

J. O. Heyworth.
Screw Propeller.

N^o 91,845.

Patented Jun. 29, 1869.

Fig:1.

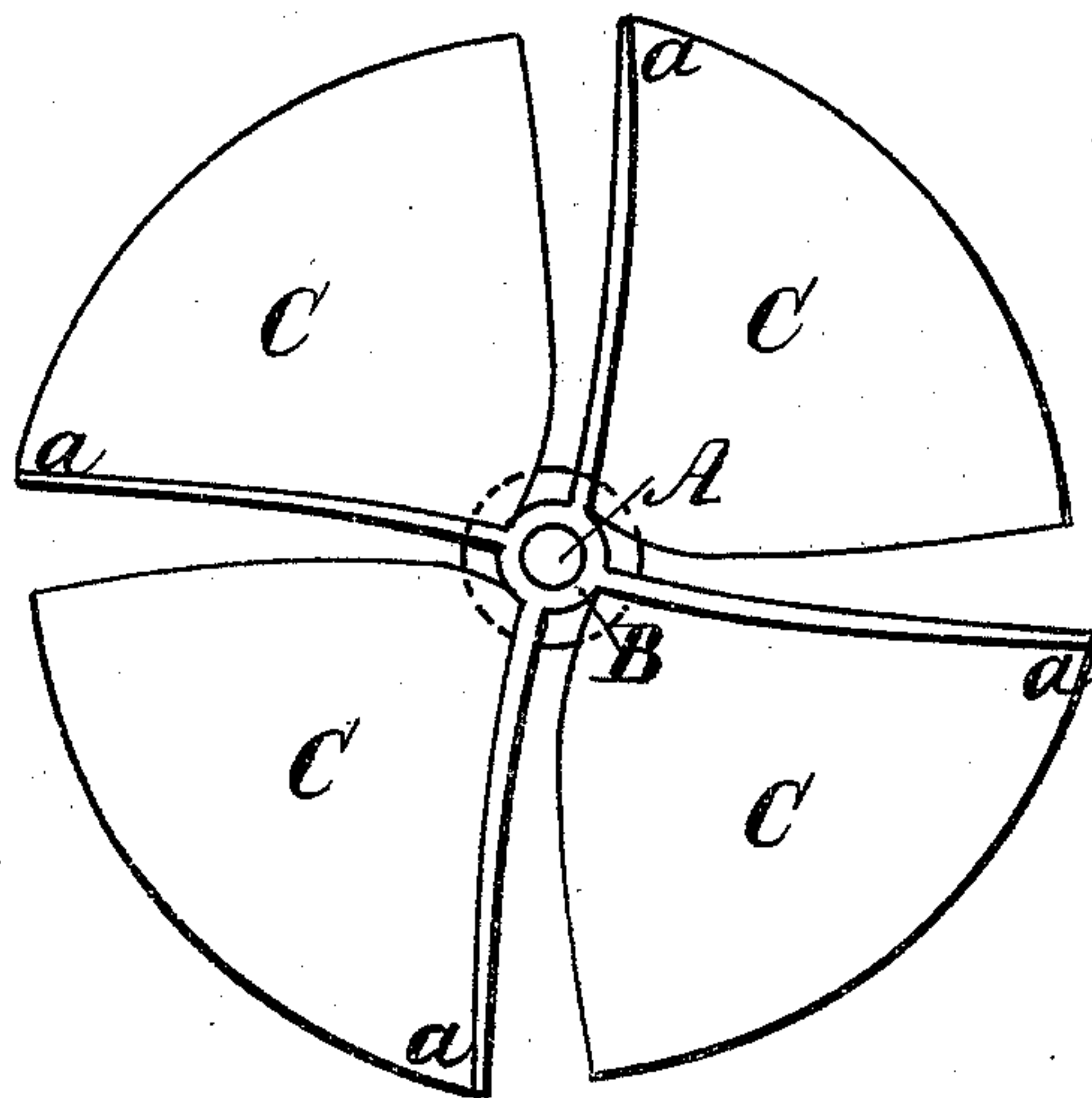
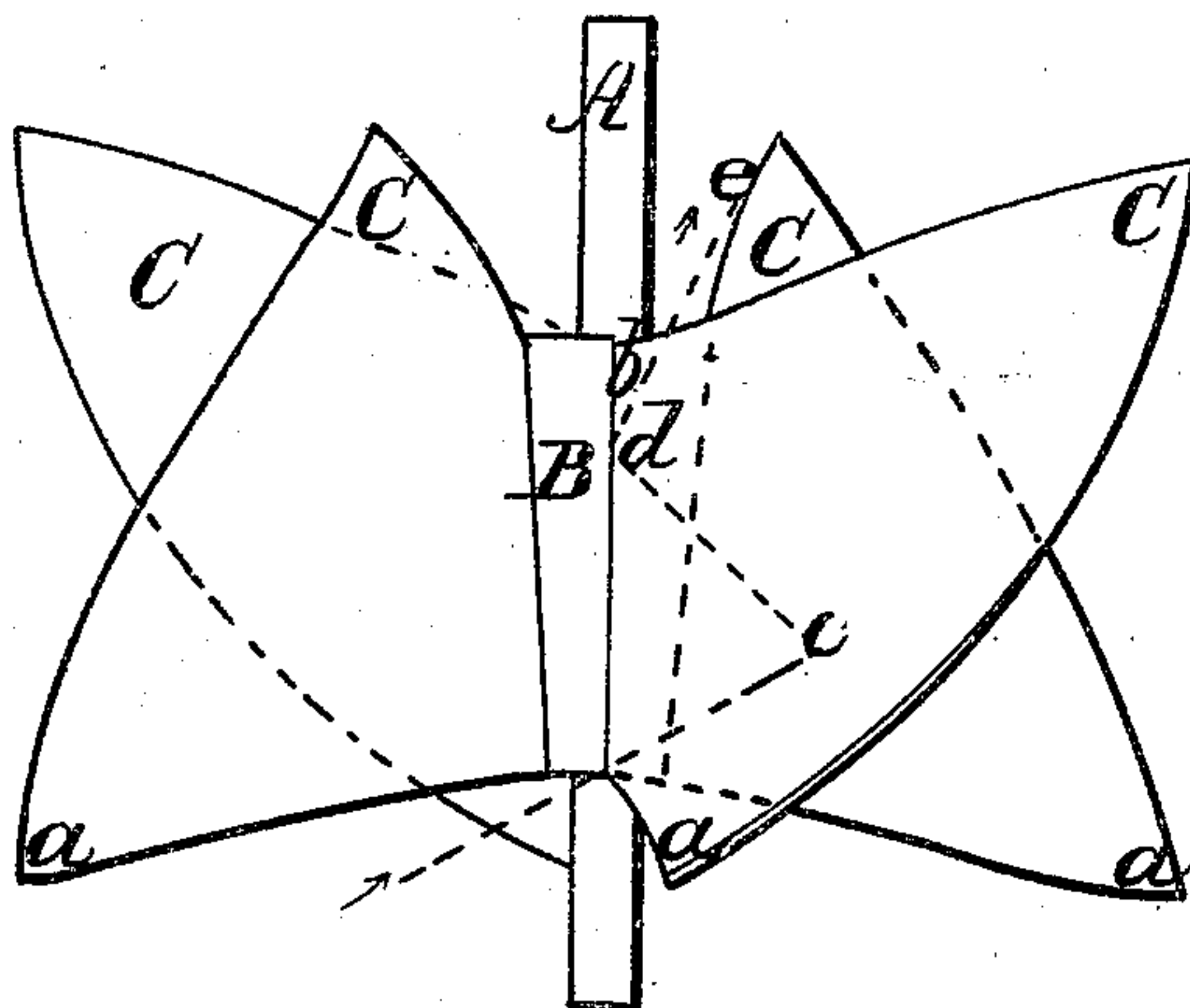


