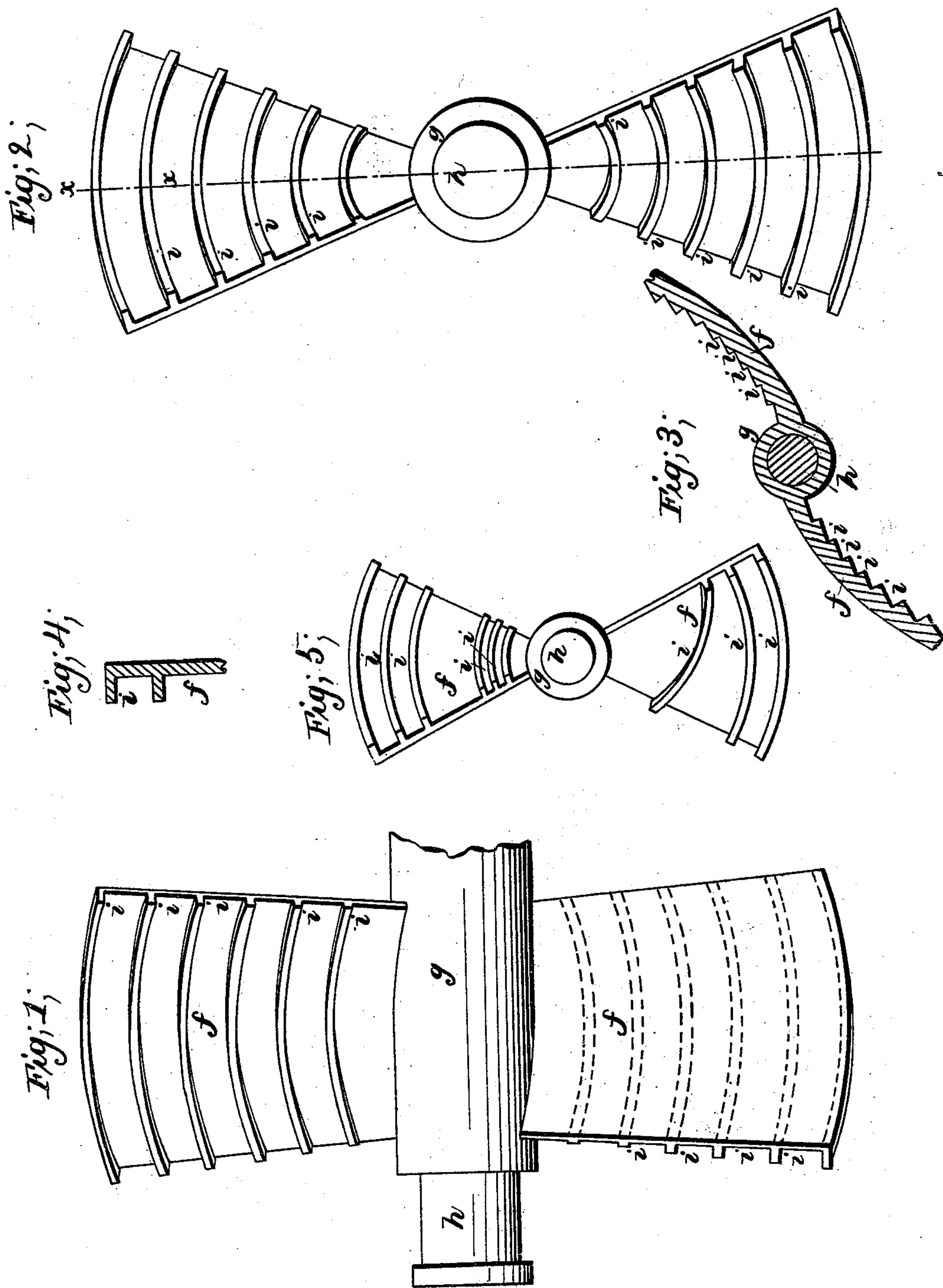


*J. J. B. Vergne.*

*Screw Propeller.*

*N<sup>o</sup> 24,508.*

*Patented Jun 21, 1859.*



# UNITED STATES PATENT OFFICE.

J. J. B. VERGNE, OF PARIS, FRANCE.

## IMPROVED SCREW-PROPELLER.

Specification forming part of Letters Patent No. 24,508, dated June 21, 1859.

*To all whom it may concern:*

Be it known that I, JULES JEAN BAPTISTE VERGNE, of Paris, and now residing at Toulon, in the Empire of France, officer in the Imperial navy, have invented an Improvement in Screw-Propellers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed sheet of drawings, making a part of the same.

My invention relates to improvements in screw-propellers for vessels, which improvements are intended to prevent the molecules of water struck by the screw from passing toward the periphery by yielding to the centrifugal force and from producing prejudicial eddies. I obtain these results by means of grooving or fluting the surface of the screw, instead of using a plain surface, as usual. By "fluting the surface of the screw" I mean making grooves in the body of the metal; or the grooved surfaces may be produced by means of raised ribs affixed to the screw-surface, which ribs may be either inclined or curved toward the center of the screw, or the reverse, or stand at right angles to the face of the screw. I form these grooves on the surface of the screw, either in the direction in which the screw is generated, or they may be at angles or inclined thereto, as may be most desirable.

My invention consists in arranging the grooving, fluting, or ribs in the form of a series of steps rising one above the other as they approach from the center toward the periphery. By this arrangement all the ribs are made to act in the most effective manner upon the water, any molecules that pass one rib being caught by the next higher rib adjoining, and so on from the center of the propeller to the periphery, the outer rib being the highest of all.

I will now proceed to describe my invention in detail, reference being had to the annexed sheet of drawings, and to the letters marked thereon, in which—

Figure 1 shows a side view of the screw-propeller provided with the grooves or flutings. Fig. 2 represents a vertical projection or plan of the same perpendicular to the axis of the shaft. This screw, which in the said figure is represented with two branches, may of course be provided with three, four, or six branches having a certain number of grooves or flutings. Fig. 3 is the section through a plan perpendicular to the axis of the shaft, showing the two branches of the screw and the form of the grooves or flutings. Fig. 4 is the horizontal projection of the screw through a plane parallel to the axis of the shaft. Fig. 5 is a section of the groove or fluting through the line *ab* of Fig. 2. Fig. 6 is a section of the same through the line *cd* of Fig. 2. Fig. 7 shows a sectional view of the same through *mn* of the said figure, and Fig. 8 a section through *pq*, Fig. 2.

The same letters stand for like parts in the different figures.

*f f* is the screw-propeller; *g g*, hub of the screw; *h h*, shaft of the same, and *i i* grooves or flutings.

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

The arrangement of the grooving, fluting, or ribs in the form of a series of steps, substantially as and for the purposes herein set forth and described.

J. J. B. VERGNE.

Witnesses:

TAUDRIA,  
GARDISSAL.