

D.S. Darling, Propeller Wheel.

PATENTED AUG 15 1871

117991 *Fig:1.*

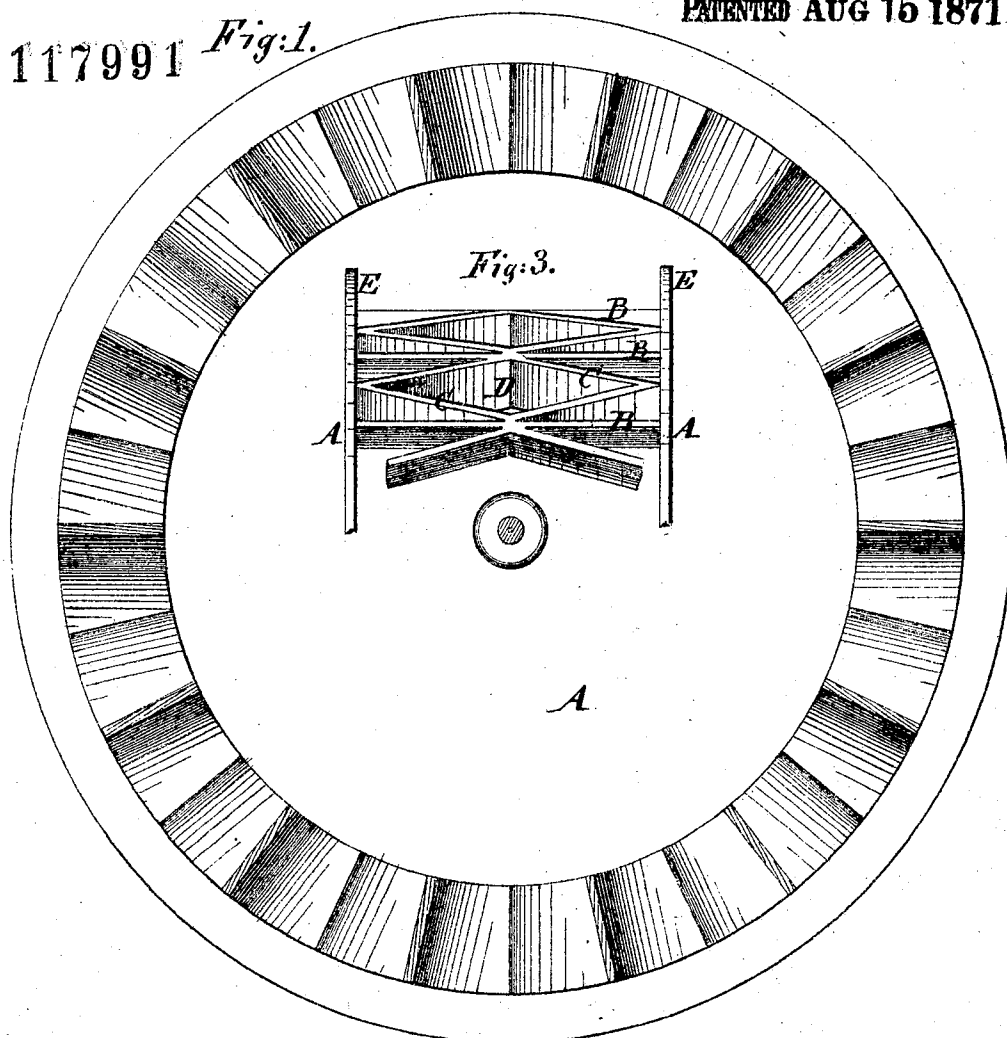


Fig:3.

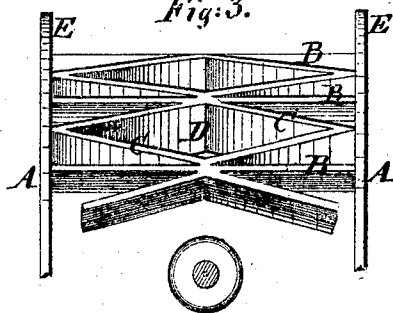
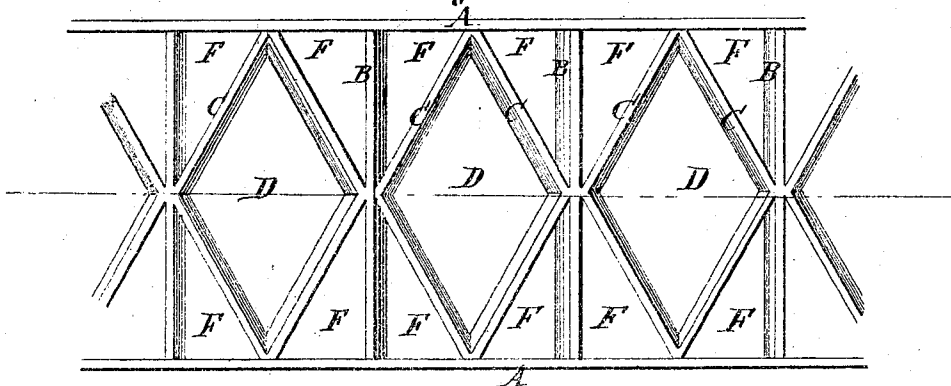


Fig:2



Witnesses:

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UNITED STATES PATENT OFFICE.

DANIEL S. DARLING, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN PADDLE-WHEELS.

Specification forming part of Letters Patent No. 117,991, dated August 15, 1871.

To all whom it may concern:

Be it known that I, DANIEL S. DARLING, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Steam-boat Propeller; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to a new and important improvement in wheels for propelling vessels on the water, whereby many of the objections to the ordinary paddle-wheel are obviated. My invention consists in improving steam-boat paddle-wheels, as hereinafter fully described and subsequently pointed out in the claim.

In the accompanying drawing, Figure 1 represents a vertical side elevation in section taken on the line *x x* of Fig. 2. Fig. 2 is a front view of the periphery of the wheel, being extended to represent a plane. Fig. 3 is a front view looking over the top of the wheel, showing the projection of the side flanges.

Similar letters of reference indicate corresponding parts.

A A are the side casings or disks incasing the buckets and compartments, with their peripheries extending out from the buckets, both disks being rigidly attached to the shaft, the same as the ordinary paddle-wheel centers. B represents the buckets or floats arranged between the sides A on radial lines in the usual manner, but confined to the sides at each end in any substantial manner. C represents plates whose width corresponds with that of the buckets placed in the four angles, thus forming rhombus-shaped boxes

or compartments D in the spaces between the buckets. The position of the buckets B being governed by lines radiating from the center, the area of the rhomb-shaped compartment D necessarily diminishes as it extends toward the center. The projecting flanges E E cut the water and prevent lateral currents as the wheel revolves. The compartments D dip into and hold the water for the time being, but discharge it at the proper time. Triangular-shaped compartments F, it will be seen, are left in the angles between the buckets, which also hold the water, and add to the effect produced by the compartments D.

The ordinary paddle-wheel may be easily modified so as to embrace my improvement. The ends of the buckets or paddles which project beyond the arms of the common paddle-wheel may be cut off, and then the sides are incased with projecting flanges, as above described. The rhomb-formed boxes or compartments are then placed and properly secured between the buckets, and we have a propeller of superior power, and one which, in its revolution, causes no lateral currents, and which especially adapts it for canal navigation.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The casings A A flanged at E E, the compartments D F, and the buckets B, arranged together in a paddle-wheel, as and for the purpose specified.

DANL. S. DARLING.

Witnesses:

GEO. W. MABEE,
T. B. MOSHER.