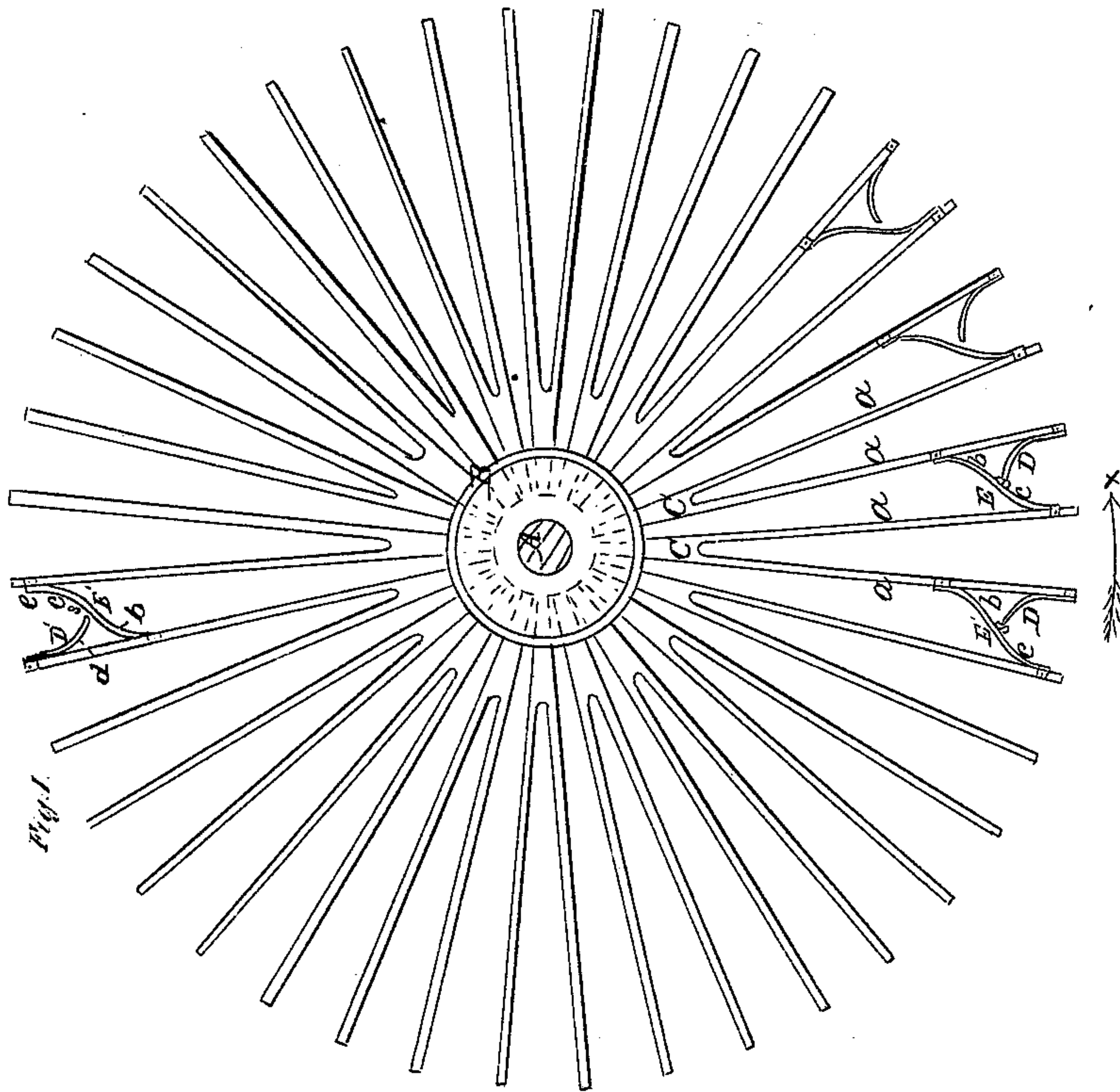
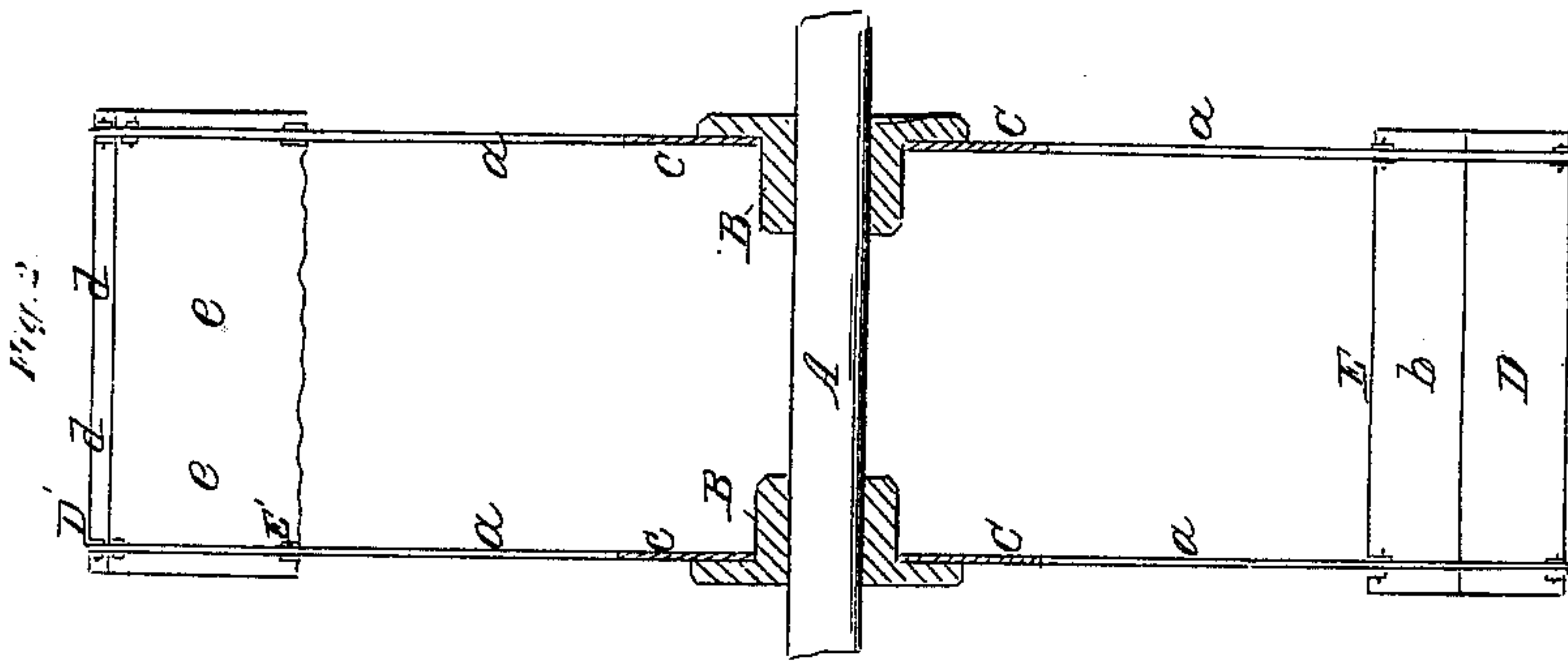


