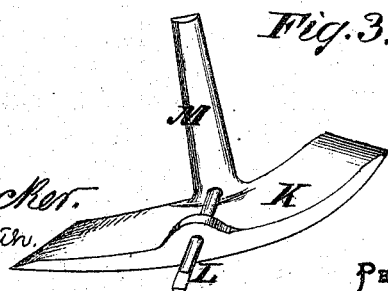
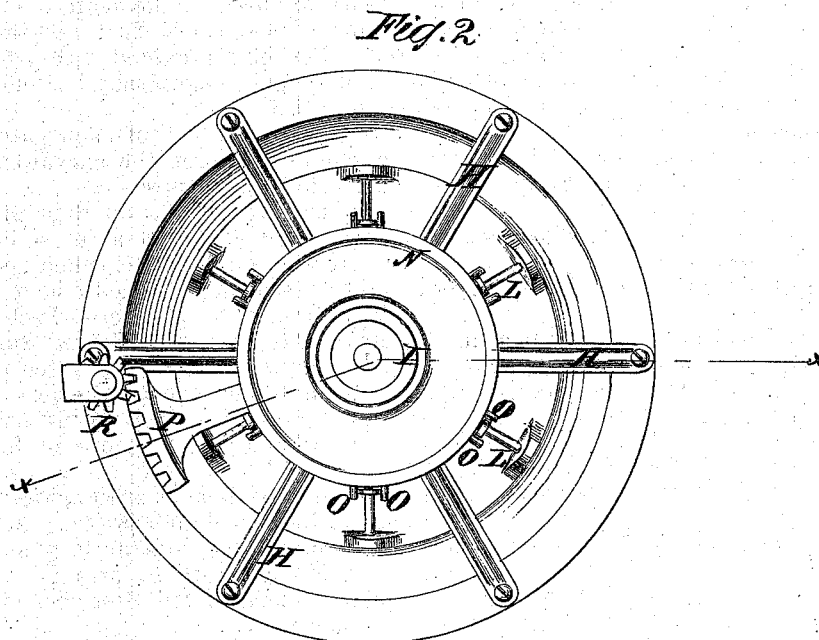
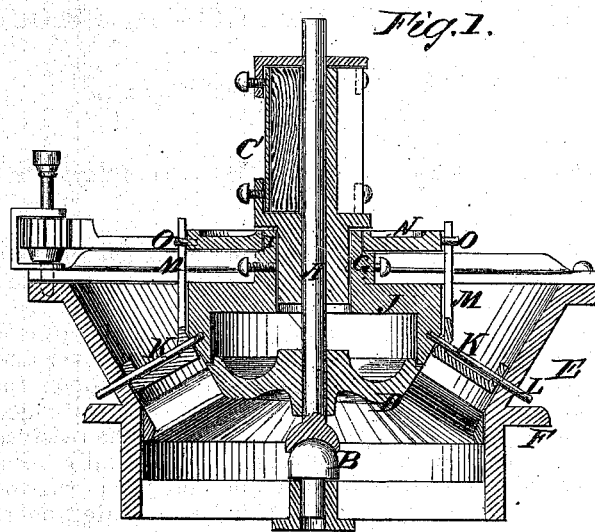


WILLIAM J. THOMPSON.  
Improvement in Water-Wheels.

No. 115,389.

Patented May 30, 1871.



Witnesses:  
*John Becker.*  
*Wm. H. C. Smith.*

Inventor:  
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# UNITED STATES PATENT OFFICE.

WILLIAM J. THOMPSON, OF SPRINGFIELD, MISSOURI.

## IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 115,389, dated May 30, 1871.

*To all whom it may concern:*

Be it known that I, WILLIAM J. THOMPSON, of Springfield, in the county of Greene and State of Missouri, have invented a new and useful Improvement in Water-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in that class of horizontal-running wheels which receives the water upon curved buckets, taking water at one side and discharging it at the other; and it consists in the manner of arranging and operating the gates, and in the general arrangement and combination of parts hereinafter more fully described.

In the accompanying drawing, Figure 1 is a vertical section of Fig. 2 taken on the line *x x*. Fig. 2 is a top or plan view. Fig. 3 shows one of the gates detached.

Similar letters of reference indicate corresponding parts.

A is the shaft to which the wheel is attached, revolving on the step B and supported by the boxing C. D is the water-wheel. E is the case. F is a flange surrounding the case, on which the case, with the wheel, is supported. G is spider, the arms H of which are bolted to the top of the case. I is a collar projecting above the arms H, and J is a broad hollow flange beneath the arms, which fits down onto and covers the upper portion of the wheel, as seen in Fig. 1. K represents the gates, which operate as chutes for regulating the flow of water or shutting it off from the wheel. These gates are oscillated on pivot-rods L. The rods L are supported at an angle of thirty degrees—more or less—by the case and the flange J, as plainly seen in the drawing, the

angle being designed to correspond with the form of the wheel. M is an arm on each of the gates, which stands vertical, and their ends project above the arms H. N is a circular plate, which fits over the collar I. The plate rests upon the top of the arms, and has screws or lugs O in its edge, between which the arm of the gate is received, as seen in the drawing. By partially rotating the plate around the collar I it will be seen that the gates will be oscillated on their pivots and the water-apertures to the buckets will be opened or closed. The plate N is rotated by means of the sector-rack P and the pinion R, the latter being provided with a stop, so that the plate and buckets may be held in any desired position.

In closing, the end of each gate laps onto the one preceding it, the curvature being arranged for this purpose.

The gates are hung on their pivot-rods at or near their center, so as to be balanced by the pressure of the water when open.

The present improvements have more especial reference to a water-wheel for which Letters Patent of the United States, dated December 21, 1869, were granted me, the object being to improve and perfect said wheel.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The arrangement of the gates K with regard to the wheel and the case and the operating connections, substantially as described.
2. The disk-plate N, arranged to operate the gate, as shown and described, for the purpose specified.

WILLIAM J. THOMPSON.

Witnesses:

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