

*H. Elliott.*  
*Screw Propeller.*

*No 2,073.*

*33,077.*

*Patented Aug 20, 1861.*

*Fig. 2.*

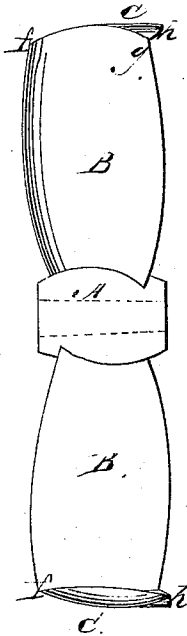


*Fig. 4.*

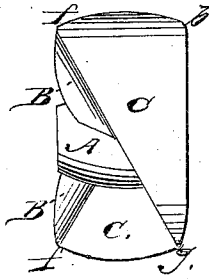


*Fig. 3.*

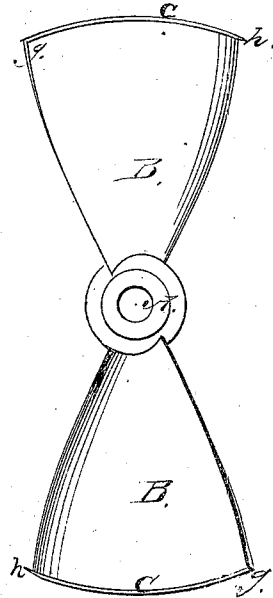
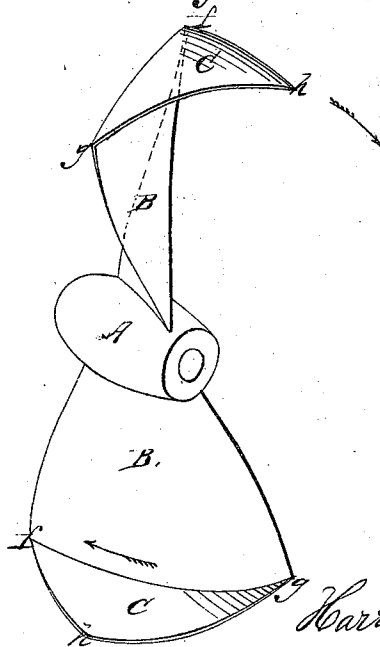


*Fig. 1.*



*Witnesses.*

*Sam. Cooper*  
*Edmund M. Moore*

*Inventor.*

*Harrison Elliott*

# UNITED STATES PATENT OFFICE.

HARRISON ELLIOTT, OF BOSTON, MASSACHUSETTS.

## SCREW-PROPELLER.

Specification of Letters Patent No. 33,077, dated August 20, 1861.

*To all whom it may concern:*

Be it known that I, HARRISON ELLIOTT, of Boston, in the county of Suffolk and State of Massachusetts, has invented an Improved Flanged-Blade Propeller, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

10 Figure 1 is a perspective view of my improved propeller, Fig. 2 a side, Fig. 3 a front and Fig. 4 an end view of the same.

The effort has been made to prevent the centrifugal action of propellers upon the water by means of transverse ribs upon the working surface of their blades. Such propellers have however not been successful as the ribs being of equal height across the whole width of the blades have tended only 15 to carry the water around with them and have not answered the desired purpose. I am also aware that the outer edges of propeller blades have been curved forward for the same purpose, but without effecting any 20 useful result; such propeller is also deficient in power when required to back and has never so far as I am informed come into use.

My present invention has for its object the prevention of the great loss of power resulting from the centrifugal action imparted to the water by the propeller and consists in the adaptation of a flange to the outer edge 30 of the blades in a manner which will now be more particularly described.

35 In the accompanying drawings A is the hub, B the blades of the propeller, to the outer edges of which are adapted flanges C, which project perpendicularly from the

outer edges of the blades and are concentric with the axis of the propeller.

The flanges project forward from the extreme point *f* of the advancing edges of the blades and disappear at the extreme point *g* of their rear edges. The size and shape of flange which I have found to produce the 45 greatest results being determined by a plane perpendicular to the axis of the propeller and passing through the points *g* cutting the flanges in the lines *g*, *h*, and by a plane passing through the axis of the propeller and the point *f* and cutting the flange in the line *f*, *h*. 50 These exact proportions are not rigid but they are those which I have found after many trials and experiments to produce the best results. 55

The water from a propeller thus constructed is not thrown centrifugally but in an unbroken column directly to the rear and the consequence is a great increase of speed, the propelling power and other attendant 60 circumstances remaining the same.

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

The flanged blade propeller herein described, the form of the flanges being determined by a plane perpendicular to the axis 65 of the propeller and passing through the rear corners of the blades and a plane parallel to the axis of the propeller and passing through the advance corner of the blades 70 substantially as set forth.

HARRISON ELLIOTT.

Witnesses:

SAM. COOPER,  
EDMUND MASSON.