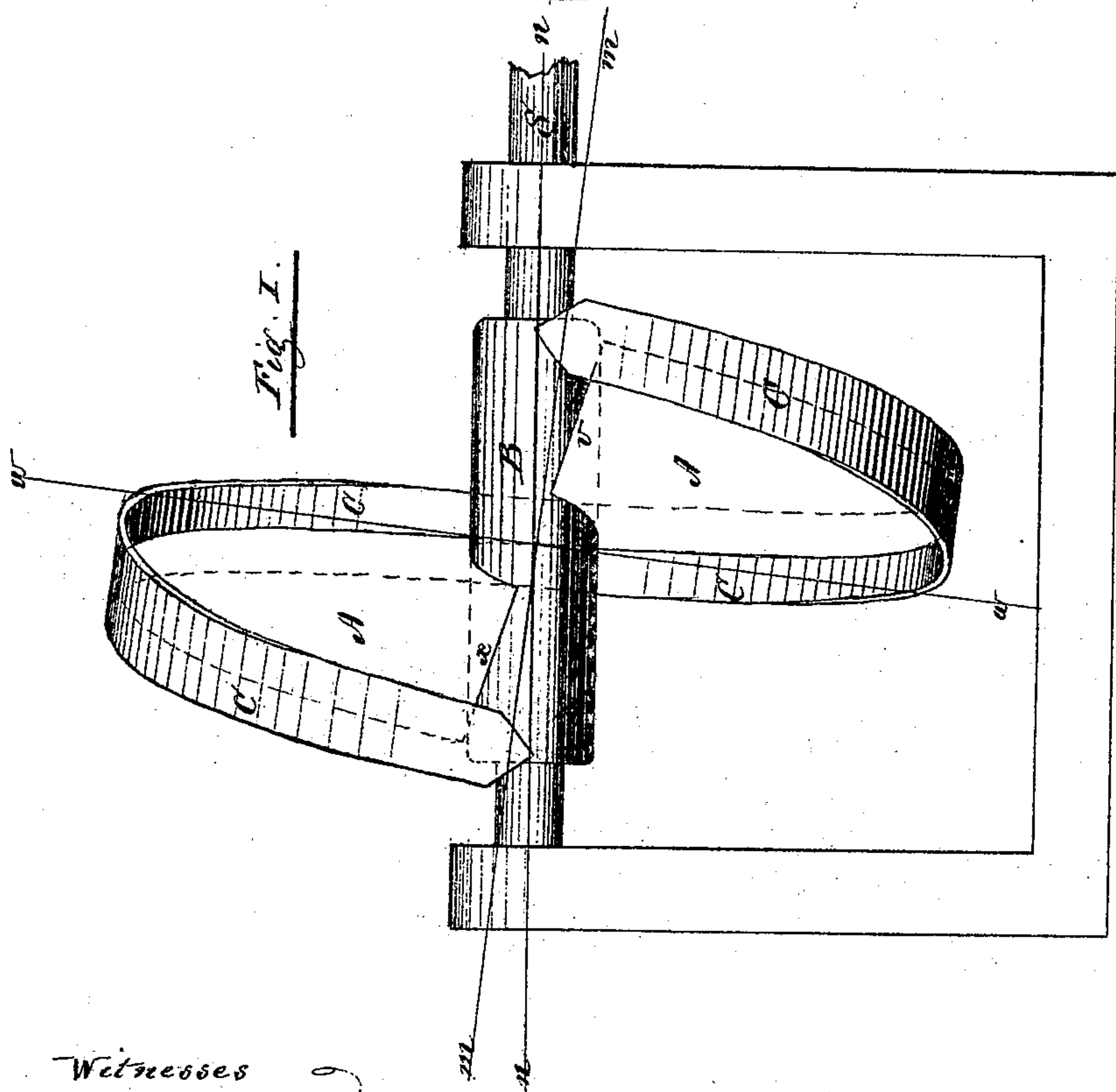
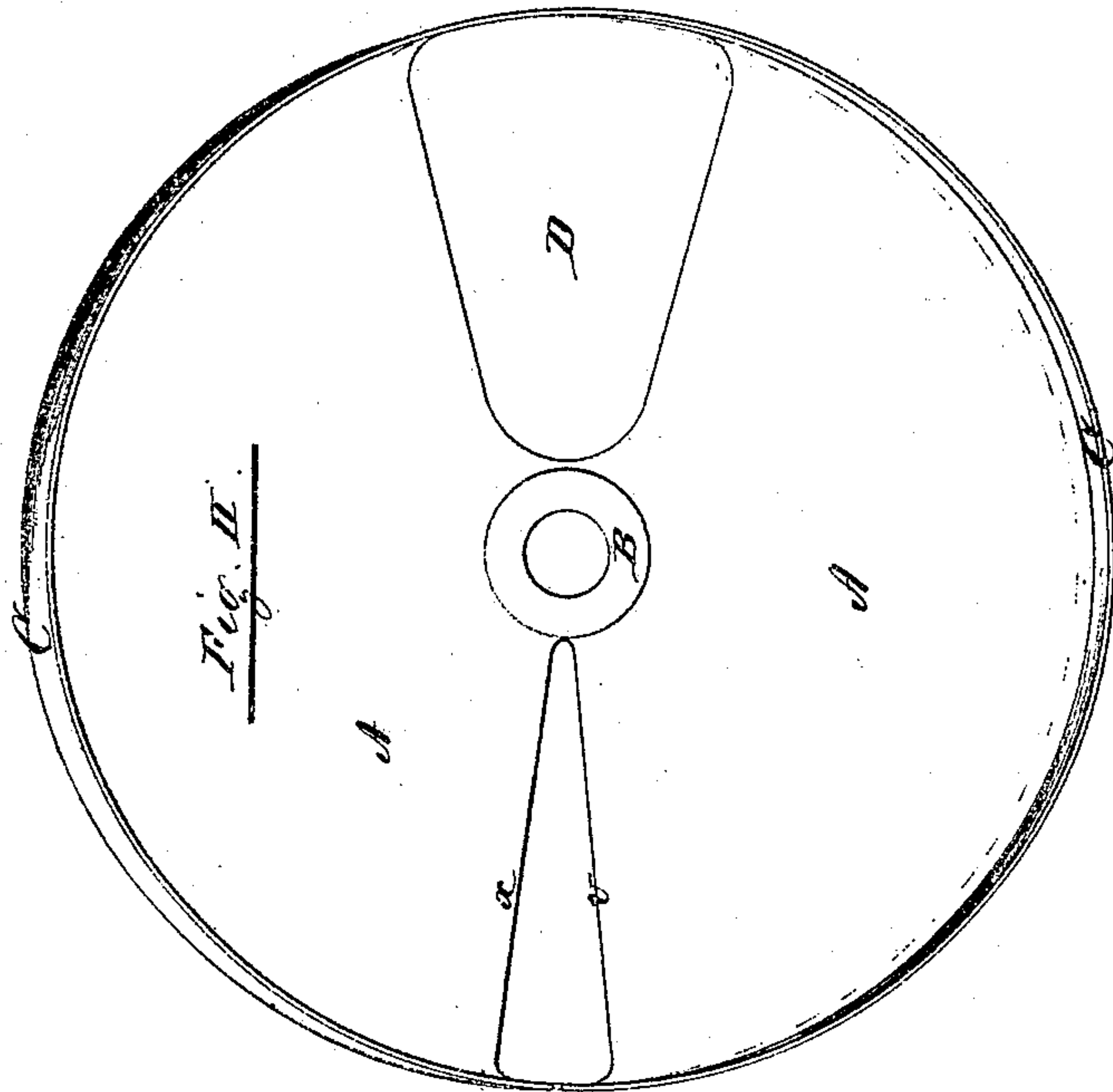


