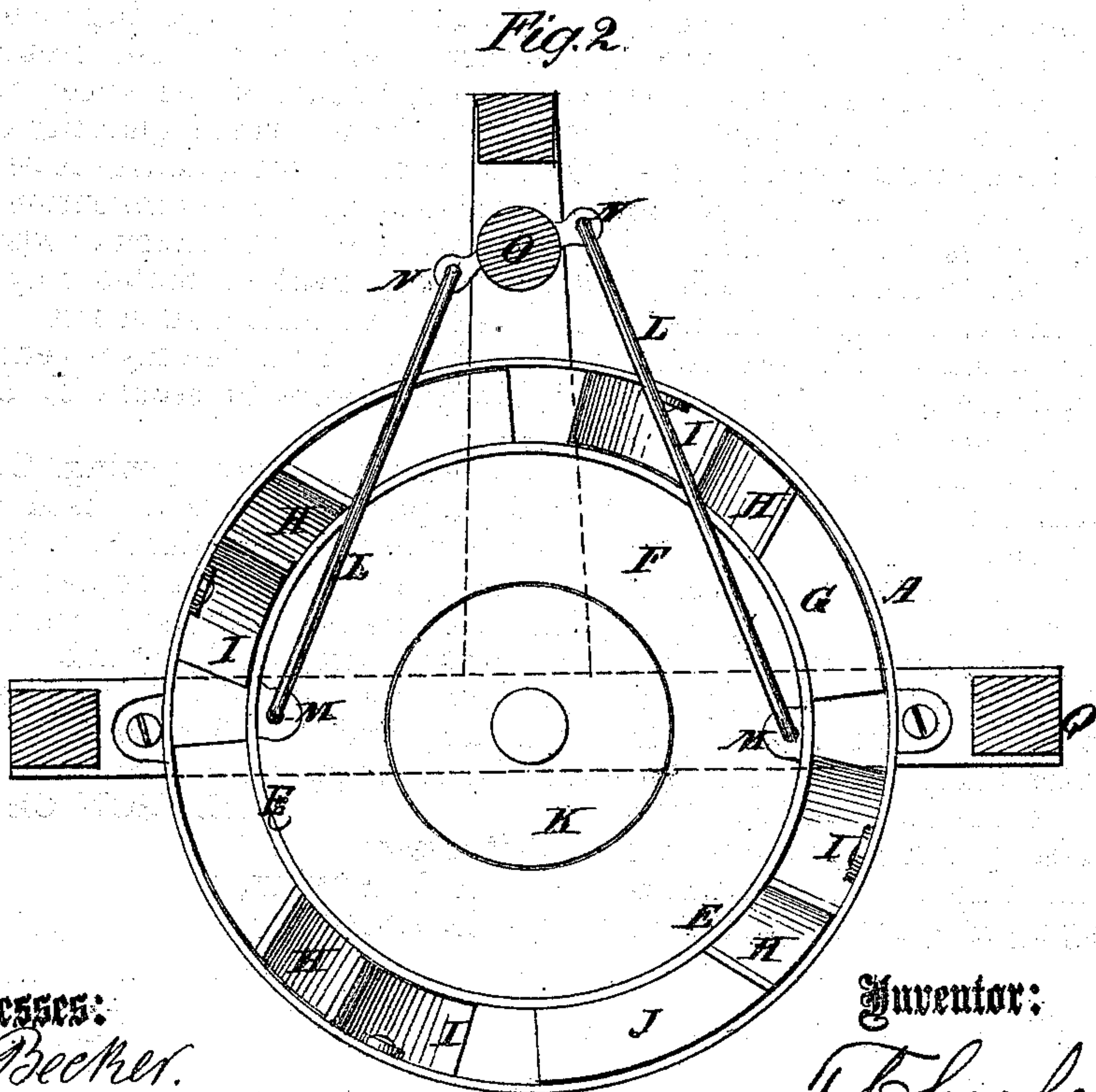
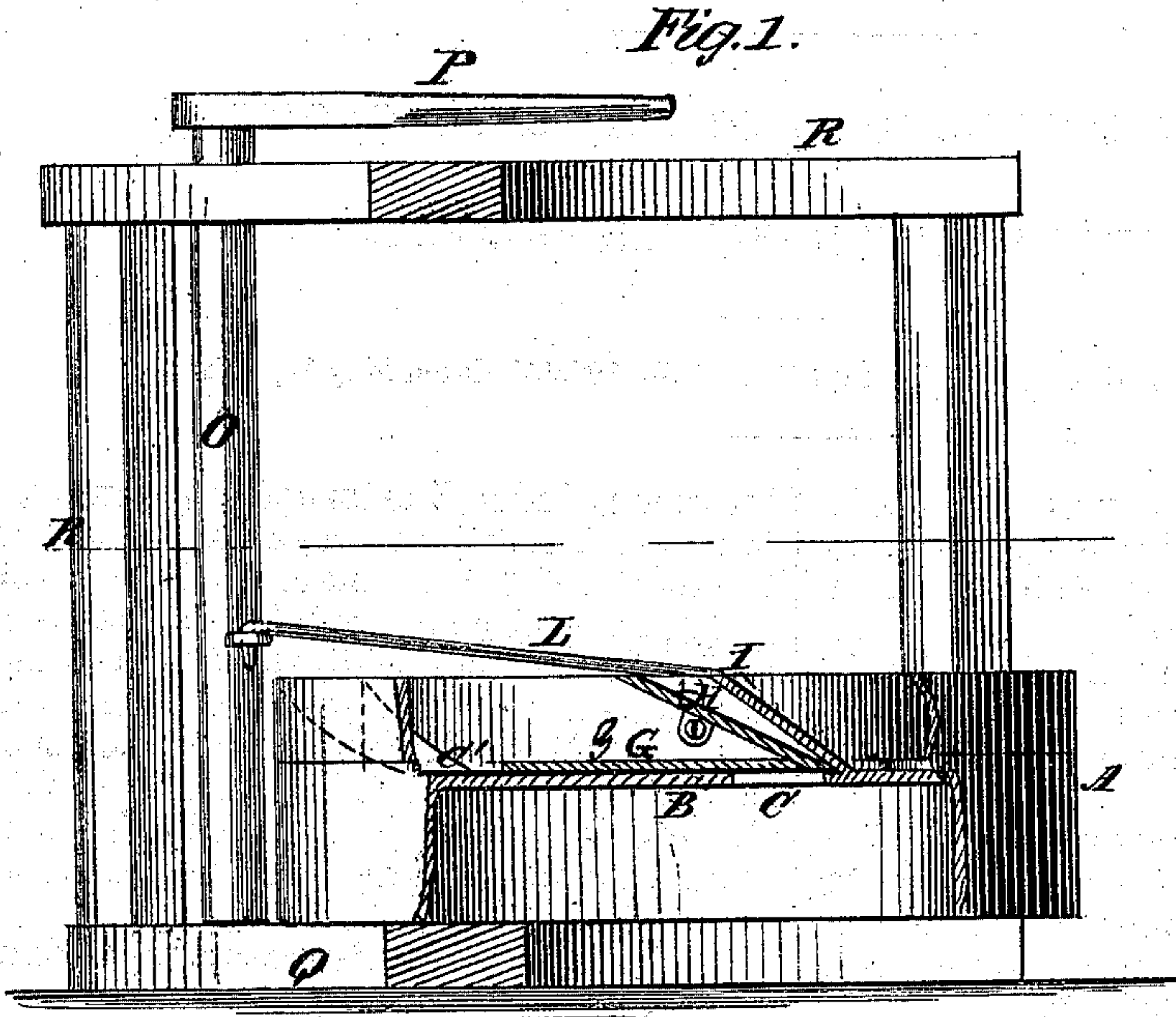


