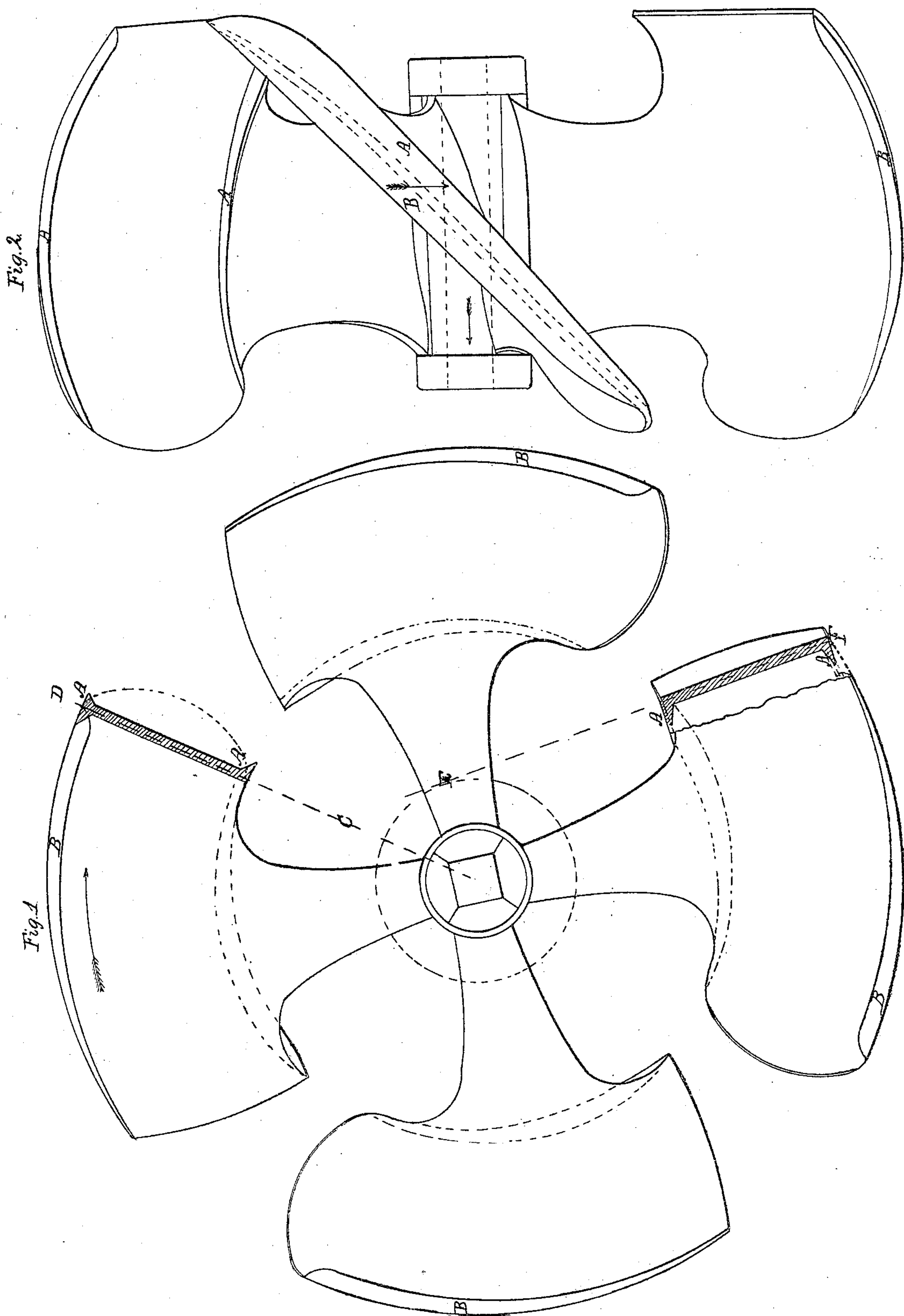


E. Beard,
Screw Propeller.

N^o 10,124.

Patented Oct. 18, 1853.



UNITED STATES PATENT OFFICE.

EBENEZER BEARD, OF NEW SHARON, MAINE.

PROPELLER.

Specification of Letters Patent No. 10,124, dated October 18, 1853.

To all whom it may concern:

Be it known that I, EBENEZER BEARD, of New Sharon, in the county of Franklin and State of Maine, have invented a new and
5 useful Improvement in Screw-Propellers for Propelling Vessels; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, taken in connection with
10 the accompanying drawings, making a part of this specification, in which—

Figure 1, represents a front elevation of my improved propeller with four blades and Fig. 2 a side elevation of the same.

15 The subject matter of my invention relates to certain improvements in the form given to the blades of a screw propeller by means of which they are made to act with greater efficiency in propelling a vessel than
20 those in common use.

My improvements are founded upon that well known fact in hydraulics that the effect of a current of water impinging on a plate placed at a right angle to its direction; or,
25 vice versa, of a plate moving through the fluid; is much increased by surrounding its border by a rim or flange which prevents the water from escaping freely from its edges; and consists in placing flanges circumferentially upon the propelling surfaces
30 of the blades at their outer margins, and also at their inner margins, where the blades are made much broader than their arms, as is shown in the drawings at A. They are
35 also placed upon the back sides of the blades

at their circumference as is shown at B, to render them more efficient in working backward. These flanges in addition to their increasing the useful effect of the propeller serve greatly to strengthen the blades and
40 permit of their being made thinner so as to enable them to pass through the water with less resistance. From the nature of the action of a screw propeller, it is obvious that they can only be usefully employed in those
45 positions upon the blades that will be circumferential to its axis of rotation. These flanges can also be usefully employed upon screw propellers of the ordinary construction and can be applied thereto after they
50 are made and thereby much increase the strength of the blades and their useful effect. I have also applied these flanges to the curved screw propeller patented to me April
10th 1841 upon the back sides of the blades
55 at the circumference, both to strengthen them, and to assist them in working backward, and with a good result.

What I claim as my invention and desire to secure by Letters Patent is: 60

The use of one or more flanges or rims placed circumferentially upon the blades of a screw propeller substantially in the manner and for the purposes described.

September 30th 1853.

EBENEZER BEARD.

Witnesses:

WM. C. HIBBARD,
H. A. PEELER.