B. C. LAMBETH.

WATER WHEEL.

No. 181,185. Patented Aug. 15, 1876.

Fig. 1.

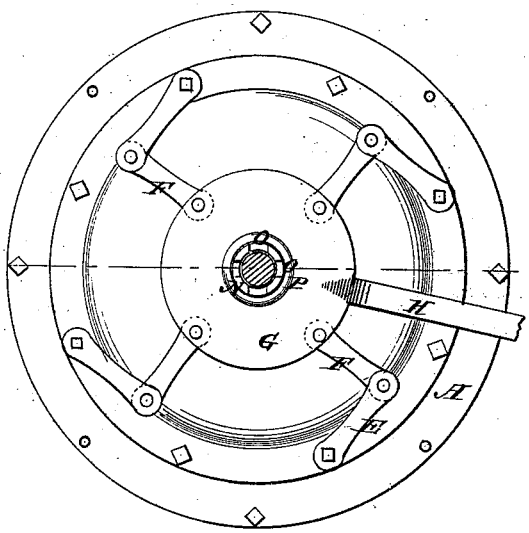


Fig. 2.

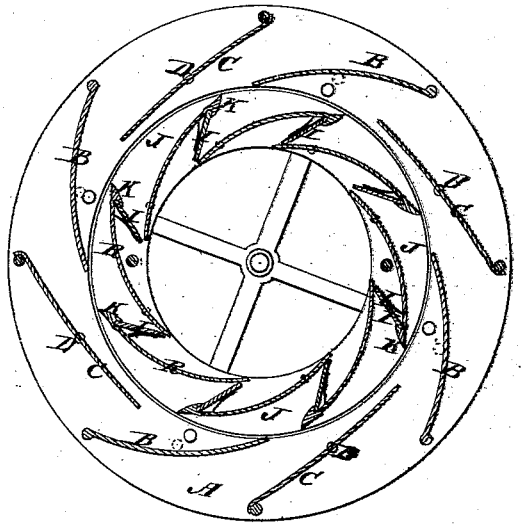
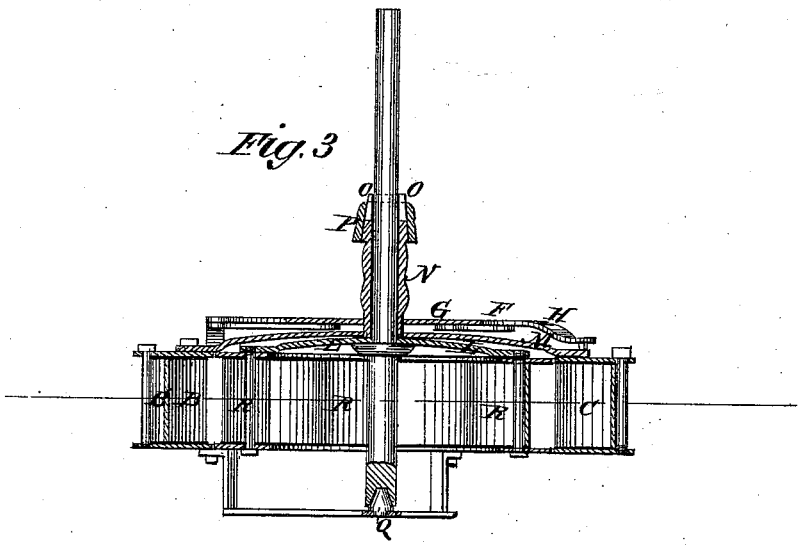


Fig. 3



WITNESSES:

Francis McArdle.

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INVENTOR:

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UNITED STATES PATENT OFFICE.

BURRELL C. LAMBETH, OF THOMASVILLE, NORTH CAROLINA, ASSIGNOR TO HIMSELF AND I. L. YOUNG, OF SAME PLACE.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. **181,185**, dated August 15, 1876; application filed April 18, 1876.

To all whom it may concern:

Be it known that I, BURRELL C. LAMBETH, of Thomasville, in the county of Davidson and State of North Carolina, have invented a new and Improved Water-Wheel, of which the following is a specification:

My invention consists of a novel contrivance of the alternate gates to form chutes, and the device for opening and closing them is contrived to reverse, for application to wheels running either way. The buckets are provided with spring-valves, to regulate the opening according to the volume admitted, so that the water will be applied to the wheel in the most effective manner, whether the whole or part gate is used. The wheel is constructed so that it can be reversed to run either way by shifting the attaching-disk from one side to the other. The socket of the step has a flat bottom, and the pivot on which it turns has a corresponding flat top, which wear better than the points commonly made. The bearing for the shaft above the wheel consists of boxes let into slots in the tube of the case, the boxes being tapered from bottom up, and being clamped against the shaft by a ring of corresponding form. The case is also reversible by taking off the top and attaching it to the other side.

Figure 1 is a top view of my improved wheel. Fig. 2 is a horizontal section on line *x x*, Fig. 2. Fig. 3 is a transverse section on line *y y*, Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents the two rims of the case, between which are the chutes B C, the alternate ones C being pivoted at D, to form gates to shut off the water by closing against the outer end of the one ahead, and the inner one of the one behind. They are operated by the arms E, which are connected by the links F with the disk G, which is turned by the lever H. These arms can be taken off, also the disk G and links F, and connected on the other side, to operate in the same manner when the wheel is reversed. The buckets R have spring-valves I, to regulate the openings according to the volume of water let on by the gate, thus varying the capacity of the buckets according to the power wanted. Said valves are pivoted to the buckets in seats K, along which the water flows unobstructedly. The wheel is composed of two rims, J, and the disk L, and may be reversed by taking off the disk, turning the rims and buckets upside down, and putting on the disk again.

The case has a cam, M, which is also detachable, and may be connected to either side, and the case has a tube, N, extending along up the shaft a suitable distance, and has slots O in the top, in which wedge-shaped bearings or boxes are fitted and secured against the shaft by the tapered ring P, which makes a more even and reliable tightening device, and it is simpler and cheaper than the set-screws commonly used. The socket in the bottom of the shaft for the step is constructed with a flat bottom at the top of the tapered sides, and the step O has a flat top corresponding to said bottom, which makes a more substantial and durable step than the common arrangement, in which the step is tapered to the top.

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

1. In a water-wheel, the combination, with stationary buckets, of spring-valves arranged between the buckets, the latter being hooked over the edge of valves, substantially as and for the purpose specified.

2. The detachable disk L, combined with the reversible wheel, composed of the rims J and the buckets, substantially as specified.

BURRELL C. LAMBETH.

Witnesses:

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