J. Durkee

Water Wheel.

No. 2,757. Patented Aug. 25, 1842.

Fig. 3

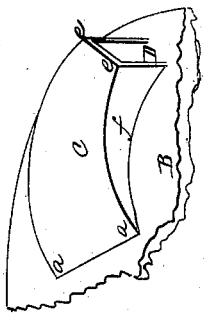


Fig. 2

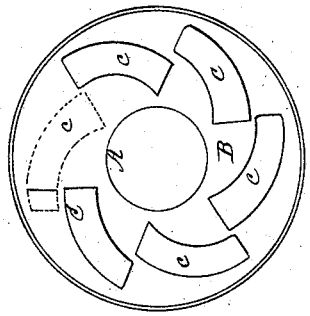
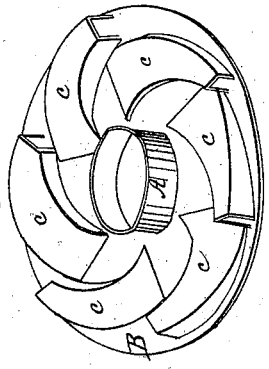


Fig. 1



Witnesses:
Saunder Sanders
W. P. Pope

Inventor:
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UNITED STATES PATENT OFFICE.

JOSEPH DURKEE, OF BINGHAMTON, NEW YORK.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. **2,757**, dated August 25, 1842.

To all whom it may concern:

Be it known that I, JOSEPH DURKEE, of Binghamton, in the county of Broome and State of New York, have invented a new and useful Improvement on the Reaction Water-Wheel; and I do hereby declare that the following is a full and exact description thereof.

The improvement consists in the construction of the buckets so made that the whole lateral and perpendicular pressure of water used acts to the greatest advantage in propelling the wheel by reaction.

The wheel, which comprises the plate, buckets, and hub or shaft-cylinder, when made of cast-iron, is of one piece, each side of which is represented in the annexed drawings, Figures 1 and 2.

Fig. 2 represents the upper or inner side of the wheel and the dark shades thereon the openings into the buckets C. The plate B is a circular disk of iron about three-eighths of an inch in thickness and thirty-six inches in diameter. A is the shaft-cylinder, thirteen inches in diameter.

The bottom or lower side of the bucket C, Fig. 3, is attached to the plate at *a a*, where it is about six inches wide, and, descending thence with a circular sweep outwardly, it decreases gradually in width until it terminates at *e e*, where it is only three inches wide. The sides of the bucket (one of which is seen at *f*) are at right angles with the surface of the plate, commencing with a point at *a*, and gradually increasing in width to five inches where they terminate at *e* D. The sides are consequently six inches apart at *a a* and three inches at *e e*, thus making the vent five inches by three. The buckets are a few inches longer than the openings marked C, Fig. 2, their comparative length and the place where they unite with the plate on the opposite side being represented by the dotted line on Fig. 2.

This wheel can be used on an upright or horizontal shaft, or two wheels may be used, one on each end of a horizontal shaft. In the latter case the buckets on one wheel must be reversed in their direction.

In constructing a wheel the dimensions of the plate, buckets, &c., may be increased or diminished in size in proportion to the head of water or the power required.

As the water in passing through the bucket acquires an accelerated motion, it lessens in volume at the vent. Therefore a wheel constructed with taper buckets, as above described, is best adapted to receive the full force of the water.

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

The construction of the taper bucket above described.

JOSEPH DURKEE.

Witnesses:
GEO. PARK,
W. P. POPE.