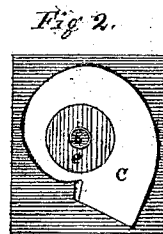
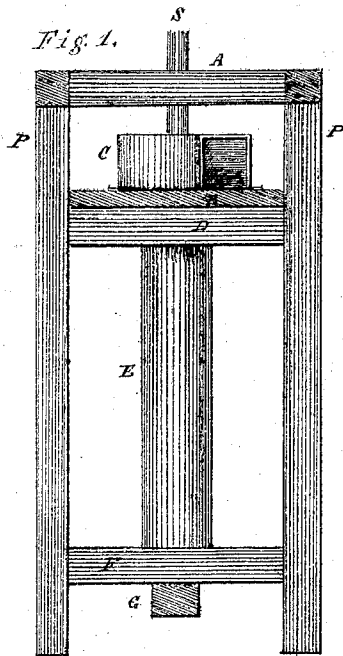


DAVID K. KRAATZ'

Vertical-Screw Water Wheel.

No. 118,863.

Patented Sep. 12, 1871.



Witnesses.

N. K. Seltzer
Mary Seltzer

Inventor.

David K. Kraatz

UNITED STATES PATENT OFFICE.

DAVID K. KRAATZ, OF EPHRATA, ASSIGNOR OF ONE-HALF OF HIS RIGHT TO A.
S. BARE, OF BAREVILLE, PENNSYLVANIA.

IMPROVEMENT IN VERTICAL-SCREW WATER-WHEELS.

Specification forming part of Letters Patent No. 118,863, dated September 12, 1871.

To all whom it may concern:

Be it known that I, DAVID K. KRAATZ, of Ephrata, in the county of Lancaster and State of Pennsylvania, have invented a new and Improved Water-Wheel; and I hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing which forms a portion of this specification, in which—

Figure 1 is a side elevation, and Figs. 2, 3, and 4 are views of portions of the same detached.

A vertical tube, E, descending from a scroll-head, C, forms the casing for the reception of the loosely-fitting and spirally-winged shaft S of my improved water-wheel. The said casing is secured in a stiff and strong frame, and may be made of any suitable material. Suitable bearings or journal-boxes must be provided for the journals of the shaft S, which bearings or journal-boxes must be properly located and firmly secured within the supporting frame-work of the water-wheel cas-

ing. The water has a threefold action upon my improved water-wheel, to wit: First, the water acts by percussion as it enters the scroll-shaped head of the casing; second, it acts by friction and gravity as it descends through the spiral channels of the wheel; and third, the propelling water as it escapes from the wheel reacts upon the stationary water which incloses the base of the same; and, consequently, I contend that my improved water-wheel is the most efficient in action and the most economical in construction of any water-wheel previously known to the public.

I claim as my invention—

The combination of the scroll-head C and the vertical casing-tube E with each other and with the spirally-winged water-wheel S, substantially as and for the purpose herein set forth.

DAVID K. KRAATZ.

Witnesses:

W. K. SELTZER,
MARY SELTZER.