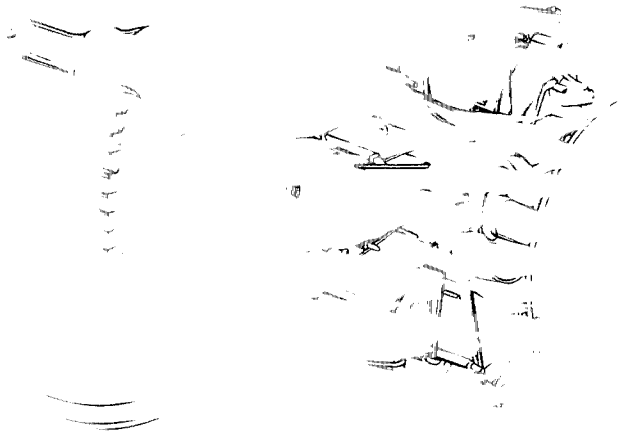
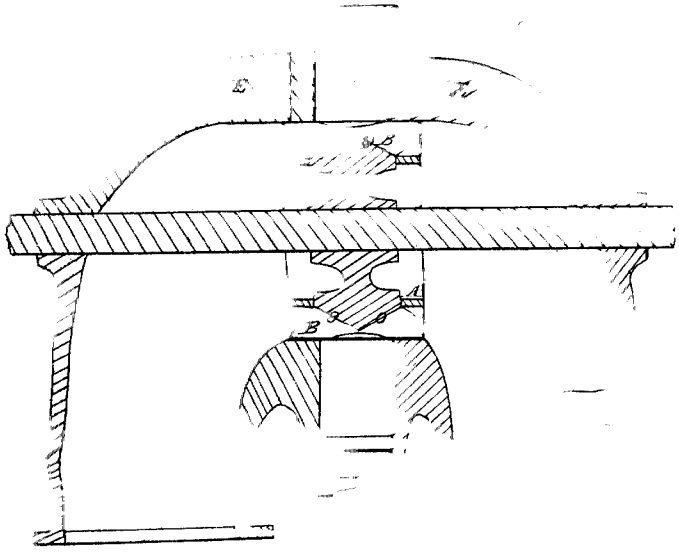
Sheet 1 - 2 Sheets

J. D. Trullinger.

Water-Wheel.

No. 74455 Patented Feb. 11, 1868.





Witnesses
J. A. Dolph
Cyrus A. Dolph

Inventor
J. D. Trullinger

United States Patent Office.

JOHN C. TRULLINGER, OF OSWEGO, OREGON.

Letters Patent No. 74,455, *dated February* 11, 1868.

IMPROVEMENT IN WATER-WHEELS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN C. TRULLINGER, of Oswego, in the county of Clackamas, and State of Oregon, have invented a new and useful Improvement in Water-Wheels; and do hereby declare that the following is a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation, and for that purpose I refer to accompanying drawings upon Sheets No. 1 and No. 2.

The drawings upon Sheet No. 1 represent the wheel and cases upon a horizontal shaft.

The drawings upon Sheet No. 2 represent the wheel upon a vertical shaft, and the plan and sectional views of the buckets.

Figure 1, upon Sheet No. 1, is a perspective view of the wheel and cases, with one part of the case removed sufficiently to show the guide-plates, gates, and wheel combined.

Figure 2, upon Sheet No. 1, is a perspective view of the wheel and buckets.

Figure 3, upon Sheet No. 1, is a longitudinal section of the wheel.

Figure 4, upon Sheet No. 1, is an elevation of the wheel and case.

Figure 5 is a plan or transverse section.

Figure 1. A is the diaphragm of the wheel; B B, buckets; C C C, gates; D D, guide-plates; G G, leaves; F, ring; H, rack; E E, cases.

Figure 2. B B, buckets; Q Q, bridge dividing the water in its discharge.

Figure 3. A A, diaphragm of wheel; B B, buckets; Q Q, bridge of buckets; D, guide of plates; E E, cases; F, ring.

Figure 4. C, gate; D, guide-plate; G, lever for opening gates; F, ring; E E, cases.

Figure 5. A, diaphragm; B B, buckets; Q Q, bridge of buckets; D D D, guide-plates; C C C, gates; G G, levers; F, ring; H, rack.

Figure 1, upon Sheet No. 2, is an elevated view of the wheel and case together upon a vertical shaft.

Figure 2, upon Sheet No. 2, is a longitudinal section of the wheel and case.

Figure 3, upon Sheet No 2, is a plan view of the rack.

Figure 4, outlines of bucket and bridge.

Figures 5 and 6, upon Sheet No. 2, are sectional views of the buckets.

Figure 1. C, in fig. 1, sheet 2, gates; F, ring; I, upper case.

Figure 2. A, diaphragm; B, buckets; Q, bridge; D, guide-plate; F, ring; K, hub and hoop that suspend the wheel; I, upper casing.

