

J. EBERSOLE.
Water-Wheel.

No. 214,634.

Patented April 22, 1879.

Fig. 1.

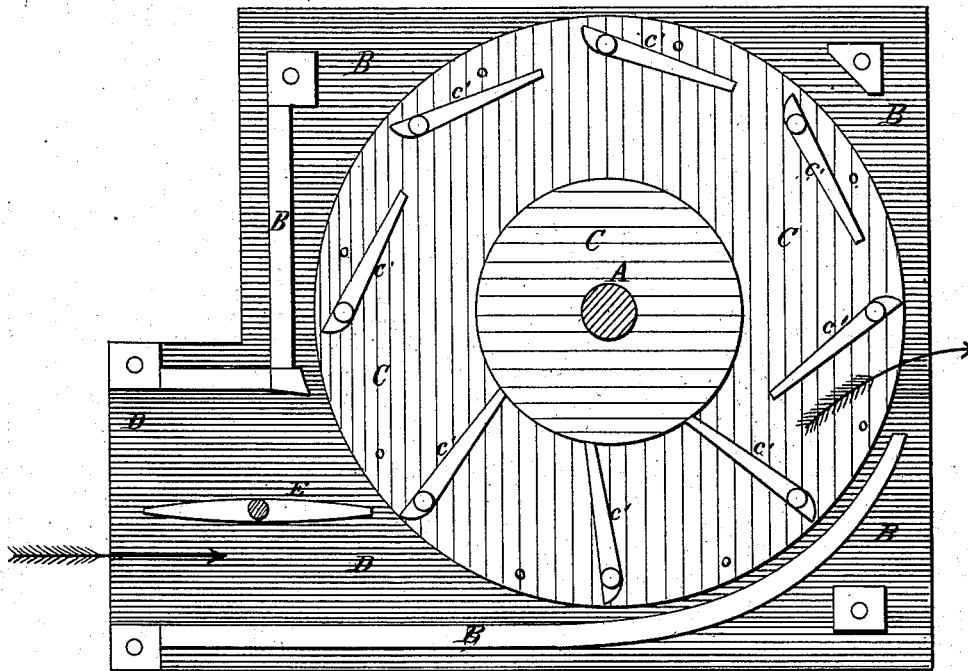


Fig. 2.

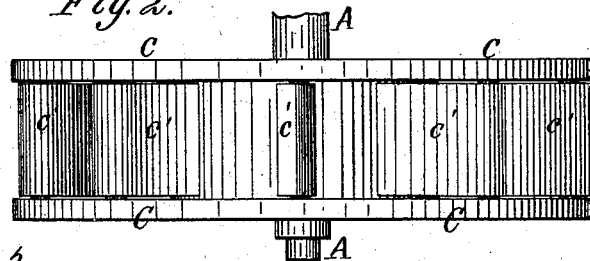
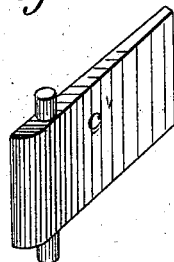


Fig. 3.



WITNESSES:

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JOHN EBERSOLE, OF CHAMBERSBURG, PENNSYLVANIA.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. **214,634**, dated April 22, 1879; application filed January 30, 1879.

To all whom it may concern:

Be it known that I, JOHN EBERSOLE, of Chambersburg, in the county of Franklin and State of Pennsylvania, have invented a new and useful Improvement in Water-Wheels, of which the following is a specification.

Figure 1 is a sectional view of my improved water-wheel. Fig. 2 is a side view of the same. Fig. 3 is a detail perspective view of one of the buckets.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved water-wheel for use in streams where there is little or no head, and which shall be so constructed that it will be run by the current, and will not be retarded by the still or back water.

The invention consists in the hereinafter-described water-wheel, which may be submerged in the water of a stream or extend partly above the water, and be operated by the current.

A represents the shaft, which passes through the casing B, and revolves in a step or other bearing at the bottom of the stream. To the shaft A, within the casing B, is attached the wheel C, which consists of two circular plates attached to the ends of a hub or drum.

c' are the buckets, which are pivoted near their outer ends to and between the outer parts of the plates of the wheel C. The buckets *c'* are made of such a size that their inner ends, when they are in working position, will rest against the hub of the wheel, by which they are supported against the pressure of the water. The buckets *c'* are kept from swinging too far outward when passing through the still or back water by stops attached to one of the circular plates of the wheel. The upstream side of the casing B is closed, except at the chute or inlet D, which is so placed as

to direct the current of water against the buckets in the part of the wheel that is moving forward or down stream. The side of the casing at the side of the wheel that is moving down stream is curved, as shown in Fig. 1, so as to confine the water to the buckets until it reaches the rear side or tail of the wheel.

With this construction the buckets *c'*, while moving in the up-stream direction, will swing upon their pivots, so as to pass edgewise through the still or back water, and thus avoid any back-pressure, so that the whole force of the current will be exerted in rotating the wheel.

Wheels thus constructed may be placed at the bottom of the stream, so that they will not be liable to freeze up or be injured by ice.

The passage of the water to the wheel C may be prevented, when desired, by the gate E, which is pivoted in and to the chute D in such a position that it may be turned longitudinally with the said chute, as shown in Fig. 1, so as not to interfere with the passage of the water or across the said chute, so as to entirely prevent the passage of water to and through the wheel.

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

A current-wheel for working at the bottom of a stream, consisting of two plates attached to the ends of a drum or hub, provided with intermediate buckets, pivoted at the outer end and resting when at work upon the hub, and secured on a horizontal shaft in case B, the latter having inlet and outlet for the water on opposite sides of the wheel, as shown and described.

JOHN EBERSOLE.

Witnesses:

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