

T. Lowden,

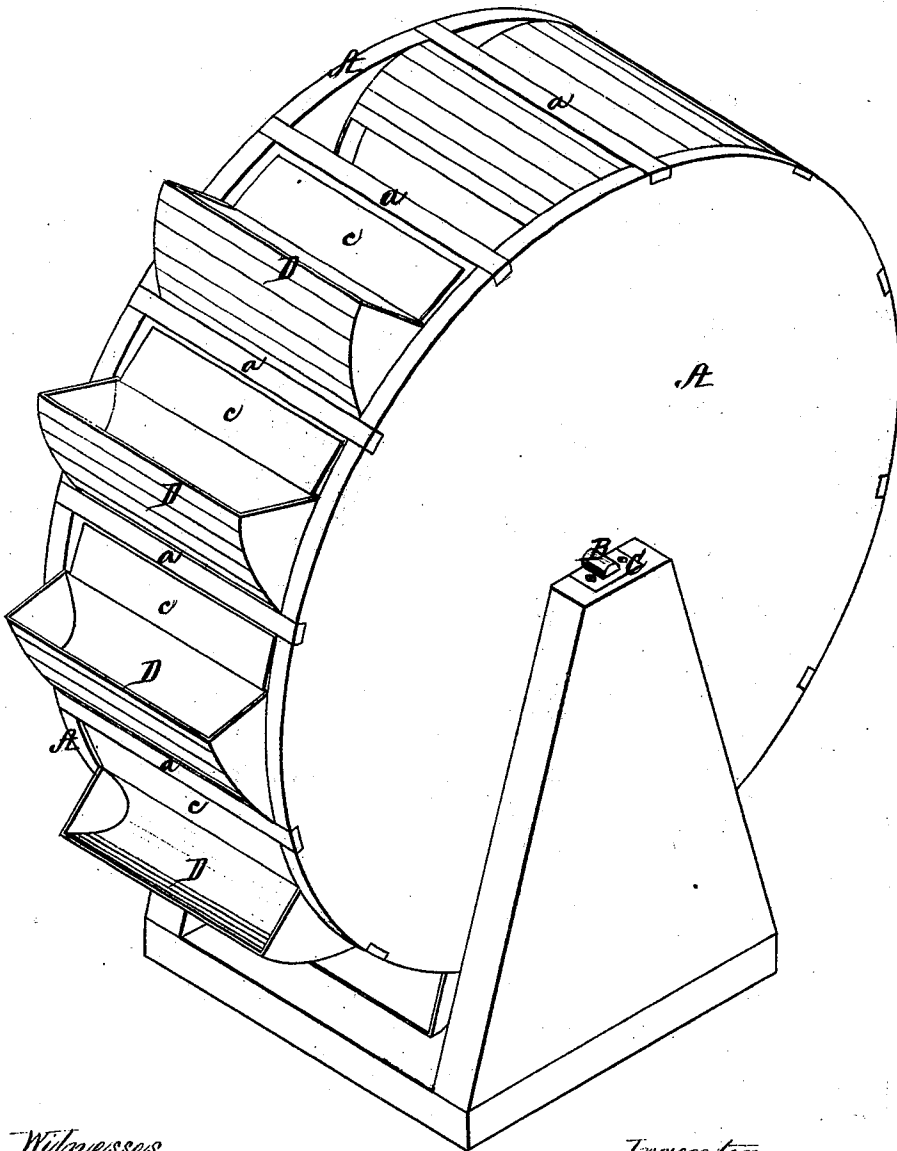
2. Sheets, Sheet 1.

Water Wheel.

No. 98,392.

Patented Dec. 28, 1869.

Fig. 1.



