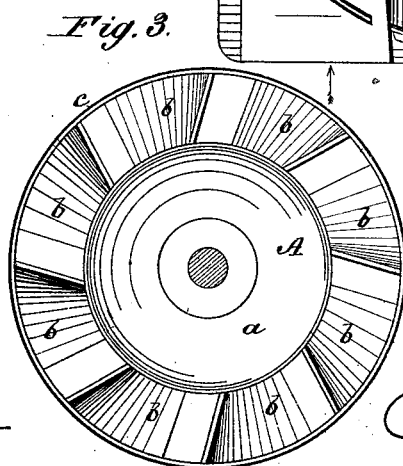
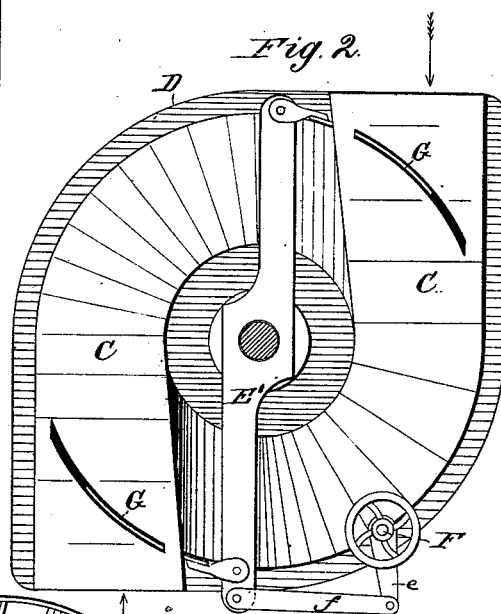
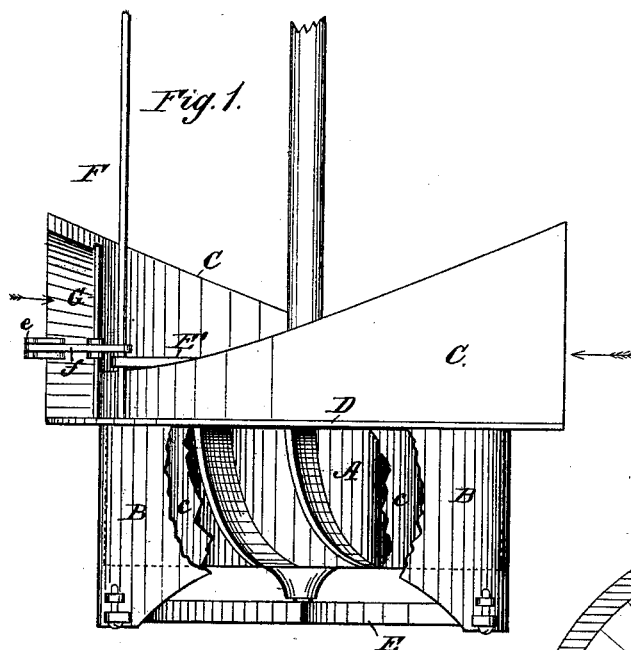


(No Model.)

T. S. PYLANT.  
Turbine Water Wheel.

No. 229,751.

Patented July 6, 1880.



WITNESSES:

*W. W. Hollingsworth,*  
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INVENTOR:

*T. S. Pylant.*

BY

*Allen L.*

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

TIRY S. PYLANT, OF RIDGE SPRING, ASSIGNOR OF ONE-HALF OF HIS RIGHT  
TO ELIJAH WASHINGTON HORNE, OF EDGEFIELD COUNTY, S. C.

## TURBINE WATER-WHEEL.

SPECIFICATION forming part of Letters Patent No. 229,751, dated July 6, 1880.

Application filed May 5, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, TIRY SAMUEL PYLANT, of Ridge Spring, in the county of Edgefield and State of South Carolina, have invented a new and Improved Water-Wheel; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view with a part of the case broken away. Fig. 2 is a plan view. Fig. 3 is a detail plan view of the wheel.

My invention relates to certain improvements in turbine water-wheels of that form in which a horizontal wheel is inclosed by a case having upon the top oppositely-opening trunks or conduits for delivering the water to the wheel, which trunks have flaring mouths and taper downwardly into the plane of the wheel.

The improvement consists in the combination of the trunks, the wheel, and a peculiar form of gate, as hereinafter more fully described.

In the drawings, A represents the wheel, which is formed with a central hub, *a*, having buckets *b* arranged about the same, so set that every portion of each bucket is at an angle to the radial line, the outer edge being the advanced or leading edge. Around the outer edges of these buckets is arranged a metal rim, *c*, which may be separate from the buckets or cast with them, which rim is of a depth equal to the depth of the buckets, and closing the same in upon the sides, so that they take their water from the top only. This wheel is arranged within a case, B, upon the top of which are located a pair of trunks, C C. These trunks are in the nature of oppositely-opening conduits, having flaring mouths and tapering spirally into the plane of the wheel. They are attached to an upper plate, D, which is bolted to a flange on the upper portion of the wheel-case.

E is a spider-frame, upon which the lower end of the wheel-shaft is stepped, while the upper portion of said shaft extends through a bearing between the two trunks and connects with suitable driving mechanism above.

For cutting off or admitting the water to the wheel, a lever, E', is fulcrumed about the wheel-shaft just above the lower portions of the trunks, and it extends to a position on each side of the shaft just beside the mouths of the trunks. To the outer ends of this lever are loosely connected curved gates G, one on each side, which curved gates run in curved grooves in the mouth of the trunk and also in the plate D, which grooves are described about the center of the shaft. This lever E' may be thrown so as to project the gates entirely across the mouths of the trunks, and thus cut off the water from the wheel, or be withdrawn to admit the whole or a portion of the water. For operating this lever a vertical shaft, F, is fixed in a suitable bearing in the case and rises to a position where it is supplied with a crank or hand wheel, and at its lower end it is provided with a crank, *e*, which is connected by a link, *f*, with the lever E', so that by turning the said shaft F on its axis the gates may be opened or closed.

In large wheels I may employ four trunks instead of two, as shown.

Having thus described my invention, what I claim as new is—

The combination of the wheel A, the case B, the spirally-arranged tapering trunks C C, and the lever E', having curved sliding gates at its opposite ends, adapted to pass in front of the opposite mouths of the trunks, together with mechanism for oscillating said lever, substantially as shown and described.

TIRY SAMUEL PYLANT.

Witnesses:

J. A. CULLUM,  
W. A. MERITT.