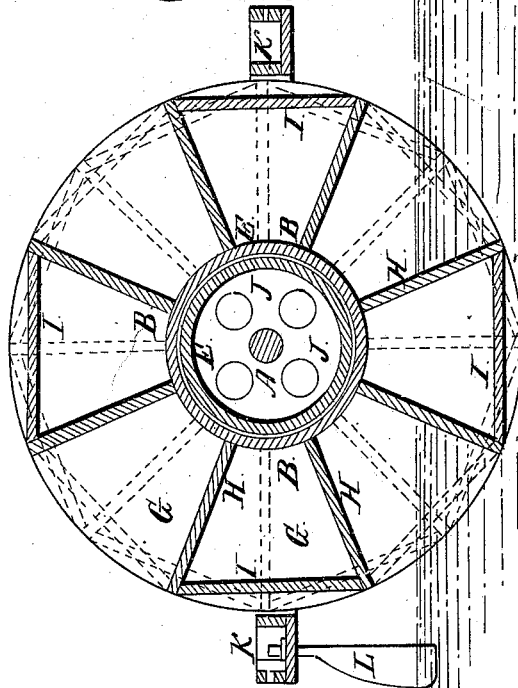
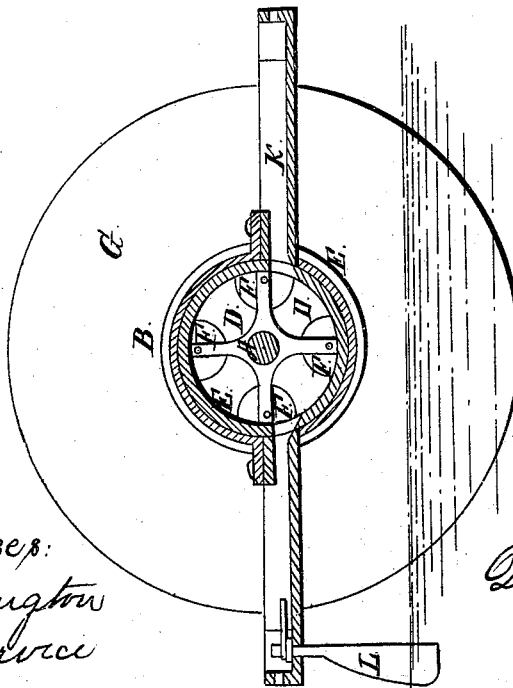


Fig. 1.



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Per Drumm  
Att'y

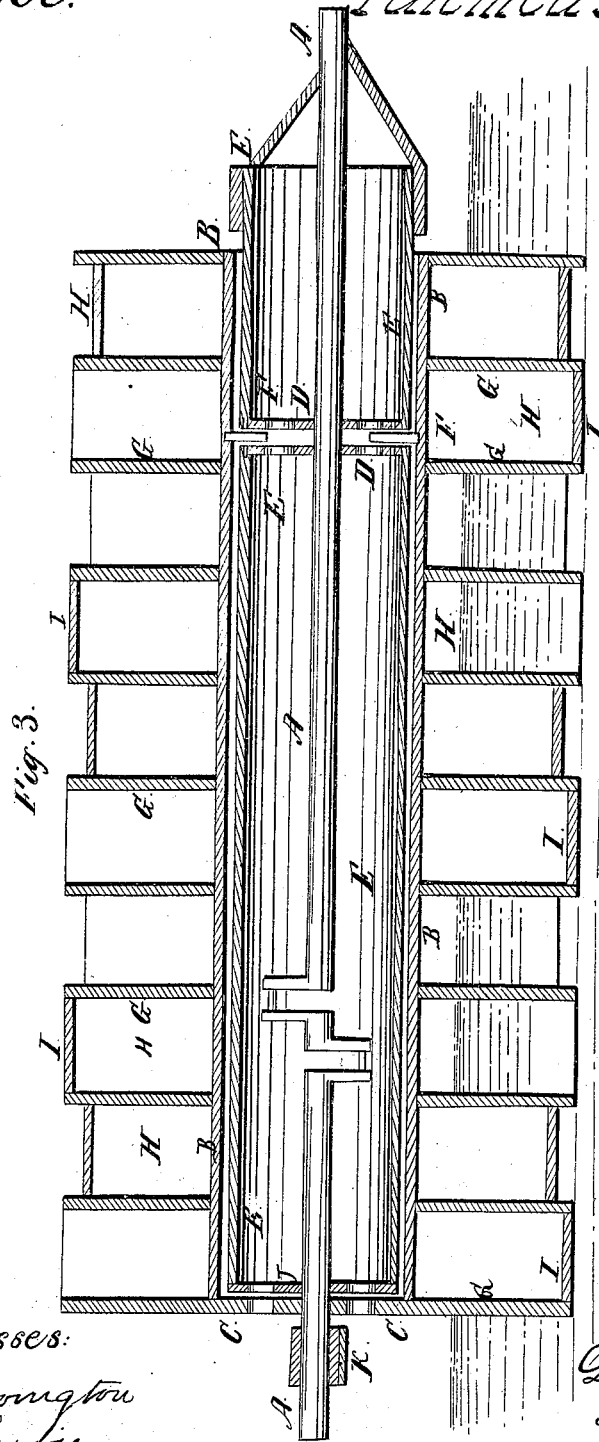
Sheet 3, 3 Sheets.

