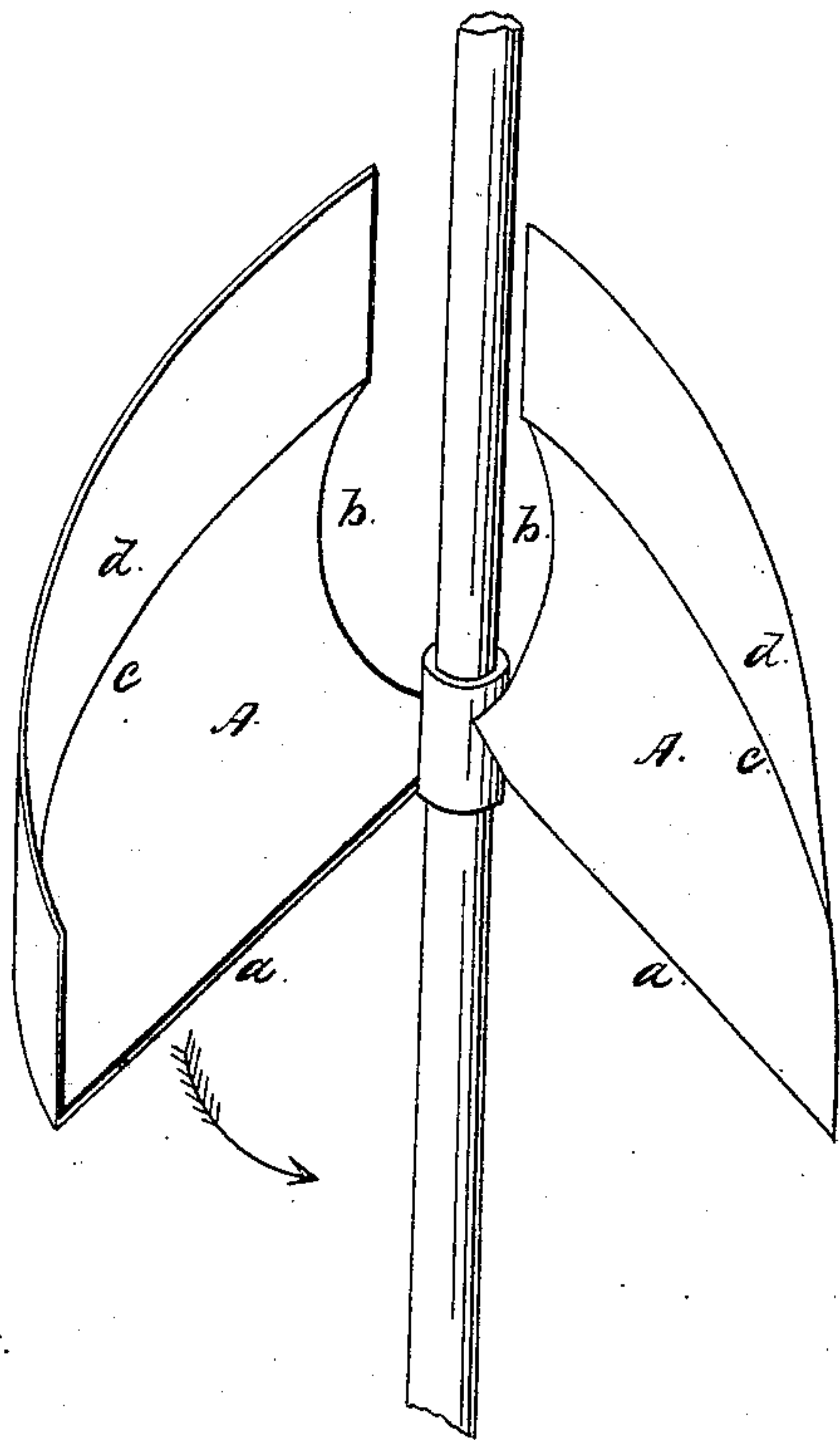


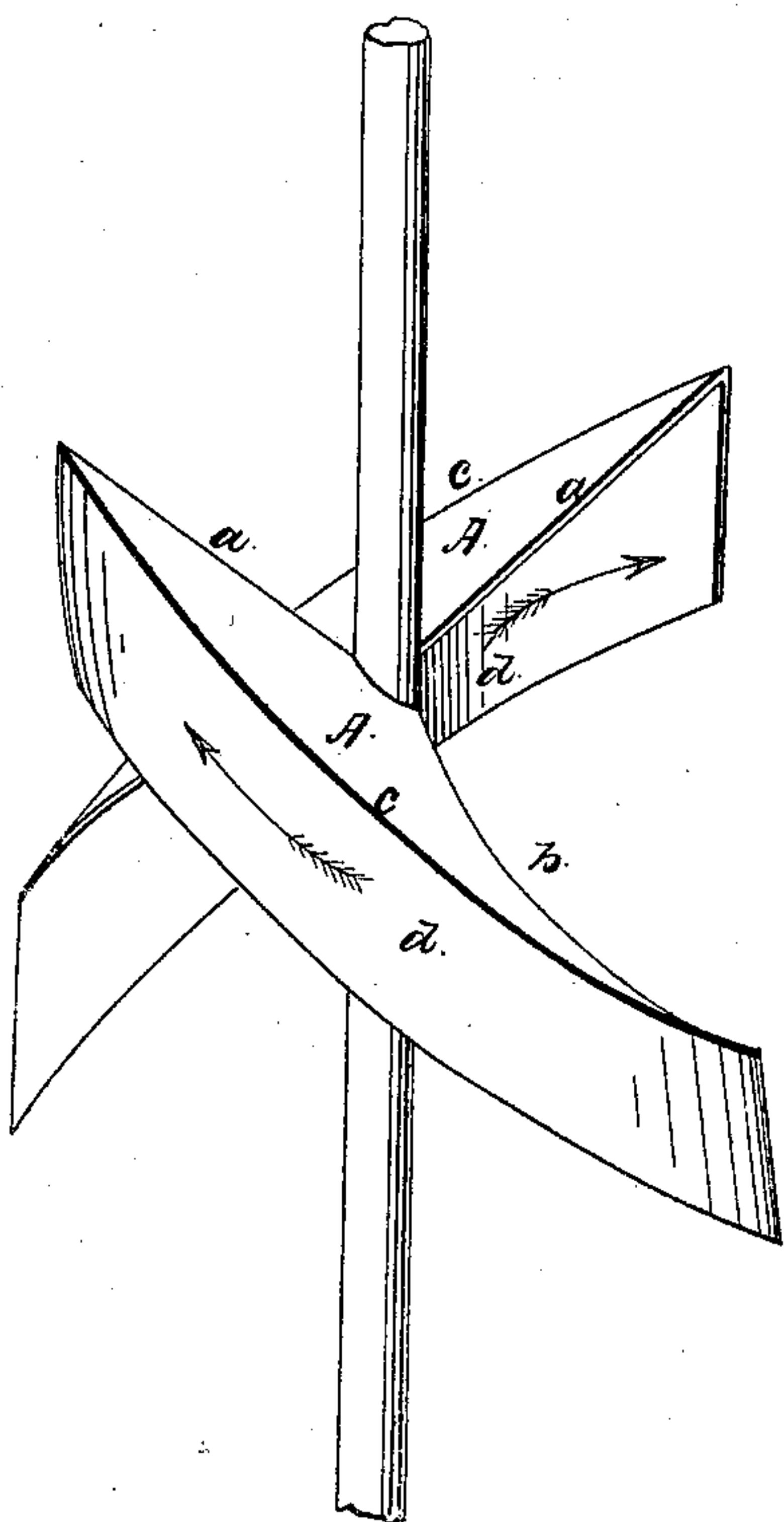
*W. F. Tyson.*  
*Screw Propeller.*

*Nº 9,810.*

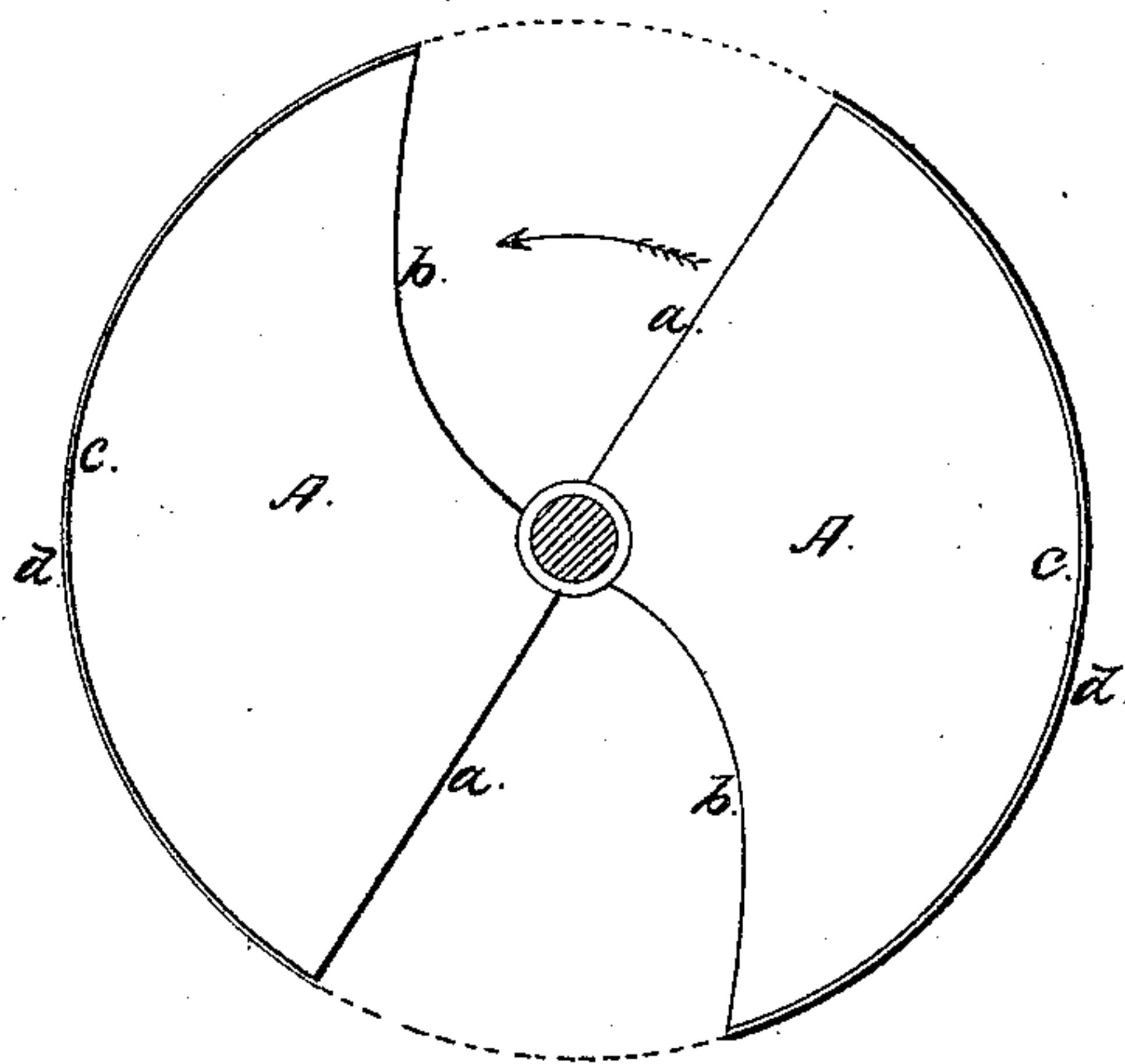
*Patented June. 21, 1853*  
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



# UNITED STATES PATENT OFFICE.

WILLIAM F. TYSON, OF ORWIGSBURG, PENNSYLVANIA.

## SCREW-PROPELLER.

Specification of Letters Patent No. 9,810, dated June 21, 1853.

*To all whom it may concern:*

Be it known that I, WILLIAM F. TYSON, of Orwigsburg, in the county of Schuylkill and State of Pennsylvania, have invented a new and useful Improvement in Screw-Propellers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification, and in which—

Figures 1 and 2 are views in perspective of my propeller in two different positions, and Fig. 3 is an end elevation of the same.

My improved propeller consists of inclined blades which are secured to a hub, the peripheries of the blades are everywhere equidistant from the axis on which the propeller turns and are furnished