

(No Model.)

C. P. WETHERILL.

SCREW PROPELLER.

No. 350,278.

Patented Oct. 5, 1886.

Fig. 1.

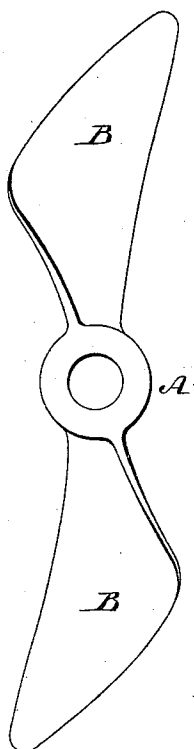


Fig. 2.

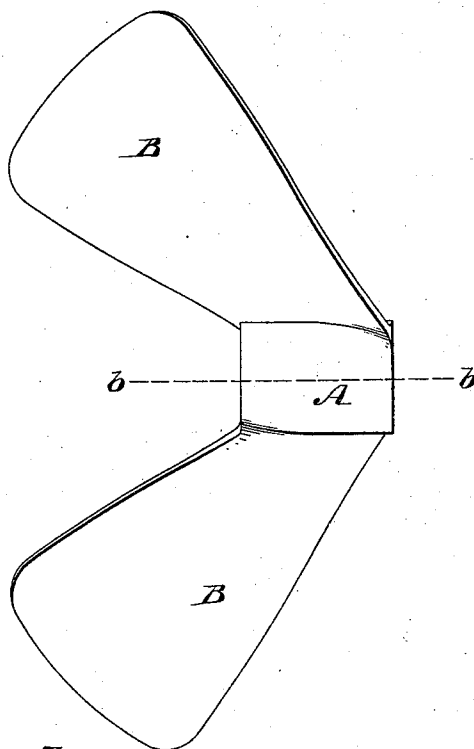
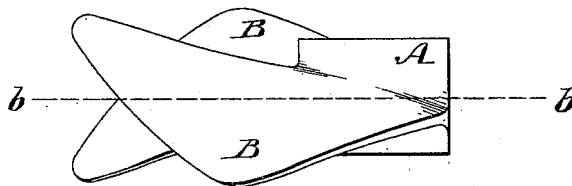


Fig. 3.



WITNESSES:

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COTESWORTH P. WETHERILL, OF WOODVILLE, MISSISSIPPI.

SCREW-PROPELLER.

SPECIFICATION forming part of Letters Patent No. 350,278, dated October 5, 1886.

Application filed March 25, 1886. Serial No. 196,537. (No model.)

To all whom it may concern:

Be it known that I, COTESWORTH P. WETHERILL, of Woodville, in the county of Wilkinson and State of Mississippi, have invented a new and Improved Screw-Propeller, of which the following is a full, clear, and exact description.

This invention consists in a screw-propeller or propelling-wheel having its blades, of which two or more may be used, set inclining in the direction of their length relatively to the axial line of the shaft of the wheel and forwardly in the direction of the motion ahead produced by the propeller, and of an effective angle of pitch with said shaft, the plane of which inclination of the said blades crosses the said axial line of the wheel-shaft, substantially as hereinafter more fully set forth, and pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a face view of a two-bladed propelling-wheel embodying my invention, and Figs. 2 and 3 side views of the same as seen from different positions at right angles with each other.

A is the hub of the wheel, the dotted line *b* indicating the axial line of its shaft. B are the blades, which, instead of projecting in a direction at right angles to the axial line of the shaft, as in other screw-bladed propellers, are set inclining in direction of their length relatively to said axis, so as to occupy a forwardly-inclining position toward the shaft in direction of the motion ahead produced by the propeller. This inclination of the propeller-blades

relatively to the axial line of the shaft causes the blades to rotate within a space which, if circumscribed, would be represented by the figure of a cone. Such inclination may vary from forty to sixty degrees, (40° to 60°), and the pitch of the blades I find most effective when the same is at an angle with the shaft varying from forty-five to sixty-five degrees, (45° to 65°), or thereabout. The inclination of the blades in direction of their length relatively to the axial line of the shaft causes the wheel for a given diameter to have a greater propelling area than is attainable by propelling-wheels of the ordinary construction using blades of like width and pitch, whereby greater speed may be obtained for a given number of revolutions. There will also be less slip as well as increased thrust, and the wheel for a given area of propelling-surface will have a greater body of water over it when submerged.

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

The screw-propeller or propelling-wheel having its blades, of suitable pitch, set inclining in the direction of their length relatively to the axial line of the shaft of the wheel and forwardly in the direction of the motion ahead produced by the propeller, the plane of which inclination of said blades crosses the said axial line of the wheel-shaft, substantially as and for the purpose set forth.

COTESWORTH P. WETHERILL.

Witnesses:

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