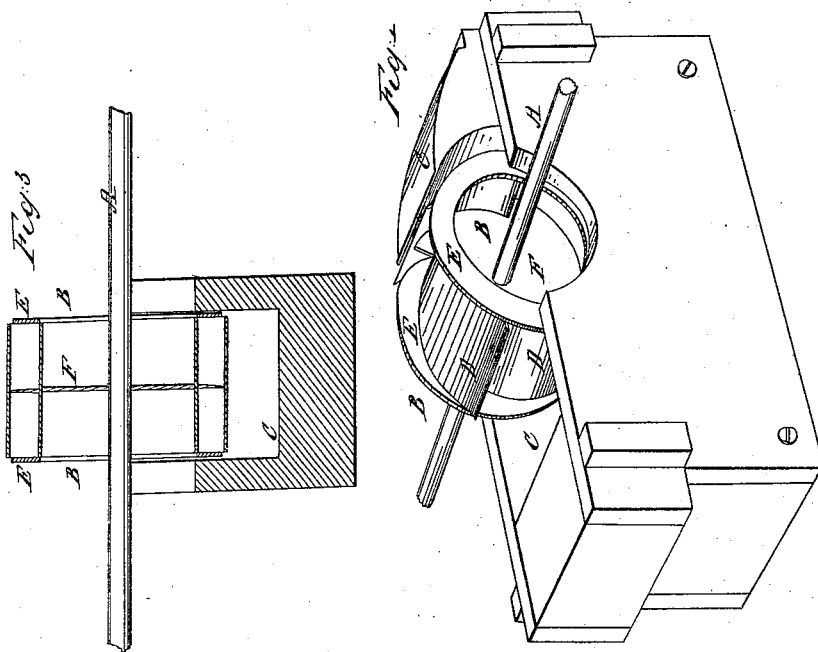
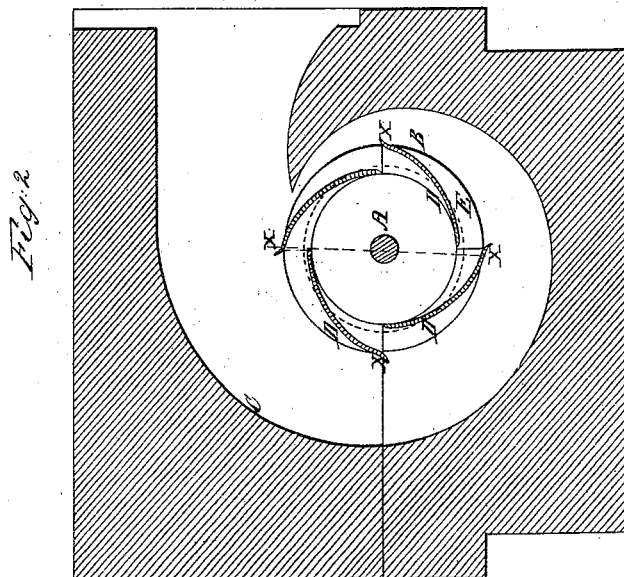


*J. Mecay,  
Water Wheel.*

*N<sup>o</sup> 4,332.*

*Patented Dec. 26, 1845.*



# UNITED STATES PATENT OFFICE.

JOHN MECAY, OF MILLSBOROUGH, PENNSYLVANIA.

## IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 4,332, dated December 26, 1845.

*To all whom it may concern:*

Be it known that I, JOHN MECAY, of Millsborough, in the county of Washington and State of Pennsylvania, have invented a new and useful Improvement in Water-Wheels, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the wheel as arranged in the scroll-case, the upper section of the case being removed in order to show the wheel. Fig. 2 is a vertical longitudinal section through one of the wheels and case. Fig. 3 is a vertical transverse section through both wheels and part of case.

This invention and improvement consists in combining and arranging upon a horizontal or vertical shaft A two percussion and centripetal reaction water-wheels B, surrounded by a scroll-case C of the ordinary description, so as to confine the water around the peripheries of said wheels. The wheels are made of cast-iron, and consist of two metallic bulk-heads or rings E, having four or more curved buckets D placed between them on a line tangential to the inner peripheries of the rings or bulk-heads E, slightly curving inward until they reach the outer peripheries of the rings, where they slightly curve in a reverse direction, as represented at *x*, Fig. 2, and firmly secured in their positions by bolts passing through the rings by which they are

drawn toward each other and caused to clasp the buckets D. A metallic bulk-head or plate F, Fig. 3, is placed midway between the rings E for dividing the buckets into two apartments, thus forming two wheels on the same shaft.

The water in passing around the scroll-case C, surrounding the wheels, strikes the curved part or verge *x* of the buckets and forces the wheel in the direction that it enters, and having passed into the scroll-case fills the space between the wheel and the case, and then acts against the convex surfaces of the buckets D and escapes or issues from the wheel to the center centripetally, causing the wheel to turn in a direction contrary to the escape of the water from the buckets.

The wheel may be made of wood or metal, or any part thereof, and placed in a horizontal, vertical, or inclined position.

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

The combining with the spiral scroll the projecting portion of the buckets, (marked *x* in the drawings,) and in combination with the foregoing the arrangement of the buckets, substantially as herein described and set forth.

JOHN MECAY.

Witnesses:

W. W. HAWTHORN,  
JACOB B. MCCORMICK.