

STEPHEN STEVENSON.

Water Wheel.

No. 119,664.

Patented Oct. 3, 1871.

Fig. 1.

Fig. 2.

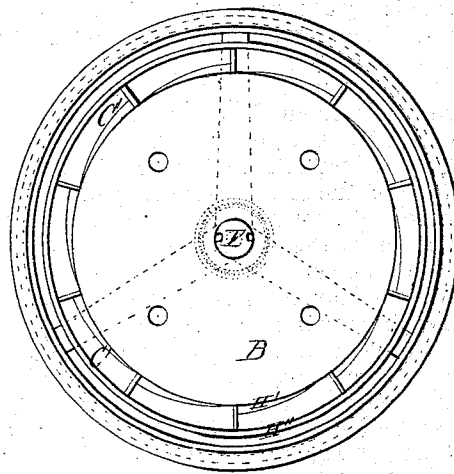
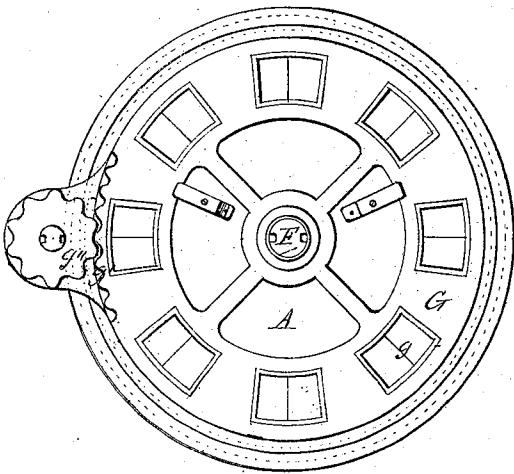


Fig. 3.

Fig. 4.

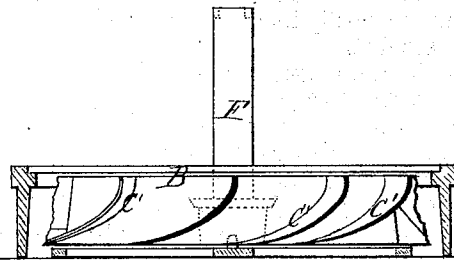
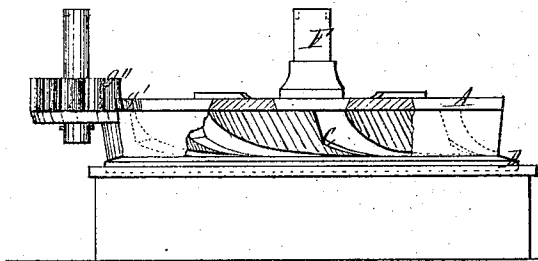
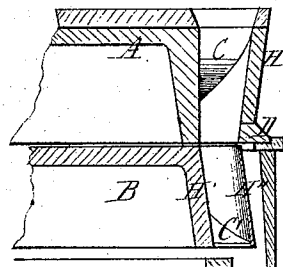


Fig. 5.



Witnesses.
J. B. Curtis
Chas. M. Farnsworth.

Inventor.
Stephen Stevenson
Chipman, Foster & Co
Attys.

UNITED STATES PATENT OFFICE.

STEPHEN STEVENSON, OF DANSVILLE, NEW YORK.

IMPROVEMENT IN TURBINE WATER-WHEELS.

Specification forming part of Letters Patent No. 119,664, dated October 3, 1871.

To all whom it may concern:

Be it known that I, STEPHEN STEVENSON, of Dansville, in the county of Livingston and State of New York, have invented a new and valuable Improvement in Turbine Water-Wheels; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a plan view of wheel-chute embodying my improvements. Fig. 2 is a plan view of wheel alone. Fig. 3 is a side elevation of wheel, flume, and chute, showing part of chute broken away to display buckets. Fig. 4 is a vertical section of wheel. Fig. 5 is a vertical section of part of wheel, chute, and flume.

This invention has relation to an improvement in turbine-wheels; and it consists in the construction and novel arrangement relatively of the elliptical outwardly-and-downwardly-inclined buckets of the wheel and the downwardly-tapering and inwardly-inclined chutes, as herein-after fully set forth.

Referring to the accompanying drawing, it will be seen that the curve of the chute and wheel-bucket is the same, but reversed in its relative arrangement. Each bucket commences with a rapid descent, at the foot of which it changes to slight inclination.

A represents the chute-frame, B the wheel, and C C', respectively, the chutes and buckets. D represents a flange formed on the chute-frame,

by means of which it rests on the edge of the wheel-case E. F indicates the wheel-shaft; G, the chute-gate, with openings *g* and rack *g'*. It is operated by the pinions *g''*. The outer wall H of the chute is inclined downwardly and inwardly, so as to condense or gather the water at its lower narrower opening. The walls H' H'' of the wheel incline inwardly from the top, so that the water, striking and acting against their inner surfaces, exerts an increased leverage and pressure in turning the wheel.

The water enters the chute, striking the rapidly-inclined part of the same, and, passing down the lesser inclination, acts with the force of percussion on the rapid inclination of the wheel-bucket; thence passing down exerts vertical pressure on the bucket, causing reaction, and at the same time acting with increased leverage on the inner surfaces of the inclined walls, freely escaping from the lower opening.

I claim as my invention—

In combination with the chute-frame A, provided with the downwardly-tapering and inwardly-inclined chutes C, the wheel having the elliptical and outwardly-inclined bucket C', substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

STEPHEN STEVENSON.

Witnesses:

C. R. KERN,
L. D. F. POORE.

(118)