T. CHESHER.
Water-Wheels.

No. 126,674.

Patented May 14, 1872.



Witnesses:

John Becker.
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Inventor:

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UNITED STATES PATENT OFFICE.

TENISON CHESHER, OF WEST MIDDLEBURG, OHIO.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 126,674, dated May 14, 1872.

Specification describing a new and useful Improvement in Water-Wheels, invented by TENISON CHESHER, of West Middleburg, in the county of Logan and State of Ohio.

This invention relates to a new and useful improvement in water-wheels; and consists in the construction and arrangement of parts hereinafter described.

In the accompanying drawing, Figure 1 is a sectional side elevation of a movable chute-cylinder, showing the manner in which it is operated. Fig. 2 is a horizontal section looking down from the line *x x* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A is a stationary curb, which surrounds the wheel and chutes, made in one or more sections, having a partition-plate, B, with orifices C therein, through which orifices the water is discharged onto the buckets of the wheel. On the inner side, above the partition-plate of the curb, is a stationary chute, I, for each of the openings C. These chutes are placed at the proper angle, and bolted to the curb. E is an interior movable cylinder, of smaller diameter than the curb A, provided with a bottom, F, and an outer flange, G, the latter of which extends to the curb, with openings C' therein to correspond in size and position with the openings C in the partition-plate B. H represents a series of chutes, which are attached to the movable cylinder E. In width the chutes H and I are equal to the distance between this cylinder E and the curb, so as to fill the annular water-space J between the vertical parts of the two cylinders. It will be observed in Fig. 1 that the chutes stand at different angles. The bottom and the outer flange of the interior cylinder E rest upon the partition-plate B. K is a boss or hub raised on the partition-plate B, and forming a guide, around which the

interior cylinder E is turned or given a revolving motion sufficient to open and close the water-aperture C in the plate B. This revolving or circular motion is produced by means of the rods L L, connected with the cylinder, as seen at *m m*, and with the arms *n n* of the vertical shaft O. Motion is imparted by means of the lever P attached to the top of the shaft. Q is the water-wheel bed-timber, and R is the frame-work for supporting the shaft O and the water-wheel shaft.

It will be seen by this arrangement that half the chutes are stationary and half movable, and that when the movable chutes are drawn back from the stationary chutes the wedge-shaped opening between them is preserved at all times, whether the opening be more or less. The current of water is not broken before it strikes the bucket of the wheel, and the full force due from a small quantity of water as well as from a large quantity is secured.

In this example of my invention I show the chutes adapted for a horizontal wheel, but the same arrangement of chutes may be applied to wheels with horizontal shafts.

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

1. The curb A, with openings C, stationary chutes I, partition-plate J, raised hub K, and interior movable cylinder E, with flanges F and G, openings C', and chutes H, when the same are arranged to operate substantially as and for the purposes described.

2. The combination and arrangement of the stationary and movable chutes I and H, as and for the purposes described.

TENISON CHESHER.

Witnesses:

E. P. PETTIT,
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