

J. U. Wallis, Paddle Wheel.

Nº 12,298.

Patented Jan. 23, 1855.

Fig. 1.

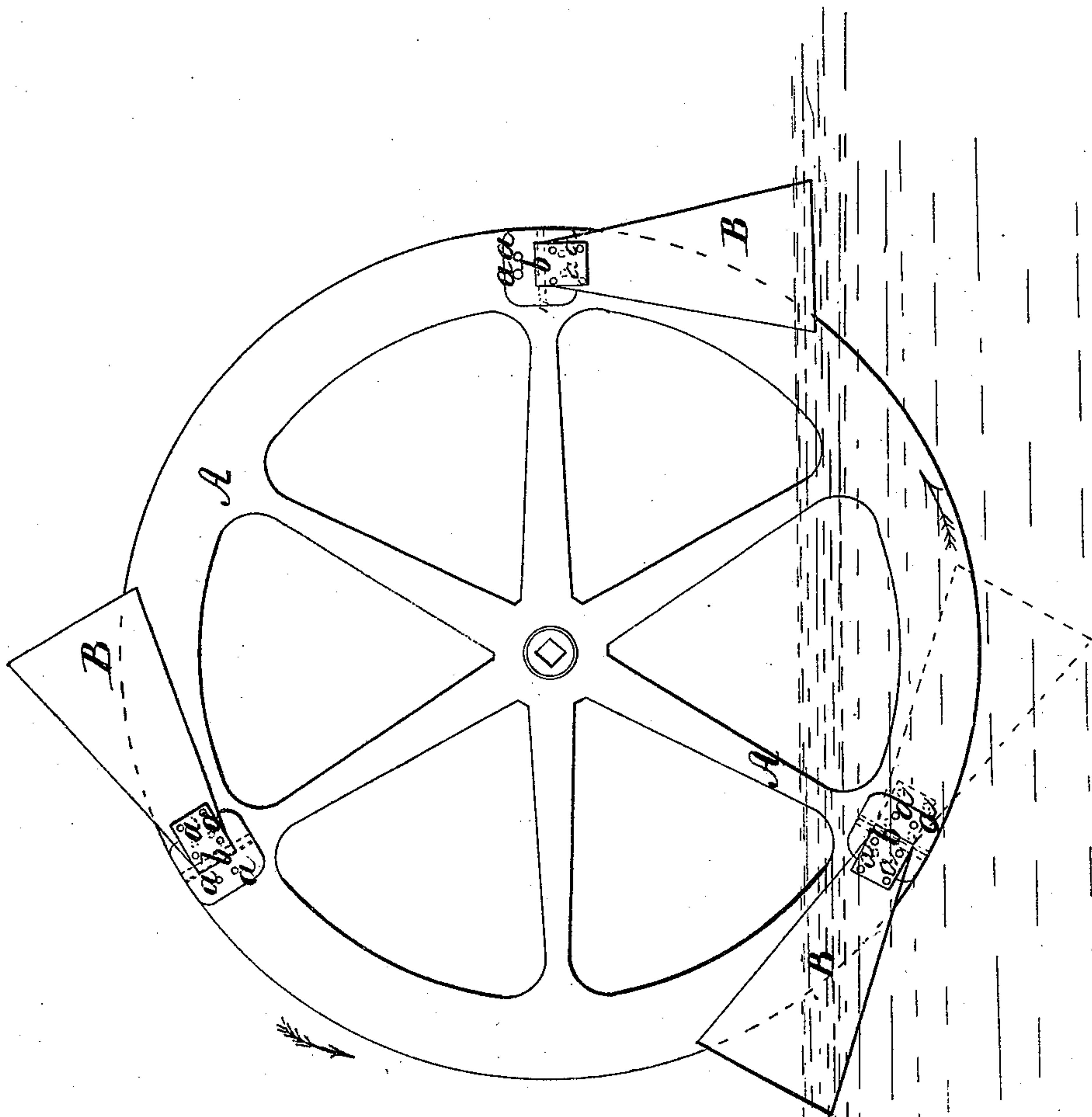
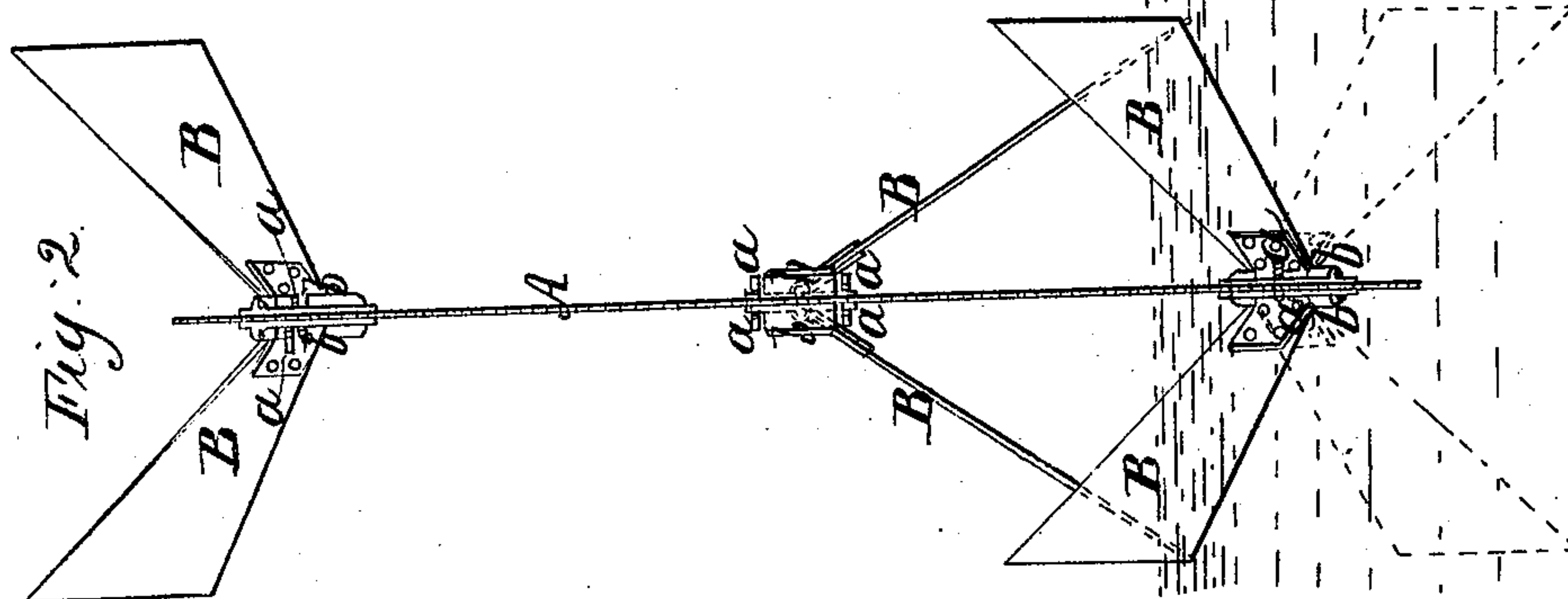


