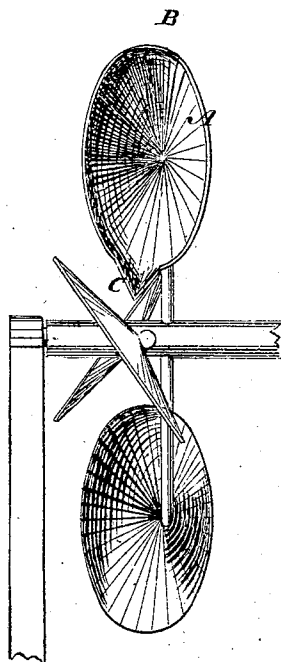


N. A. PATTERSON.
Screw-Propellers.

No. 135,149.

Patented Jan. 21, 1873.



Witnesses:

E. M. W.
C. Sedgwick

Inventor:

N. A. Patterson

PER

Wm. H. L.
Attorneys.

UNITED STATES PATENT OFFICE.

NEWTON A. PATTERSON, OF ATHENS, ASSIGNOR TO HIMSELF, McKENDRIE F. MILLER, AND LONDON N. MILLER, OF RHEATOWN, TENNESSEE.

IMPROVEMENT IN SCREW-PROPELLERS.

Specification forming part of Letters Patent No. 135,149, dated January 21, 1873.

To all whom it may concern:

Be it known that I, N. A. PATTERSON, of Athens, in the county of McMinn and State of Tennessee, have invented an Improvement in Screw-Propellers, of which the following is a specification:

The drawing is a side elevation of my invention.

The invention relates to screw or spiral propellers; and consists in making the blades concavo-convex, with pointed extensions on the inner sides, and adapted to be arranged some distance from shaft and in planes oblique or spiral thereto.

A represents the circular concavo-convex blades, having the pointed extensions C. The concave surfaces curve gradually toward axis on an increasing pitch, and in radial lines so as to change the direction of the fluid, and project it rearwardly where it finally escapes. By this construction there is no lateral displacement, and the resistance is better kept up on the blades throughout their length from front to rear. By careful experiment this form has been found to act more quickly and with more power than any other forms which were tried. If a plane blade should be employed, the curved circular portion would pass over a

greater distance than the point, and hence the water would move much more quickly at the former than at the latter. This would produce a current or draft from the inner to the outer surface in the same manner that the ordinary plane blades of the blast-fan produce a current of air outwardly from the shaft. This rapid outward movement of the water is a great defect in screw-propellers. I avoid this difficulty by using the concavo-convex form of blade and locating the forward edge of the blade almost parallel with a plane at right angles to shaft, while the inner verge is almost at right angles with said plane. By this construction and arrangement the centrifugal tendency of the water is overcome, while it is packed and forced out at the kite-tail toward the axis of motion.

Believing, therefore, that the peculiar form which I have described produces a result which may be practically useful to the public, I ask protection thereon, claiming as new and of my invention in screw-propellers—

The blade A, made concavo-convex and provided with pointed extensions C, as described.

NEWTON A. PATTERSON.

Witnesses:

A. N. SHONN,
W. A. McKEEHAN.