Figure 4. L N represent outer edge of the bucket; L M N, the base of the bridge Q.

Figures 5 and 6. A, diaphragm; B, buckets; Q, bridge.

The outer edges of the buckets B B are covered from L to N, as shown by fig. 4, upon Sheet No. 2, and the bucket is also covered in all directions from the line L M N, the base of the bridge, to the line L N, the outer edge of the buckets. The wheel is to be used both as a perpendicular and horizontal wheel. The wheel upon a horizontal shaft in the cases is set on the floor of the penstock, and the apertures cut in the floor for the escape of the water from the cases. The water is admited to the buckets of the wheel through the apertures of the stationary guides D D by the gates C C, which are moved and adjusted by means of a series of levers, G G, attached to the bases, F′, of the movable ring F. By the direction given to the water by the guides D D, it is impinged against the fore part of the buckets B B at the greatest diameter of the wheel, and, by means of the peculiar curve of the buckets in discharging, reacts upon the outer edge of the buckets and greatest diameter of the wheel, so that the smallest quantity of water is used with as great a percentage of power as the largest quantity, or, with a full gate open, the water is discharged each way into the cases E E.

When the wheel is set upon a perpendicular shaft, the water is admitted by means of the gate-rig in the same manner as when the wheel is on a horizontal shaft, and impinges upon the bucket and reacts in the same manner, but discharges down through the lower case, and up over and down through the centre of the wheel. The wheel is suspended by means of the hoop and hub K, as shown by fig. 2, upon sheet 2, which is attached

P. B. Viele,

Fruit Basket

No. 74,456. Patented Feb. 11, 1868.

Fig: 2.

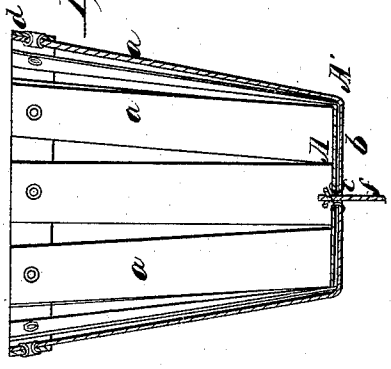


Fig: 3.

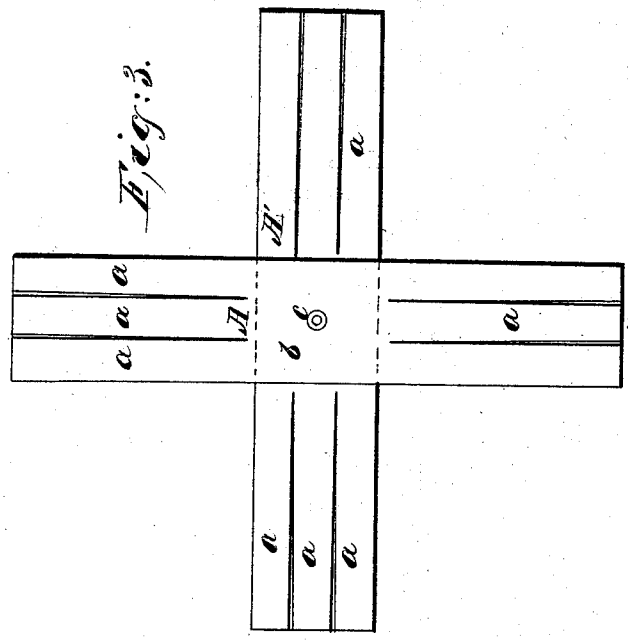
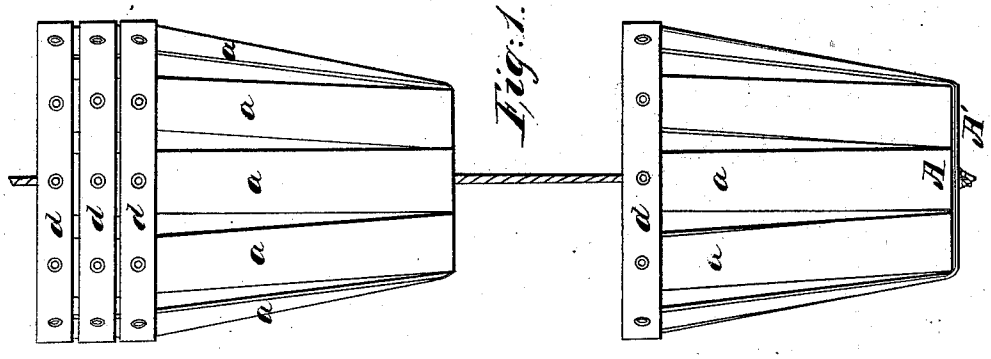


Fig: 1.



Witnesses:

J. R. Drake

Geo. W. Miatt

Inventor:

P. B. Viele

By J. Fraser & Co

Attys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.