D. F. Masnata.

Buoyant Propeller.

N<sup>o</sup> 53,160.

Patented Mar. 13,  
1866.



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# UNITED STATES PATENT OFFICE.

DAVID F. MASNATA, OF NEW YORK, N. Y.

## IMPROVED ROTARY STEAMSHIP.

Specification forming part of Letters Patent No. 53,160, dated March 13, 1866.

*To all whom it may concern:*

Be it known that I, DAVID F. MASNATA, of the city, county, and State of New York, have invented a new and Improved Recto-Rotary or Revolving Steamship; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a top or plan view of my improved steamship. Fig. 2 is a vertical cross-section of the same, taken through the line *xx*, Fig. 1. Fig. 3 is a vertical longitudinal section of the same, taken through the line *zz*, Fig. 1. Fig. 4 is a vertical cross-section of the same, taken through the line *yy*, Fig. 1.

Similar letters of reference indicate like parts.

My invention has for its object to furnish a steamship in which great velocity shall be obtained in connection with entire safety; and it consists of a revolving steamship constructed and arranged as hereinafter more fully described.

A is the driving-shaft, to which motion is given by a steam engine or engines, the cylinders of which are so arranged that their pistons may act at right angles to each other, so as to counteract any tendency to oscillate which the shaft A might otherwise have.

B is a hollow cylinder firmly connected at one end to the shaft A by a solid head, C, having holes through it for the purposes of ventilation. This head C may be replaced by radial arms firmly connected to both the shaft A and the cylinder B, the ventilation being obtained through the spaces between the said arms.

D are radial arms, forming at their point of intersection at the center of the cylinder bearings in which the shaft A revolves, and by which it is kept in its proper relative position with respect to the cylinder B. These arms pass through openings in the sides of the interior cylinder, E, and to their ends are pivoted friction-wheels F, running in a groove formed on the inner surface of the cylinder B, or formed in a circular rail firmly attached to the interior surface of said cylinder.

To the outer surface of the cylinder B are

attached vertical circular partitions G, and the sections thus formed are divided into compartments by partitions H. These partitions are not set opposite to each other, so as to form a continuous line from one end of the cylinder to the other, but the partition which separates any two compartments of one section is set opposite the middle of a compartment in the next section, as shown in Fig. 1.

The mouth of every alternate compartment in each and every section is closed with a casing, I, as shown in Figs. 1, 2, and 3. Thus perfectly air-tight compartments, by means of which great buoyancy is obtained, are formed in regular and symmetrical order all over the surface of the revolving cylinder, each closed and air-tight compartment alternating with an open one of equal capacity, which latter compartments act as paddles in carrying the vessel forward over the water.

One end of the cylinder E terminates in a head, J, corresponding to the head C of the cylinder B. Through this head J are formed openings for ventilation, and through its center passes the shaft A, which thus supports one end of the said cylinder. The other end is supported by the arms D, already described, and the cylinder is kept from revolving by the engines and heaviest part of the cargo being placed in the lower part of the said cylinder, thus bringing the center of gravity much below the axis of revolution, which, as the cylinder hangs loosely upon the shaft A, keeps the cylinder always in the same vertical position.

One end of the cylinder E projects beyond the end of the cylinder B, as seen in Figs. 1 and 3, and through this projecting end are formed the passage-ways for ingress to and egress from the vessel. Through this projecting end of the cylinder E are also formed the passage-ways to and from the gallery K, which passes wholly around the ship, and is supported at one end by being firmly and rigidly attached to the said projecting end of the cylinder E, and at the other end by being hung from the shaft A, as shown in Figs. 1 and 3. This gallery forms a promenade-deck for the passengers, and upon it state-rooms for their accommodation may be erected if desired, and the rooms thus located would be safe from any liability to danger from explosions, the boilers being located in the interior of the vessel, as before

described. This gallery, being rigidly connected to the cylinder E, also acts as a guard to the said cylinder, should it from any cause have a tendency to revolve, and by coming in contact with the surface of the water it prevents such revolution, thus furnishing a still further guard to the stability of the interior cylinder, E. This vessel moves forward by revolving upon the water, being buoyed up by the air-chambers before described, and it is guided by two rudders, L, one on each side, as shown in Fig. 1. These rudders may be so arranged that they can be lowered into the water as and when required for changing the course of the ship, and again raised when no longer required.

The revolving cylinder B may be made of a greater diameter in comparison with the diameter of the vessel than as represented in the drawings, and it would do no harm if said cylinder, as it revolves, should pass below the

water-line; but in this case the water should be prevented from entering the interior of the cylinder by circular guards or wings attached to the ends of said cylinder, or by making the holes for ventilation closer around the crank.

I claim as new and desire to secure by Letters Patent—

An improved recto-rotary or revolving steamship formed by combining an interior stationary cylinder, E, and an exterior surrounding gallery, K, with the shaft A and exterior revolving cylinder B, provided on its exterior surface with alternate paddles and air-tight compartments, the whole being constructed and combined substantially as herein described, and for the purposes set forth.

DAVID F. MASNATA.

Witnesses:

PETER COOKE,  
JAMES T. GRAHAM.