

I. J. W. Adams,

Water Wheel,

N^o 54,660.

Patented May 15, 1866.

Fig. 2.

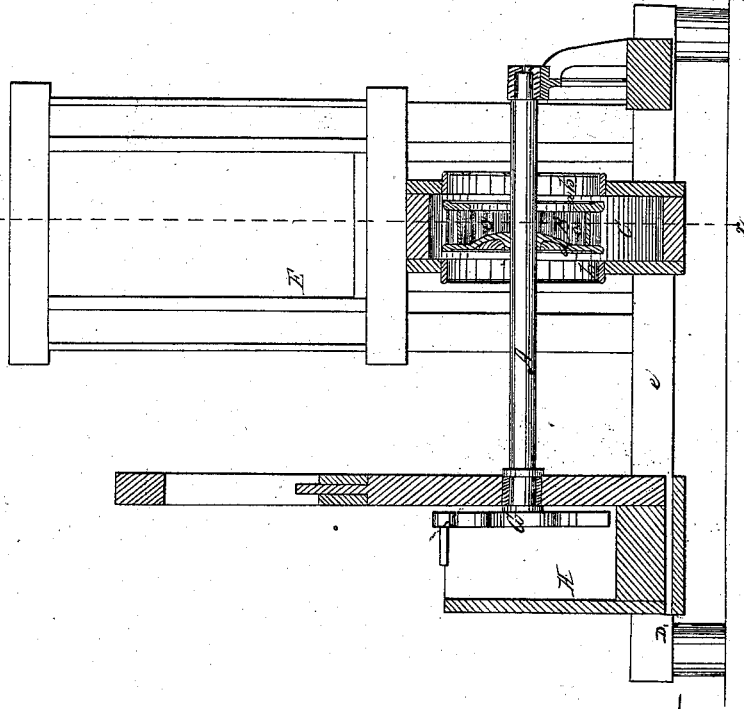
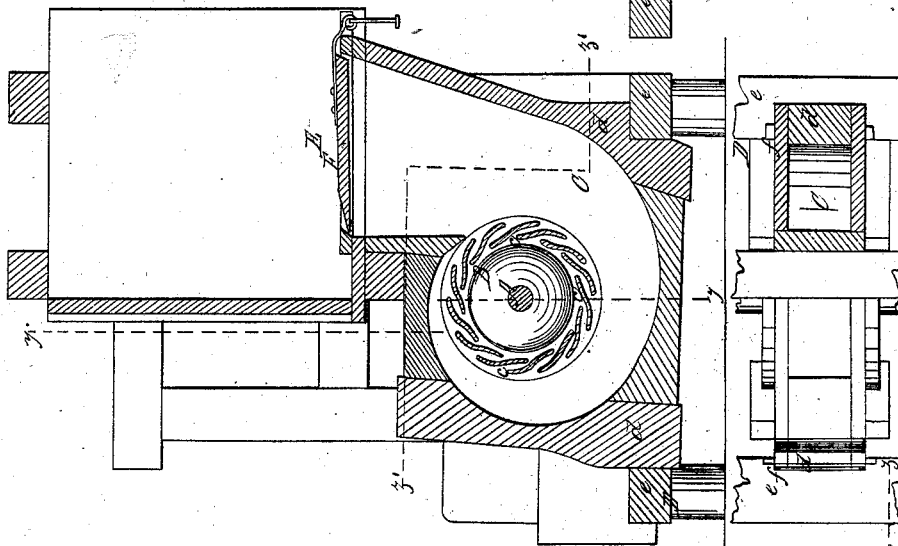


Fig. 1.



Witnesses.
W. Brewin
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UNITED STATES PATENT OFFICE.

I. J. W. ADAMS, OF GALESTOWN, MARYLAND.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 54,660, dated May 15, 1866.

To all whom it may concern:

Be it known that I, I. J. W. ADAMS, of Galestown, in the county of Dorchester and State of Maryland, have invented a new and Improved Water-Wheel; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those 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 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a vertical section of the same, taken in the line *y y*, Fig. 1; Fig. 3, a section of Fig. 4, taken in the line *z z*; Fig. 4, a horizontal section of the wheel-scroll, taken in the line *z z'*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved water-wheel and the adaptation of it to saw-mills, whereby a very economical means is obtained for driving saws by water-power, and the device rendered capable of being very readily put up or adjusted for use, and also very readily repaired when necessary, all the parts being very accessible.

A represents a horizontal shaft, on which the wheel B is firmly keyed, and C is a box or scroll in which the wheel works. One side, *a*, of the wheel is solid, but the other side, *a'*, is open or of annular form, to admit of the discharge of the water therefrom. The sides of the scroll have circular openings *b* made in them, corresponding in diameter to the sides *a a'* of the wheel.

The wheel B is provided with buckets *c*, which are curved in *S* form, as shown clearly in Fig. 1, and the edges of the sides *a a'* are rounded, as shown clearly at *a^x* in Fig. 2, to admit of the free passage of the water into the wheel.

The scroll C has its front and rear sides, *d d*,

secured to the sides *e e* of a horizontal framing, D, which supports the whole of the driving mechanism. The sides *d d* are fitted in notches *f* in the sides *e e* of the framing D, in order to prevent any lateral movement of the scroll.

Directly over the scroll is the penstock E, provided with a gate, F, by which water is admitted into the scroll C.

At one end of the shaft A there is a crank, G, to which the pitman which drives the saw-frame is attached, and this crank is inclosed within a box, H, which is fitted on the framing D. By this arrangement it will be seen that the power of the wheel is applied to the saw in a very direct manner, and all the advantages of the turbine wheel are obtained with those of the ordinary overshot wheel.

The *S*-shaped curve of the buckets *c* of the wheel causes the water to act upon the latter in the most favorable manner, and the invention, it is believed, will entirely supersede the ordinary small flutter-wheels, as well as the large overshot wheels hitherto used for saw-mills, as a great saving in the consumption of water is effected over the former, and the gearing required with the latter dispensed with.

All of the parts are accessible for repairs, and they are very compactly arranged, and may be constructed and put up in working order at a very moderate expense.

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

The arrangement of the penstock E, scroll C, frame D, wheel B, with its sides *a a'* and brackets *c*, as described, shaft A, crank G, and box H, operating in the manner and for the purpose herein specified.

I. J. W. ADAMS.

Witnesses:

URIAH T. OWENS,
ASBURY DEAN.