Fig:2.



Witnesses;

V. S. Lowell
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Inventor;

J. O. Heyworth

United States Patent Office.

JAMES O. HEYWORTH, OF CHICAGO, ILLINOIS.

Letters Patent No. 91,845, dated June 29, 1869.

IMPROVEMENT IN PROPELLERS.

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

To whom it may concern:

Be it known that I, JAMES O. HEYWORTH, of Chicago, in the county of Cook, and State of Illinois, have invented a new and useful Improvement in Wheels for Propelling Vessels, Air, or Water; and do declare that the following is a true and accurate description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and being a part of this specification, in which—

Figure 1 is a front view of my improved wheel.

Figure 2 is a top view of the same.

Like letters refer to like parts in each figure.

The nature of this invention relates to an improvement in that class of screw-wheels used in propelling vessels; and consists in a peculiar shape of the blades and their attachment to the shaft, so that they will act upon the water in such a manner as to force the same, in the first instance, towards the shaft, thereby giving a centripetal direction to the water, and allowing the blades to find resistance against a greater body of water than in ordinary propeller-wheels.

A, in the drawings, represents an ordinary propeller-shaft, to which is rigidly secured, by keys or other proper means, the screw-hub B, fig. 2. This hub is a truncated cone, having its base towards the rear, and its apex towards the stern-post, and to which are secured the wings or blades C, attached, where four blades are employed, as shown in the drawings.

The blades C are so shaped that their inner edges are of the length of the hub B, to which they are secured in a line parallel with the axis of the shaft A,

and are so curved that their forward upper corners *a*, first striking the water, deflect it centripetally towards the heel *b*, where the wheel, having an increased or gaining pitch, it offers a resistance to that portion of the wheel, so that the particles of water, having first undergone the action of the part of the wheel shown at *a*, may yet receive another impulse from that part shown at *b*, and finally leave the wheel toward the rear.

The hub is constructed in the form described, for this reason, that the water, striking the blade, as at *c*, is deflected towards the hub, as at *d*, from which point it would be reflected substantially on the line *d e*, did not the rear part of the blade, in its revolution, impinge against it and discharge it more nearly astern. All the lines in this wheel are so drawn that the water will be deflected, in the first instance, towards the hub, and thereby enabling the vessel to be steered with greater facility, as well as increasing her speed, as hereinbefore indicated.

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

The propeller-wheel A B C, with similar blades C, of the general shape of the outline of a frustum of a right cone, with their inner sides secured, in a line with the shaft A, to the conical hub B its entire length, the apex of which hub is toward the vessel, as and for the purpose above set forth.

J. O. HEYWORTH.

Witnesses:

H. S. SPRAGUE,
GEO. O. MANCHESTER.