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*Inventor,
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Per his Attorney &
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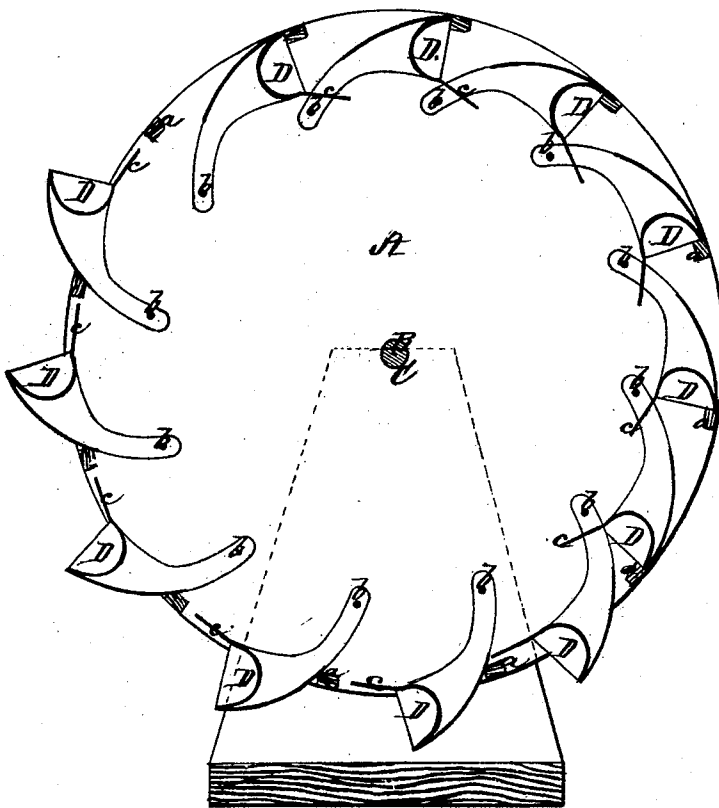
2. Sheets, Sheet 2.

Water Wheel.

No. 93,392.

Patented Dec. 28, 1869.

Fig. 2.



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THOMAS LOWDEN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF,
GEORGE STOUT, AND RICHARD J. LOWDEN, OF SAME PLACE.

Letters Patent No. 98,392, dated December 28, 1869

IMPROVEMENT IN WATER-WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS LOWDEN, of Boston, in the county of Suffolk, and State of Massachusetts, have invented certain Improvements in Water-Wheels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of a water-wheel, of my improved construction.

Figure 2 is a longitudinal vertical section through the centre of the same.

My invention consists in a series of independent buckets, so pivoted, that each one may, at a point above the centre of the wheel, open or swing out away from the centre, in which position it receives the water with an impact due its weight and fall, by which construction, the weight of the bucket and the water contained therein, is carried further from the centre, so as to exert a greater power or leverage, for propelling the wheel, than would be obtained were the bucket rigidly secured within the frame in the ordinary manner, each bucket, by my improved construction, after having passed its lowest point, gradually approaching the centre, and closing, until it is swung in or enclosed within the periphery of the wheel, thus presenting no resistance to its revolution in case of back-water.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings—

A A represent the circular parallel sides, forming the casing of the wheel, the shaft B, of which, revolves in suitable bearings, C C.

D D are a series of curved floats or buckets, of the form shown in section, fig. 2, extending transversely across the space within the casing, and being separated from each other by partition or cross-pieces a.

The inner end of each bucket is pivoted loosely to a small rod, b, extending transversely across the wheel, in such manner, that as the latter revolves, the bucket, at a point a little below the top of the wheel, falls by its weight, downward, out from the centre of the wheel, until it strikes the cross-piece a, which serves as a stop to hold the bucket in the proper position to

receive the water which strikes in with a momentum due its weight and velocity, by which construction, the weight of the bucket and the water contained therein, is thrown out further from the centre, and a greater leverage is thus obtained than if the bucket were rigidly secured in place, as heretofore.

The back c, of each bucket, extends up, so as to close, as nearly as possible, the space between the top of the bucket and the partition a, above it, when the stream is entering the open bucket, thereby preventing the loss of power which would result were it possible for the stream to fall into the space in the centre of the wheel within the sides of the casing.

After the full bucket is carried down below the horizontal line passing through the centre of the wheel, it commences rapidly to discharge its contents, the whole of the water having escaped before it arrives at a point about fifty (50) degrees below the said horizontal line.

As the wheel continues to revolve, the empty bucket remains supported by the cross-piece or stop a, until it passes the bottom, and arrives at a point about fifteen degrees above the bottom of the wheel, when it commences to gradually swing in on its pivot b, as a centre, until it is closed in flush with the circumference of the casing at a point about forty-five degrees below the horizontal line passing through the centre of the wheel, the curved form of the outside of the bucket, in connection with its being pivoted loosely to the casing, causing it to offer but slight resistance to back-water, should any exist.

Claim.

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

A series of independent buckets, so pivoted that each one may, at a point above the centre of the wheel, open or swing out away from the centre, substantially as and for the purpose described.

THOMAS LOWDEN.

Witnesses:

N. W. STEARNS,
W. J. CAMBRIDGE.