

L. A. STRUBLE.

WATER WHEEL.

No. 184,805.

Patented Nov. 28, 1876.

Fig. 1.

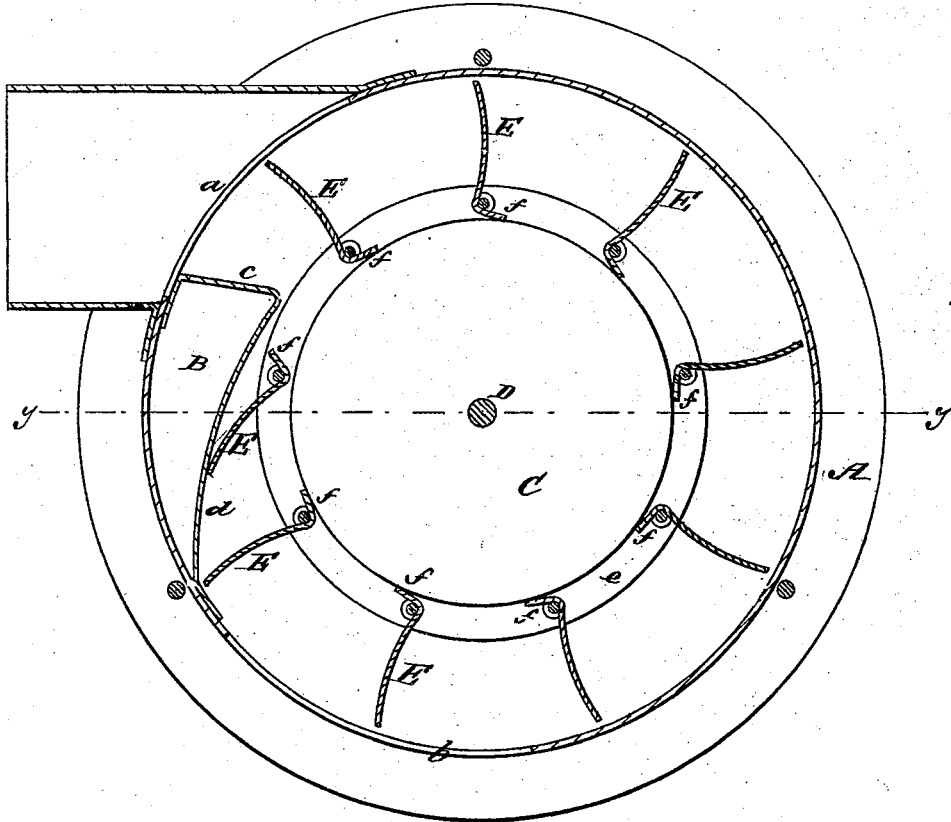
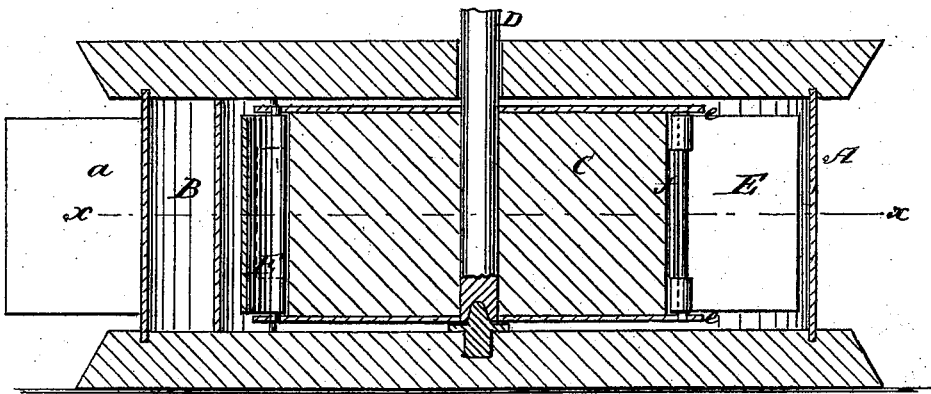


Fig. 2.



WITNESSES:

E. Wolff.
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UNITED STATES PATENT OFFICE.

LEWIS A. STRUBLE, OF SALT RIVER, MICHIGAN.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 184,805, dated November 28, 1876; application filed September 22, 1876.

To all whom it may concern:

Be it known that I, LEWIS A. STRUBLE, of Salt River, in the county of Isabella and State of Michigan, have invented a new and Improved Water-Wheel, of which the following is a specification:

Figure 1 is a horizontal section on line *x x* in Fig. 2. Fig. 2 is a transverse section on line *y y* in Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing, and then pointed out in the claim.

In the drawing, A is the external cylindrical casing of the wheel, having the tangential inlet *a* and the outlet *b* for water, and provided with an abutment, B, having a straight side, *c*, which is nearly in line with the direction of the inlet-pipe, and also the curved or inclined side *d*. C is a hub, provided with flanges *e e*, and secured to the vertical shaft D. E E, &c., are curved buckets, pivoted to the flanges *e e*, so as to present their concave faces to the flowing current of water, and are provided with the flanges or lugs *f*, which are formed on the buckets, and are arranged at right angles with a line drawn across the face of the buckets, and are capable of sustaining the buckets in a radial line drawn from the center of the shaft D by resting against the hub C. The abutment B projects toward the center of the wheel-casing, leaving only sufficient room for the buckets to pass when folded down to the hub.

It will be seen that water entering the casing through the inlet will exert a pressure on the curved buckets and force them from the abutment. As the buckets strike the inclined side of the abutment they are folded down to the hub, and after passing the abutment they are unfolded by the action of the water. The water, after carrying the buckets, escapes.

This invention is simple and inexpensive in its construction, effective in its operation, and utilizes the greatest possible percentage of the water.

By a slight modification in the construction of the wheel it may be used as a rotary steam-engine.

I am aware that it is not new to use (in a water-wheel) hinged buckets that are supported at an acute angle against the wheel-case; but by supporting my buckets without friction against the rigid case upon the rotary hub, I readily get them to work always in a position radial to the hub, and thus secure the greatest effect from the water, as well as the least friction.

Hence, what I claim is—

A water-wheel provided with hinged buckets supported radially to the axis of the hub by projections that extend beyond their pivots and rest on the revolving hub, for the purpose specified.

LEWIS A. STRUBLE.

Witnesses:

S. C. BROWN,
A. M. TUCKER.