

(No Model.)

W. THOMPSON.
SCREW PROPELLER.

No. 543,909.

Patented Aug. 6, 1895.

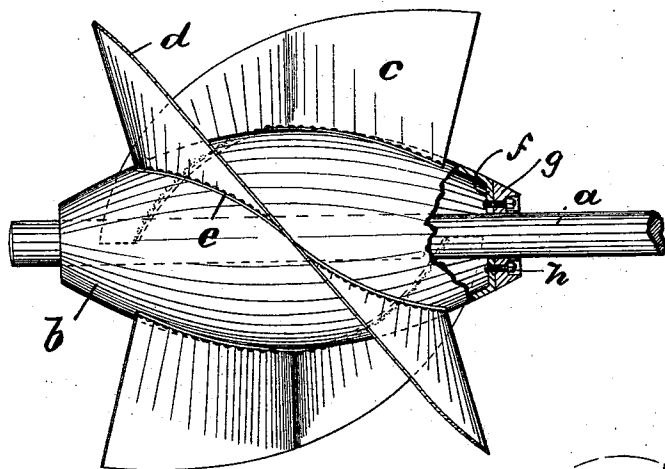


Fig. 1.

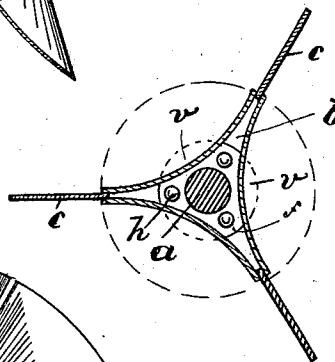


Fig. 3.

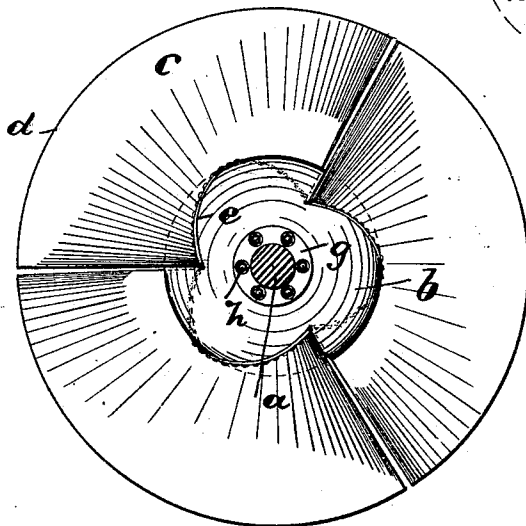


Fig. 2.

WITNESSES:

Runcan M. Robertson.

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SCREW-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 543,909, dated August 6, 1895.

Application filed October 16, 1894. Serial No. 526,030. (No model.)

To all whom it may concern:

Be it known that I, WALTER THOMPSON, a subject of the Queen of Great Britain, residing in Chicago, Cook county, State of Illinois, have invented certain new and useful Improvements in Propellers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of the present invention is to provide a propeller of simple, strong, and durable construction, and economical and efficient when used.

The invention consists in the improved propeller, its blades and elliptical hub, and in the combination and arrangement of parts, substantially as will be hereinafter more fully described, and finally embodied in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several figures, Figure 1 is a side elevation of my improved propeller, certain portions of the hub being shown in section. Fig. 2 is an end view of Fig. 1, and Fig. 3 is a central section through my improved propeller, having a modified form of a hub.

In said drawings, *a* represents a shaft upon which is firmly secured the hollow elliptical hub *b*, by means of the washers *g*, bolted with bolts *h* to the inwardly-extending flange or ring *f*. The diameter of said hub is by preference about one-third of the length thereof. To the said hub are secured in any desired manner a series of two or more (in the drawings three) segmental-shaped blades *c* in such a manner as to form a screw of uniform pitch. Each of said blades is of uniform width throughout its entire length and is so arranged on the elliptical hub that its radial lines at every point are at right angles to the tangent

drawn through that point of the hub. The blades are of such dimensions that when viewed from either end they will just cover the area of a complete circle, as clearly shown in Fig. 2 of the drawings. The twist of each blade is so that its outer line *d* is substantially straight, while its base or connecting line *e* with the hub is curved almost S-shaped.

As clearly shown in the drawings, the blades do not extend through the entire length of the elliptical hub, but occupy only about two-thirds of the same.

If preferred, the space between each two adjoining blades could be made concave, as at *v*, Fig. 3, thus changing the shape of the true elliptical hub into a hub forming a screw, as will be manifest.

When the propeller is in use, the water, by means of the gradually-increasing diameter of the hub, is directed toward the blades, and every portion of said blades is thus acting upon the water, thus increasing the action of the propeller. As the blades form a screw of uniform pitch, a churning of the water is prevented, as said water is not thrown off by centrifugal force, but is thrown backward.

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

In a screw propeller the combination with the shaft, of a hollow elliptical hub secured on said shaft, and of a series of segmental shaped blades of uniform width arranged on said hub, and covering when viewed from either end the area of a complete circle, the outer or cutting line of each blade being substantially straight while its connecting-line with the elliptical hub is curved, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 1st day of October, 1894.

WALTER THOMPSON.

Witnesses:

THOS. J. HOLMES,

EDWARD G. THROCKMORTON.