

(No Model.)

J. McLENNAN & R. OWEN.
Paddle Wheel.

No. 238,947.

Patented March 15, 1881.

Fig. 2.

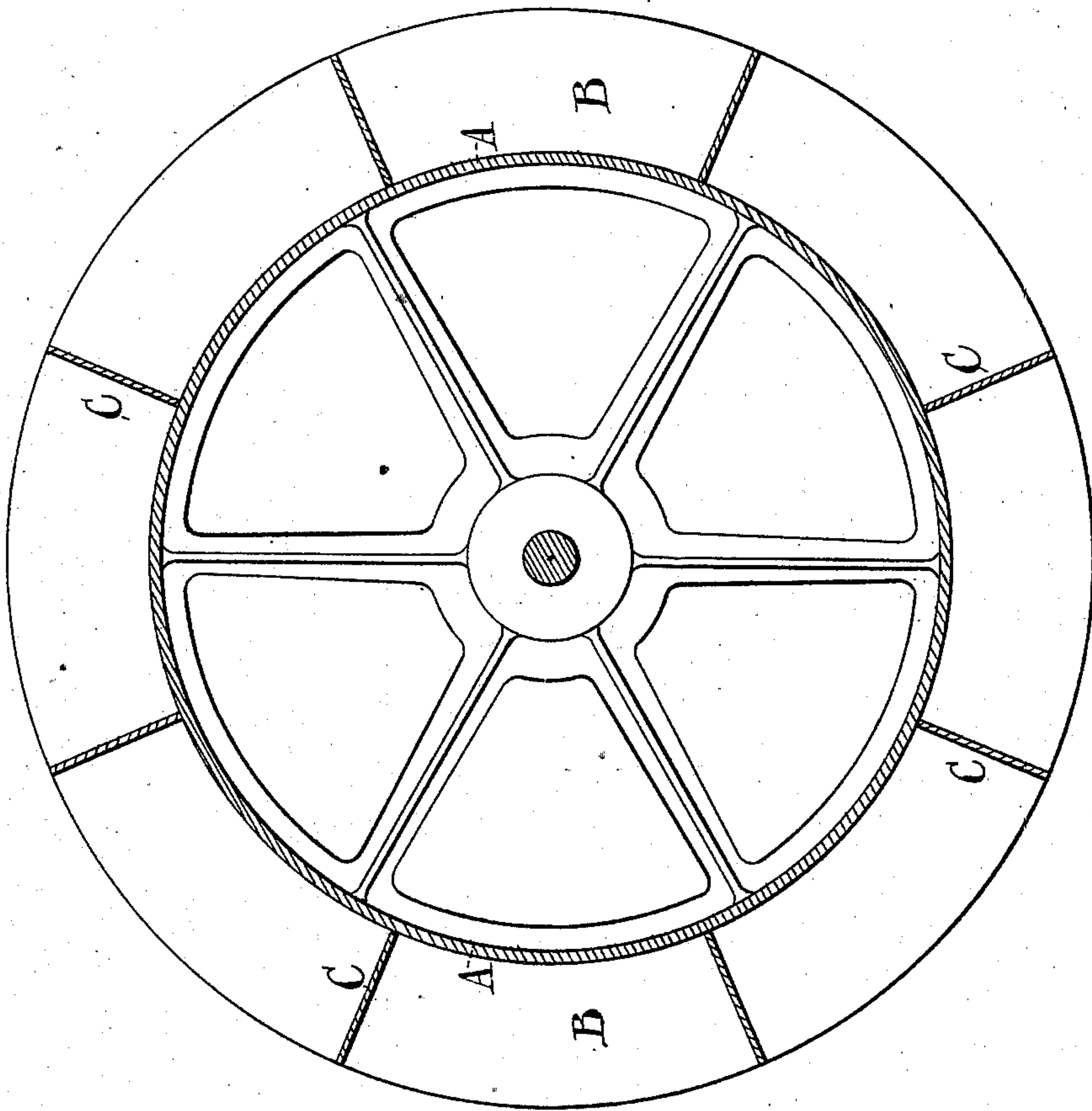
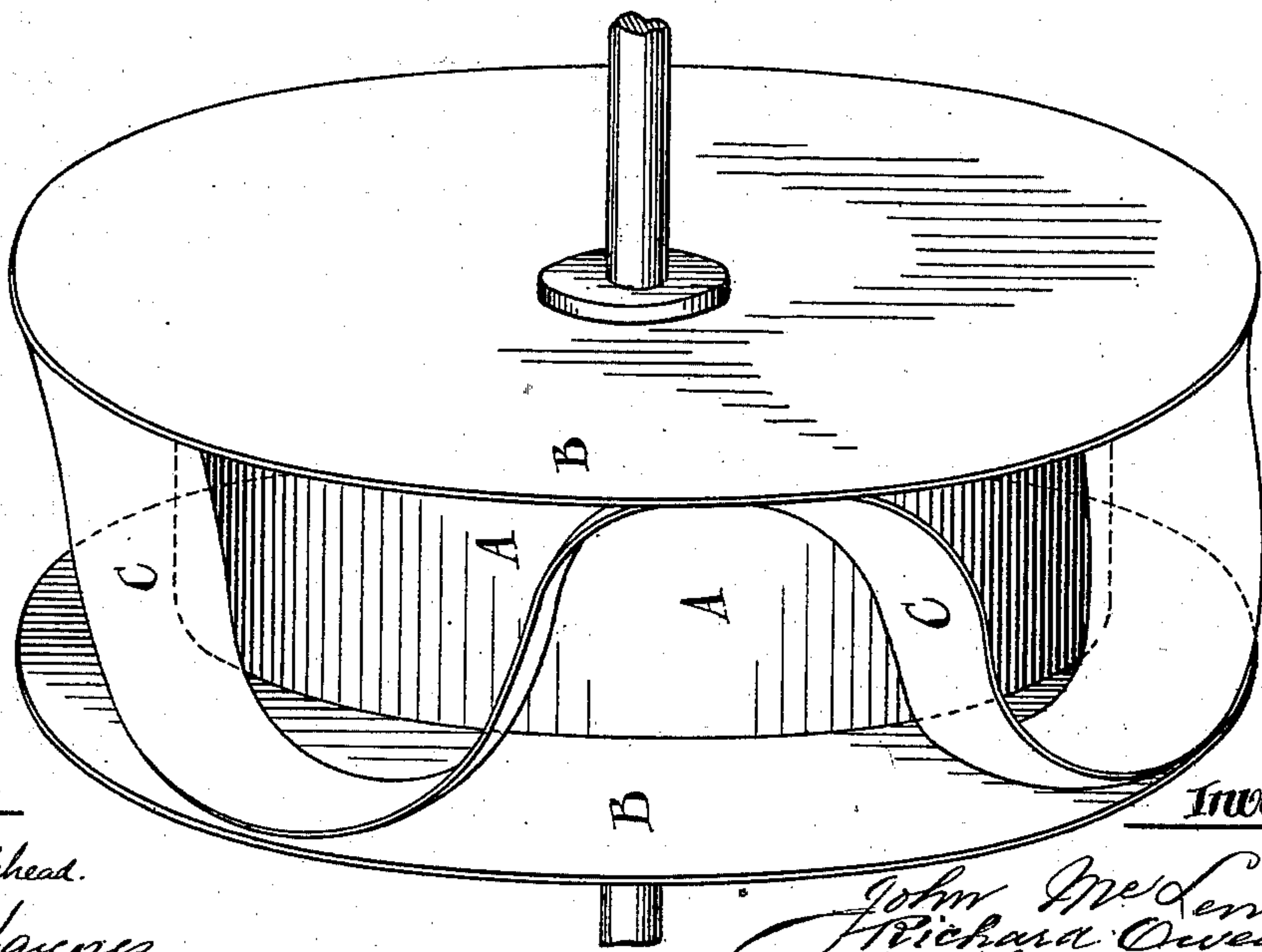


