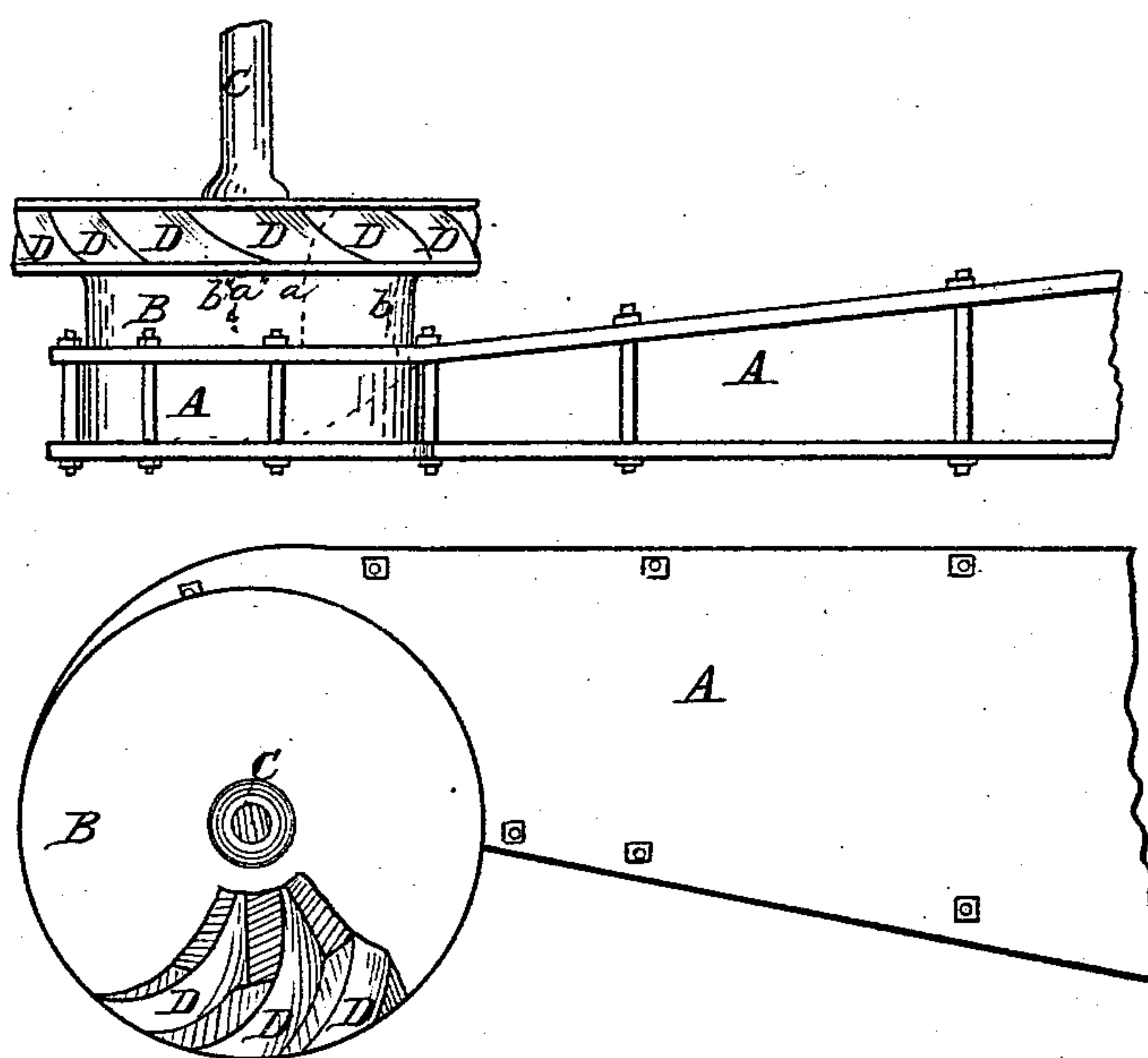


J. I. Chapman,

Turbine Wheel.

No. 94,281.

Patented Aug 31, 1869.



Witnesses.
Morgan Chittenden
Lyman L. Brewster

Inventor.
Joshua E. Chapman

United States Patent Office.

JOSHUA E. CHAPMAN, OF WEST READING, CONNECTICUT.

Letters Patent No. 94,281, dated August 31, 1869; antedated August 19, 1869.

IMPROVEMENT IN TURBINE WATER-WHEEL.

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, JOSHUA E. CHAPMAN, of the town of West Reading, in the county of Fairfield, and State of Connecticut, have invented a new and improved Water-Wheel; and I do hereby declare that the following is a full and exact description of its construction and operation, reference being had to the annexed drawings, and the letters of reference marked thereon, making a part of this specification.

Figure 1 is a side elevation, and

Figure 2, a view of the top, with a portion of one side left off to show the form of the buckets.

A is the helix or scroll, in common use with turbine wheels.

B is the body of the water-wheel.

C is the shaft.

D D are the buckets.

The dotted line *a* shows the inner and upper line of the water-chamber, or passage through the wheel B, and the dotted line *b* shows the outer and under line of the water-chamber to be seen as part of a cross-section through the centre of the wheel B.

The dotted line *a'* shows the line of the bucket D, with its intersection to the wheel B on the inner side; and the line *b'* shows the outer line of intersection, and as seen from a point-blank view of them.

Now, as the water from the helix or scroll A strikes the buckets D D, there is a natural rebound or roll to the water, and if the buckets D D can be so formed that the water in its natural action shall continually press on the bucket D till it leaves the wheel at its periphery without obstructing its passage, then we gain the greatest amount of power from the water with the least resistance to it.

In the form of the water-chamber in the wheel B and the buckets D D, we gain that power, as demonstrated by actual experiment, the water striking the bucket D squarely at its base, and continuing in its rolling motion to act centripetally on the bucket D through its whole length, while the form of the wheel B, having its discharge at the upper part of its periphery, the curve of the buckets D, and the motion given to the wheel B, each and all help and facilitate the free discharge of the water from the wheel.

I claim the spiral form and arrangement of the buckets D, shaft C, curb B, and conductor or forebay A, all as shown and described, for the purposes set forth.

JOSHUA E. CHAPMAN.

Witnesses:

MORGAN CHITTENDEN,
LYMAN D. BREWSTER.