*C. Kinzler,*

*Screw Propeller.*

*No. 102,276.*

*Patented Apr. 26. 1870.*



*Witnesses*

*Henry E. Roeder*  
*Adam Kessler*

*Inventor*

*Charles Kinzler*

# United States Patent Office.

CHARLES KINZLER, OF NEW YORK, N. Y.

Letters Patent No. 102,276, dated April 26, 1870.

## IMPROVEMENT IN PROPELLERS.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, CHARLES KINZLER, of New York, in the State of New York, have invented certain Improvements in "Propellers," of which the following is a specification.

The nature of my invention consists in the arrangement and combination of the propeller-hub with the propeller-blade or blades, in such a manner that the center-line of the propeller-hub or the center-line of the shaft shall be diagonal with the center-line of the propeller-blade or blades, and whereby power of the propeller is considerably increased.

In the accompanying drawing—

Figure I represents a side elevation of a propeller embodying my invention, and

Figure II is an end view of the same.

A represents the propeller-blade, consisting of a curved blade wound around the hub B.

To the outer circumference of this blade a flanch, C, is attached, projecting equally on both sides of the blade, and forming thus a regular spiral flanch on the outer edge of the blade.

The hub B is bored larger than the shaft S. It is secured thereto by set-screws, or by any equivalent means which allows of the adjustment of the hub, in relation to the axis of the shaft, from a position in which their respective axes are concentric to one in which they are inclined to each other ten degrees, more or less, thus producing a wobbling motion in addition to the regular motion derived from the rotation of the shaft S.

It will be observed that the hole D through the web of the propeller is in that part thereof which would be at right angles to the axis of the shaft, for the purpose of allowing the passage of water, and thereby preventing any drag whatever when the vessel is in motion.

Opposite the entering edge *v* of the propeller, or in a line passing between the forward edge *v* and the after edge *x* of the blade, and on the opposite side of the propeller-shaft or hub B, a large opening, D, is made in the blade A.

By the arrangement of the flanch C on the outer edge of the propeller-blade or blades, the water is partly confined, and prevented from spreading, or from being thrown outward, preventing thereby the washing away of the sides of canals, or disturbing the sand and dirt in the bottom of canals or shallow rivers.

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

1. The arrangement of the hub B and shaft S, when their respective axes are made adjustable in relation to each other, in the manner and for the purpose set forth.

2. In combination with the blade A, constructed substantially as described, the opening D, for the purpose specified.

CHARLES KINZLER.

Witnesses:

HENRY E. ROEDER,  
ADAM KEPPLER.