Fig. 1.



Witnesses:-

Louis M. Whitehead.
Geo. H. Wagner

Inventor:-

John McLennan
Richard Owen
by their attorneys
Brown & Brown

UNITED STATES PATENT OFFICE.

JOHN McLENNAN, OF 84 FINSBURY PARK ROAD, AND RICHARD OWEN, OF ENGLAND LANE, HAVERSTOCK HILL, COUNTY OF MIDDLESEX, ENGLAND.

PADDLE-WHEEL.

SPECIFICATION forming part of Letters Patent No. 238,947, dated March 15, 1881.

Application filed August 6, 1880. (No model.) Patented in England March 11, 1880.

To all whom it may concern:

Be it known that we, JOHN McLENNAN, horologist, of 84 Finsbury Park Road, and RICHARD OWEN, wine-merchant, of England Lane, Haverstock Hill, both in the county of Middlesex, England, have invented Improvements in Machinery or Apparatus for Propelling Vessels, of which the following is a specification.

10 This invention consists in a rotary propeller or wheel composed of a drum, with disks or flanges at its ends projecting beyond its periphery and forming side walls, and a continuous serpentine blade fitting around said drum, and extending from one wall to the other, and filling the space between said walls, as hereinafter described.

15 The propeller or wheel is intended to be fitted on each side of the vessel at such a level that the lower surface of the drum will rest on the water, and thereby increase the vessel's power of flotation, the two drums being caused to roll over the surface of the water as the vessel is propelled through it. The said continuous blade is arranged in a circle of larger diameter than that of the drum, and each successive portion of the blade is caused, by the revolution of the propelling-wheel, to act on the water inclosed within such portion and the flange or wall on each side of it, as well as by the under surface of the drum, the only outlet for the water being in the rear of the wheel. By the blade acting on the water inclosed, as stated, it will be caused to take a firm hold of the water, and the ordinary tendency of a paddle-wheel to produce a swell in the water will be obviated, thereby rendering our improved propeller the better adapted for use on canals and rivers, where it is important to avoid injury to the banks thereof. It is also adapted to increase the speed of vessels, and for this purpose more than one pair of drums or propelling-wheels may be applied thereto.

45 In some cases the propelling-wheel may be constructed without a drum, the essential feature of the invention consisting in the combination of a continuous serpentine blade confined between two walls or inclosures, whereby such propeller will be caused to act continually on the volume of water contained between

the said walls or inclosures, and with the increased effect due to its lateral confinement.

The accompanying drawings will serve to illustrate a propelling-wheel constructed in the manner above referred to.

In the drawings, Figure 1 is a perspective view of a propeller constructed according to our invention, and Fig. 2 is a vertical section of the same.

60 A is the hollow drum; B B, the flanges thereof, forming walls or inclosures for limiting the passage of the water; and C C, the continuous blade between the said walls or inclosures. The propelling-wheel is to be fitted on each side of the vessel at such a level that the lower surface of the drum A will rest on the water, and thereby increase the vessel's buoyancy and power of flotation, the drum on each side rolling over the surface of the water as the vessel is propelled through it.

65 The continuous serpentine blade C C is arranged in a circle of larger diameter than that of the drum A, with or without a space between it and the periphery of the drum, and each successive portion C of said blade is caused, by the revolution of the propelling-wheel, to act on the water inclosed within such portion and the flange or wall B at each side thereof, as well as by the under surface of the drum A, the only outlet for the water being in the rear of the propeller.

80 By the arrangement of the propellers above described each portion of the continuous blade, in succession, is caused to take a firm hold of the volume of water confined in the manner described, and the ordinary tendency of a paddle-wheel to raise a swell in the water will be obviated, thereby rendering our improved propeller the better adapted for use on canals and rivers, where it is important to avoid injury to the banks thereof.

85 Our improved propeller is also adapted to increase the speed of vessels, and in order to acquire a still greater speed more than one pair of drums or propelling-wheels may be applied thereto.

90 In the foregoing description reference has been had to a propeller-wheel with a drum; but our invention is not confined to such construction. When the drum is dispensed with the walls or inclosures between which the con-

tinuous blade is fitted will be strengthened, as required, by suitable ribs or stays.

We are aware that a propeller has been made comprising a drum having a number of flanges 5 upon its periphery, and a series of separate blades set at an angle in the spaces between the flanges, the blades in adjacent spaces being set at opposite angles. We are also aware that a paddle-wheel has been made comprising 10 two annular flanges and two continuous zigzag blades, arranged in circular form, side by side, between said flanges, an open space being left between each blade and the adjacent flange, and also between the two blades; 15 and we are also aware that a paddle-wheel has been made comprising two continuous spiral blades arranged side by side upon a shaft and supported by arms, but having no flanges or

disks inclosing them. We therefore make no claim to any such constructions. 20

What we claim as our invention, and desire to secure by Letters Patent, is—

A rotary propeller or wheel composed of a drum, disks or flanges at opposite ends of said drum, projecting beyond the periphery there- 25 of and forming side walls, and a continuous serpentine blade fitting around said drum, extending from one wall to the other, and entirely filling the space between said walls, substantially as and for the purpose specified.

JOHN MCLENNAN.
RICHD. OWEN.

Witnesses:

WILLIAM SPENCE,
ALFRED H. JONES.