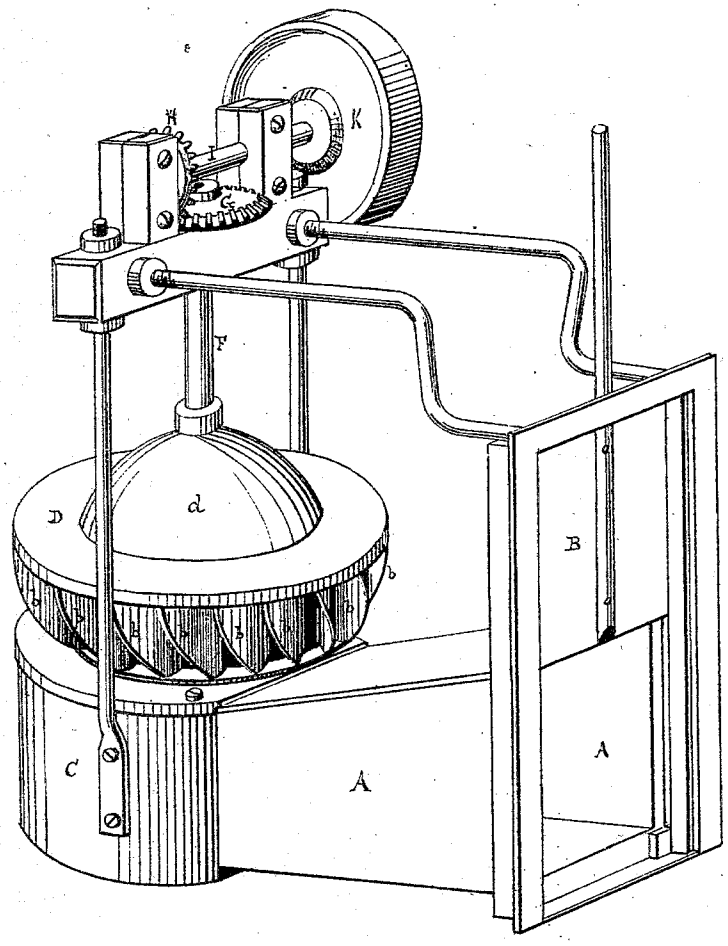
2 Sheets--Sheet 1.

L. D. B. SHAW.

Improvement in Water Wheels.

No. 115,774. Fig. 1. Patented June 6, 1871.



Witnesses.
W. R. Stansbury
W. G. Henderson

Inventor.
Lorenzo D. B. Shaw
By his Attorney
Chas. F. Stansbury

2 Sheets--Sheet 2.

L. D. B. SHAW.

Improvement in Water Wheels.

No. 115,774. Patented June 6, 1871.

Fig. 3.

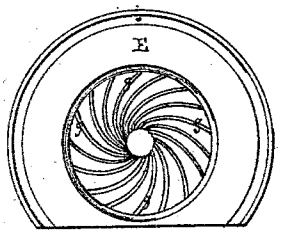


Fig. 4.

