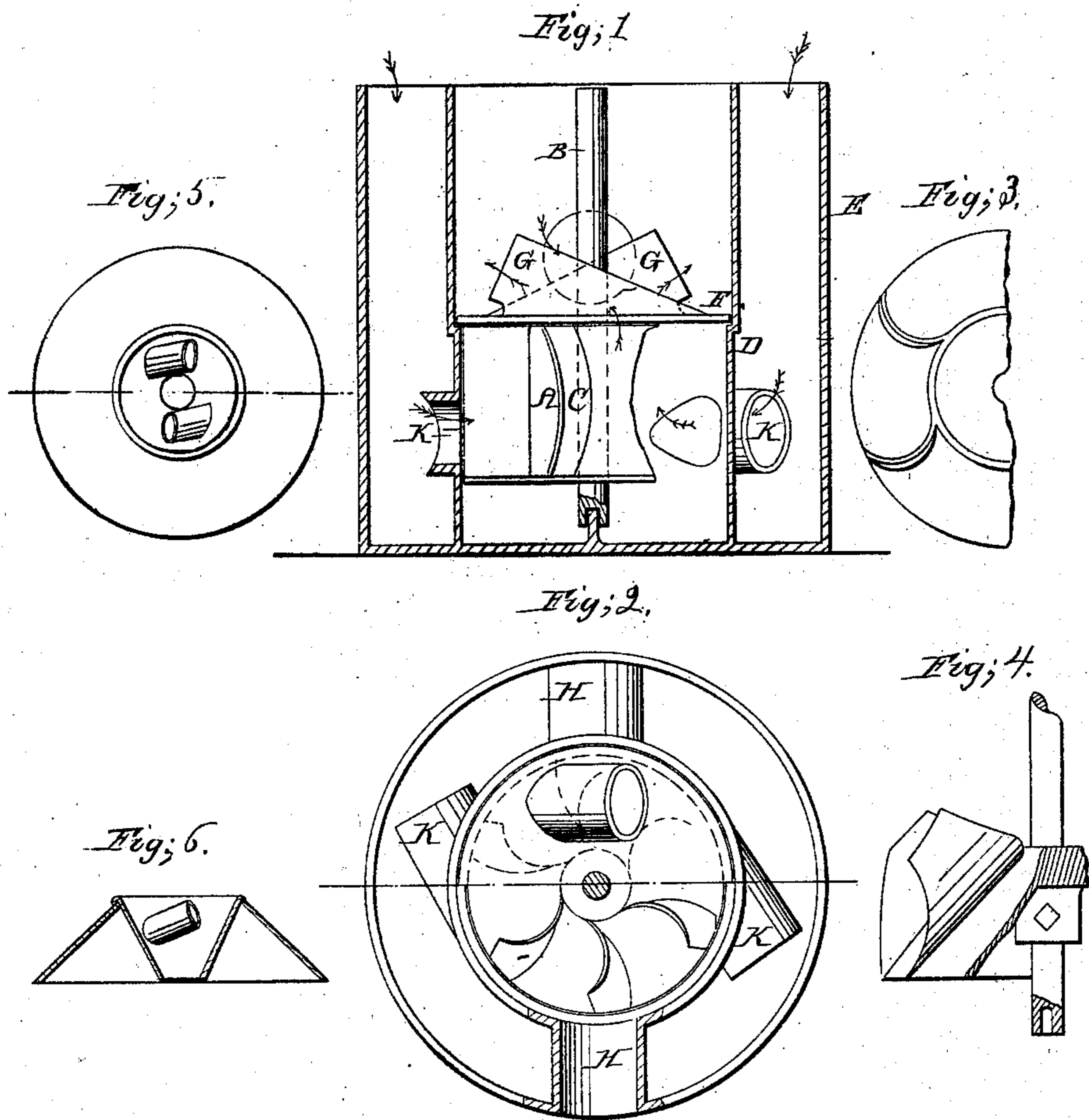


L. Lyons
Water Wheel.

N^o 80359.

Patented July 28, 1868.



Witnesses;
Wm A Mayan
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LA FAYETTE LYONS, OF BENNINGTON, VERMONT.

Letters Patent No. 80,359, dated July 28, 1868.

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, LA FAYETTE LYONS, of Bennington, in the county of Bennington, and State of Vermont, 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 drawings, forming part of this specification, in which—

Figure 1 represents a central sectional elevation of my improved wheel.

Figure 2 represents a plan view, with a part of the cover removed, showing a modified form of the core.

Figures 3 and 4 represent detached portions of the wheel, as shown in figs. 1 and 2, and

Figures 5 and 6 show a modified form of the cover.

Similar letters of reference indicate like parts.

This invention relates to improvements in turbine-wheels, the object of which is to improve the same.

It consists of a horizontal wheel, provided with vertical-curved buckets, against which the water flows in a right-angled direction, and is discharged, through two or more openings in the cover, into a circular chamber, of the diameter of the wheel, from which lateral tubes convey it away out of the chamber through the curb, which supplies the water to the wheel.

In the drawings—

A represents the core of the wheel, which is secured to the vertical shaft B, and to which the curved buckets C may be secured, in any suitable manner, in a vertical position.

D represents the curb, which is continued for some distance above the wheel, and provided with a cover to close against the water of the supply-tube E. A cover, F, is also provided for the wheel within the curb, and is supported on a shoulder within the same, or by any other suitable means, through which the discharge-passages G are arranged, whereby the water is discharged from the wheel into the chamber of the upper portion of the curb.

H represents passages from the said chamber through the supply-tube E, for the water to escape.

Two or any other even number of supply and discharge-passages may be used with equal facility, and the core of the wheel may, if preferred, be made conical, as shown in figs. 2 and 4.

It will be observed that the water is delivered to the wheel through the passages K in a direction to strike the buckets at right angles, or nearly so, to the face of the same, and that, owing to the position of the discharge-ports, and the direction of the same, the water is totally arrested in its direct movement and turned to the opposite direction when it is discharged from the wheel, whereby, it is believed, the greatest percentage of power is derived therefrom.

The cover may be made oval at the top, and provided centrally with an inverted cone, in the sides of which the discharge-orifices may be located as shown in fig. 5, which form I have found to operate with great advantage.

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

A water-wheel, having a cylindrical or conical core, A, provided with the curved buckets C, and arranged in a curb, D, provided with the supply and discharges-passages, K, G, and H, substantially as and for the purpose described.

LA FAYETTE LYONS.

Witnesses:

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