

J. Krall,

Water Wheel.

No. 103,475.

Patented May 24, 1870.

Fig 1

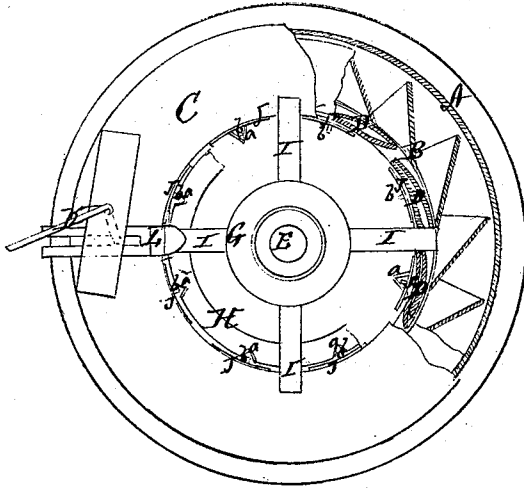
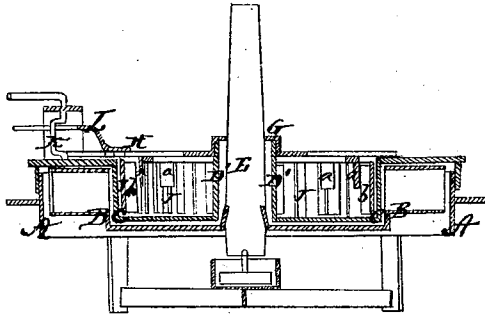


Fig 2



Witnesses  
Harry King  
C. L. Green.

Inventor,  
Jesse Krall  
per  
Alexander Mason  
Attys.

# United States Patent Office.

JESSE KRALL, OF HALL, PENNSYLVANIA.

Letters Patent No. 103,475, dated May 24, 1870.

## 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, JESSE KRALL, of Hall, in the county of York and in the State of Pennsylvania, have invented certain new and useful Improvements in Water-Wheels; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

My invention relates to that class of water-wheels which receives the water from the inside, and consists in the construction and arrangement of the gates, and the manner of operating the same so as to regulate or entirely shut off the water.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view, and

Figure 2 is a longitudinal vertical section of my water-wheel.

A represents the bottom casing in which the wheel B is placed, being constructed in any suitable manner, so as to receive the water from the inside.

The top casing C is constructed, as shown in fig. 2, so as to fit over and also within the wheel B, said casing being provided with apertures and chutes D D, to allow the water admitted into the casing to pass through to the wheel.

In the center of the casing C rises a tube, D', through which passes the shaft E of the wheel.

On top of the tube D, around the shaft E, is placed a ring, G, provided with arms I I, to which is attached

a ring, H H, of suitable diameter, to fit within the inner edge of the upper casing C.

The ring H is, on its outer circumference, cut with a series of notches, from which descend vertical V shaped guides *a a*, attached to the ring.

In these guides are placed the gates J J, said gates consisting of a slightly curved plate with a vertical flange, *b*, in the center on its inner side, which flanges fit in the V-shaped guides *a a*.

The outer ends of the arms I I rest upon the upper casing C, thus supporting the outer ring H, which guides the gates J J.

The ring H is turned the required distance by means of the crank K, which moves in the forked bar L, extending from the ring H, as shown in the drawings.

Having thus fully described my invention,

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

1. The notched ring H, provided with V-shaped guides *a a*, and supported by means of the arms I I, substantially as and for the purposes herein set forth.

2. The gates J J, provided with central vertical flanges *b b*, substantially as and for the purposes herein set forth.

3. The combination of the ring H with guides *a a*, gates J J, bar L, and crank K, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand this 2d day of March, 1870.

JESSE KRALL.

Witnesses:

C. M. ALEXANDER,  
C. L. EVERT.