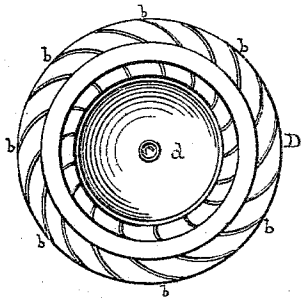
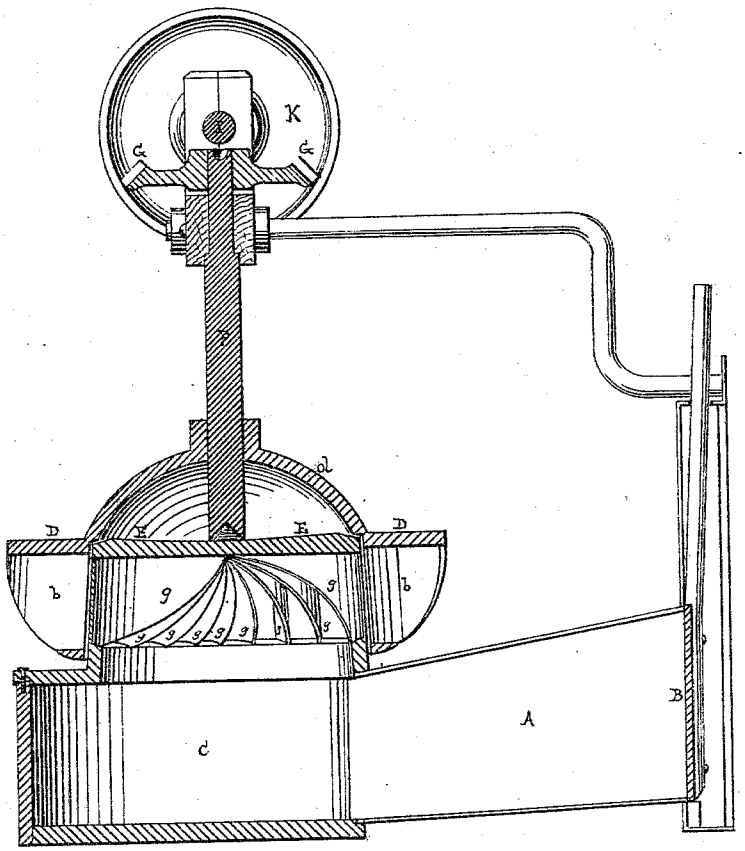


Fig. 2.



Witnesses.
W. A. Stansbury
W. G. Henderson

Inventor.
Lorenzo D. B. Shaw
By his Attorney
Chas. F. Stansbury

UNITED STATES PATENT OFFICE.

LORENZO DOW BUTTERS SHAW, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 115,774, dated June 6, 1871.

To all whom it may concern:

Be it known that I, LORENZO DOW BUTTERS SHAW, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Water-Wheels; and I do hereby declare the following to be a full and correct description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a perspective view of my improved turbine-wheel. Fig. 2 is a vertical central section of the same. Fig. 3 is a bottom view of the guide-cylinder, showing its interior arrangement; and Fig. 4 is a similar view of the water-wheel.

The same letter, wherever occurring, indicates the same part.

The nature of the invention consists in the combination in a turbine-wheel, which is operated by a current of water flowing from below upward, of the guide-cylinder E, constructed as described and shown, and operating to direct the water upon the floats, and the dome-wheel D attached to a vertical shaft whose lower end bears on a step on the top plate of the guide-cylinder, so that the upward pressure of the water-current will tend to lift the wheel and relieve the lower bearing from its weight, thus greatly diminishing friction and promoting the easy running of the wheel.

The construction of my improved wheel is clearly illustrated in the drawing, in which A marks the flume or water-way; B, the gate which controls the flow of water; C, the lower cylinder; D, the dome-wheel, with its curved floats *b b b*, &c.; E, the guide-cylinder resting on top of cylinder C, and supporting the dome-wheel D. The cylinder E is provided with the curved guides *g g g*, &c., having the shape shown, which deliver the water-currents to the floats in the direction to secure most efficient work. On the top plate of guide-cylinder E is a step, on which rests and turns vertical shaft F, to which the wheel D is attached. On top of this shaft is bevel-gear G, meshing into similar gear H on horizontal shaft I, carrying the pulley K, from which a band may be led to any machinery it may be desired to drive.

What I claim as my invention is—

The combination of the guide-cylinder E, dome-wheel D, and vertical shaft F, stepped as described, all constructed, arranged, and operating as and for the purpose specified.

The above specification of my said invention signed and witnessed at Washington this 13th day of March, A. D. 1871.

LORENZO DOW BUTTERS SHAW.

Witnesses:

SIMON WING,

CHAS. F. STANSBURY.