A.C. Fletcher,
Paddle Wheel.

No 91221.

Patented June 15. 1869



Witnesses:
Fred. Haynes
McCombs

Addison C. Fletcher

United States Patent Office.

ADDISON C. FLETCHER, OF NEW YORK, N. Y.

Letters Patent No. 91,221, dated June 15, 1869.

IMPROVEMENT IN PADDLE-WHEELS.

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

To all whom it may concern:

Be it known that I, ADDISON C. FLETCHER, of the city, county, and State of New York, have invented a new and useful Improvement in "Paddle-Wheels for Propelling Vessels," of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a side view of a paddle-wheel constructed in accordance with my improvement, and Figure 2, a transverse section of the same.

Similar letters of reference indicate corresponding parts.

My invention consists in a novel construction and combination of floats, made up, for the most part, of parabolic curves, whereby a more efficient action generally is secured to the paddle.

Referring to the accompanying drawing—

A represents the paddle-shaft, and

B B, the hubs or bosses, carrying radial arms O C, each of which is made to form double arms or extensions *a a*.

The wheel is here supposed to rotate in the direction indicated by the arrow *x*.

Its arms O C carry in between them, extending from side to side of the wheel, a float, D, of single parabolic curvature, secured to the backs of the arms, at their outer ends, and curving backward in an inner direction.

In rear of these floats D, connecting either pair of the adjacent side arms O C, are other buckets, E, of a double or reverse parabolic curvature, presenting convex and concave faces *b* and *c*, arranged to cross, as it were, the free ends of the floats D, at a slight distance from such ends, so as to leave an escape-passage or space, S, between them and the double-curved floats D.

By this construction and combination or arrange-

ment of the floats, the floats, D, in acting upon or against the water, have a tendency to throw or pass the water up over them in a curvilinear direction, thus preventing jar on said floats entering the water, and causing the water passing over them to strike the rear floats E at or about the junction of the reversely-curved faces *b* and *c*, where the water is concentrated, as it were, so as to act with increased effect, the convex face *b* aiding very materially in effecting this result, and both faces *b* and *c* of the floats E having, besides, a direct and efficient action on or against the water, while a slow but ready clearance for dead-water is secured by the passage S, and the concave form of the face *c* made to hold the water in rear of the float D, and to project it against or toward the latter, at the same time securing a ready clearance and avoidance of lifting dead-water when the floats leave the water.

D and E present a similar construction and arrangement of floats, but showing them as formed with corrugations *d e*, arranged transversely to the width of the floats, which corrugations, to either or both of the curved floats, not only serve to secure a more extended surface, but to prevent lateral slip of the water, and to make more efficient, generally, a curved bucket or float.

What is here claimed, and desired to be secured by Letters Patent, is—

The combination of the floats or buckets D and E, the latter of a double or reverse parabolic curvature, the former of a single curvature, with its upper edge arranged to converge towards the mid-depth of the former, substantially as specified.

ADDISON C. FLETCHER.

Witnesses:

FREDK. HAYNES,
J. W. COOMBS.