throughout their whole extent with rims, which have the form of helical strips cut from the barrel of a cylinder and project backward from the blade to confine the water on which the latter is acting and thus prevent it from being thrown outward by the centrifugal force generated by the revolution of the blades.

In the accompanying drawing A, A, are the propeller blades, each consisting of a plate of metal secured in an inclined position to a central hub which is made fast to the propeller shaft. Each blade is straight edged at its front *a* or that end which enters the water, their hinder edges are curved as represented at *b* in the drawing. The outer edge *c*, or periphery of each propeller, is at every point equidistant from the axis of the

shaft so that in revolving it will describe a cylinder of which the axis of the shaft is the axis. The periphery of each blade is fitted with a rim *d* which projects behind it; this rim has the form of a strip cut from the cylinder described by the rotation of the blade. It confines the water upon which the blade is acting and prevents it from being thrown outward by the centrifugal force, which is generated by the rotation of the blades, and thus enables me to construct my propeller with a greater pitch than those in general use, while at the same time it opposes but little if any resistance to the forward movement of the vessel.

The object for which this propeller is designed is the propulsion of vessels, but it is believed to be peculiarly fitted for canal navigation as the rims of the blades by retaining the water, prevent it from moving laterally from the propeller shaft and thus prevent the production of waves which would act injuriously upon the banks.

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

The blades constructed with lips or rims which are sections of a cylinder concentric with the axis on which the propeller rotates as herein specified.

In testimony whereof I have hereunto subscribed my name.

WM. F. TYSON.

Witnesses:

S. F. BOSSARD,  
LEVI N. WAGNER.