Fig. 2.



UNITED STATES PATENT OFFICE.

JOHN U. WALLIS, OF DANVILLE, NEW YORK.

PADDLE-WHEEL.

Specification of Letters Patent No. 12,298, dated January 23, 1855.

To all whom it may concern:

Be it known that I, JOHN UPHAM WALLIS, of Danville, in the county of Livingston and State of New York, have invented certain
5 new and useful Improvements in Paddle-Wheels for Propelling Vessels in Water; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a side view, and Fig. 2, a front view of one of my improved paddle wheels.

15 Similar letters of reference indicate corresponding parts in both figures.

This invention consists in the improved manner of applying the paddles or floats to the wheel as hereinafter described.

20 A, is a wheel to which the paddles are attached. This wheel may be entirely of cast iron, partly of cast partly of wrought iron or partly of wood and partly of iron, and I propose to make it of such weight as to
25 serve as a fly to the shaft which supports it. To this wheel the paddles B, B, are attached. The paddles B, B, may be of wood or metal; but I propose to make them of sheet iron. They are attached by one side only, to the
30 side of the wheel A, and are to be of trapeziform or trapezoidal shape, the end farthest from the wheel being wider than the end which is attached thereto. They are oblique to the plane of the wheel and are arranged
35 in pairs one opposite another on opposite sides of the wheel, each pair presenting the form of the letter V, the point of the V, being arranged to enter and leave the water first. Their attachment to the wheel is by
40 hinge joints *b, b*. This mode of attaching them serves a double purpose, viz, 1st it allows their obliquity to be varied by the screwing in and out of screws *a, a*, against the heads or points of which they are held
45 by the resistance of the water when in operation; and 2nd it allows their positions to be exactly reversed when the direction of the revolution of the wheel is reversed.

The screws *a, a*, are screwed into the
50 wheel not far from the hinge joints *b, b*, and two sets are provided one on either side of the hinge joints so that the paddles may be supported in going ahead or reversing.

The paddles are always brought to their own proper position by the resistance of the
55 water, so as soon as the direction of the revolution of the wheel, is reversed the paddles are reversed by its action.

In Figs. 1 and 2 the direction of the supposed revolution of the wheel is indicated
60 by black arrows, but one pair of the paddles is also represented in red outline in each figure in the position it would occupy if the wheel were revolving in the opposite direction.
65

The action of the paddles is such that they enter and leave the water nearly edgewise and meet with but little resistance except when they are below the axis of the wheel and moving nearly horizontally, at which
70 time all the power exerted is effective in propelling the vessel. The attachment of the paddles by hinges and supporting them near the hinges gives them such a degree of flexibility or elasticity that when the resist-
75 ance met with is very great, they will in some measure relieve the engine of strain by being drawn toward each other.

These wheels are intended to be applied at the sides of the vessel, as the wheels here-
80 tofore used have been most commonly employed, or at the stern or center thereof as may be desirable.

Having thus fully described my invention I will proceed to point out what I claim and
85 desire to secure by Letters Patent.

I do not claim the employment of oblique paddle floats, nor arranging the oblique
paddle floats in pairs in the form of the letter V, otherwise than as described, but
90

I claim—

1. The attachment of the oblique paddle floats, each by one edge only, to opposite
sides of a wheel A, or its equivalent substantially as described.
95

2. I claim attaching the paddle floats to the wheel A, or its equivalent by hinge joints for the purpose of enabling them to be adjusted at various degrees of obliquity by
screws *a, a*, or their equivalents, and to adapt
100 their position to the direction of the revolution of the wheel as herein set forth.

JOHN UPHAM WALLIS.

Witnesses:

S. H. WALES,
I. G. MASON.