S. M. Ayres,

Water Wheel,

No. 55,803, Patented June 26, 1866.

Fig. 2

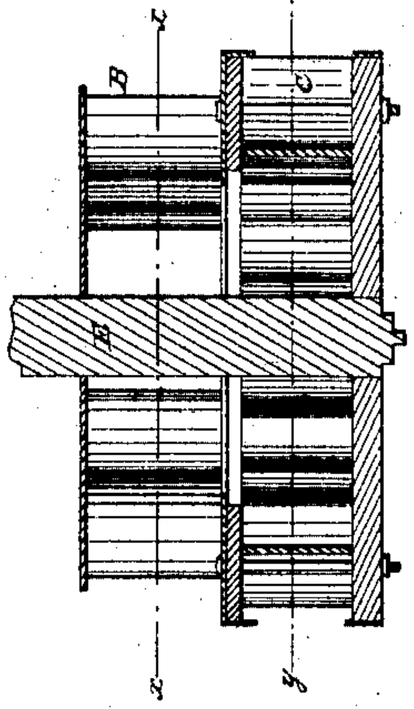


Fig. 3

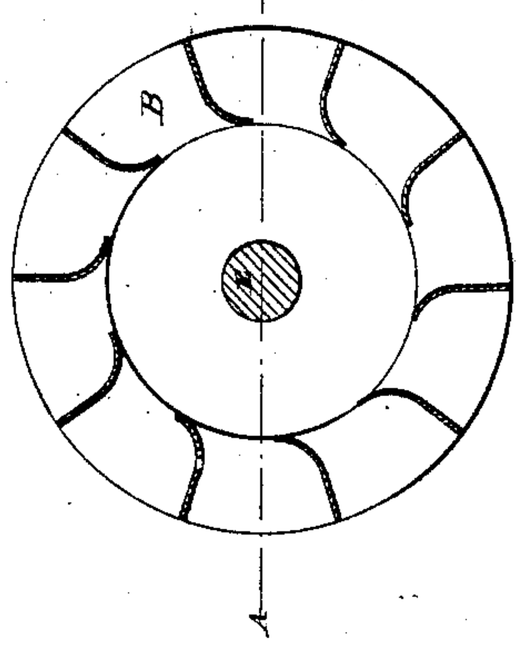


Fig. 4

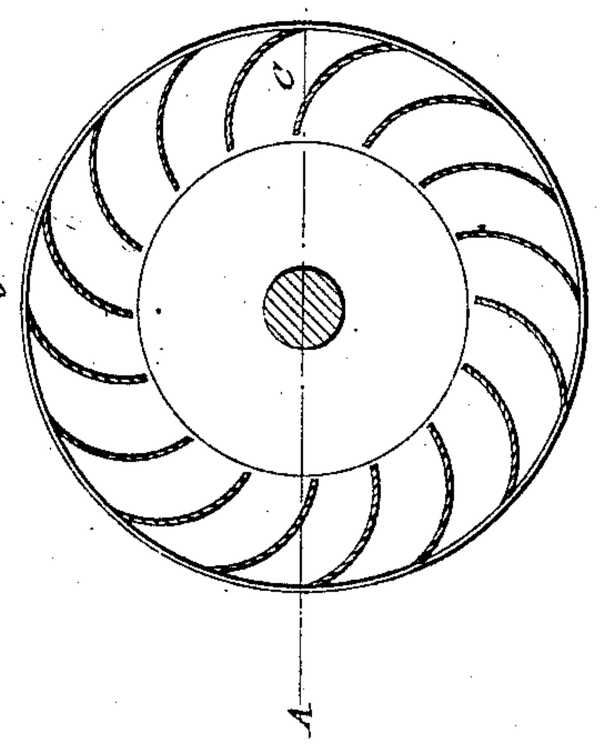
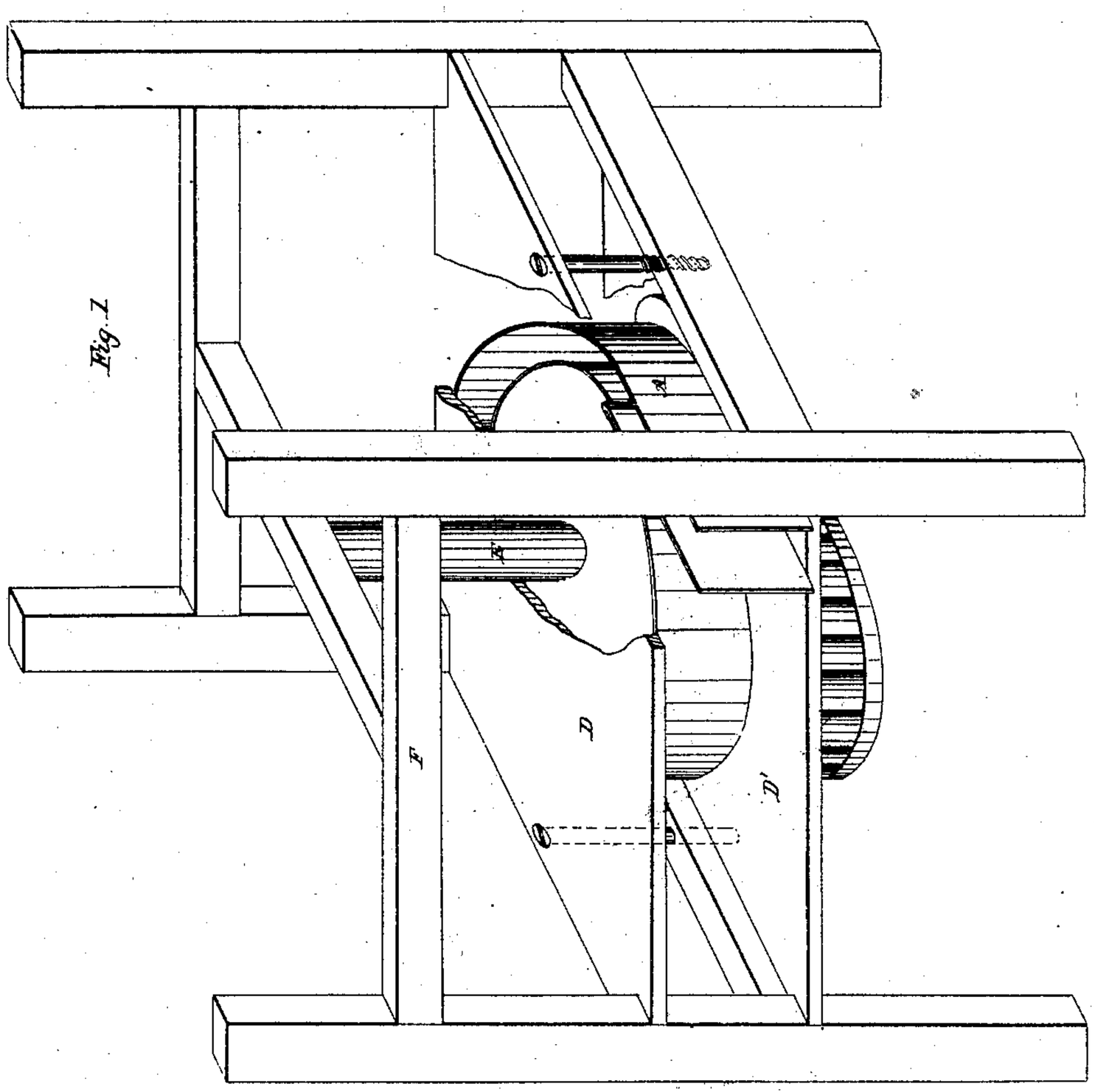


Fig. 1



Witnesses:
C. F. Clausen
L. Murphy

Inventor:
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by D. P. Holloway & Co
his attys

UNITED STATES PATENT OFFICE.

SAMUEL W. AYRES, OF MONTICELLO, INDIANA.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. **55,803,** dated June 26, 1866.

To all whom it may concern:

Be it known that I, SAMUEL W. AYRES, of Monticello, in the county of White and State of Indiana, have invented certain new and useful Improvements in Water-Wheels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, made part of this specification, in which—

Figure 1 is a perspective view, parts being represented as broken away to show the interior. Fig. 2 is a vertical section. Fig. 3 is a horizontal section on the line *x x*, Fig. 2, and Fig. 4 is a similar section on the line *y y*, Fig. 2.

In the different figures the same letters refer to identical parts.

The frame F, of strong timbers, has two floors, D and D′. The upper one has an opening for the shaft to pass through, and the lower one, D′, is cut away to receive the wheel. Between these floors I arrange an ordinary spiral scroll, wide at the entrance and gradually diminishing as it passes around the circumference of the upper wheel.

The wheel is double, with vertically-disposed buckets of the respective forms shown in Figs. 3 and 4. The upper wheel, B, is a center vent-wheel, the top of which is a circular plate fitted closely to the shaft, the lower ends of the buckets being attached to a flat ring, through the open part of which the water passes into the internal chamber of the lower wheel, C. This wheel is composed of a lower circular plate, in like manner fitted and attached to the shaft E, and having buckets shaped substantially as shown in Fig. 4, which are fastened to the circular plate below and an open ring above, in the same manner as are the buckets of the upper wheel.

The floor D′ is at the point of union of the two wheels, so that the water is discharged by the spiral scroll toward the center through the upper wheel, from which it is discharged toward the periphery of the wheel below.

It is best to set the wheel so that the lower section of the double wheel shall be immersed in the tail-water.

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

In combination with the spiral scroll A, the double wheel B C, when so arranged that the water shall be discharged from the scroll through the upper section toward the center, and thence passing into the lower section be discharged from the center through the periphery, substantially in the manner set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL W. AYRES.

Witnesses:

R. MASON,

L. MURPHY.