

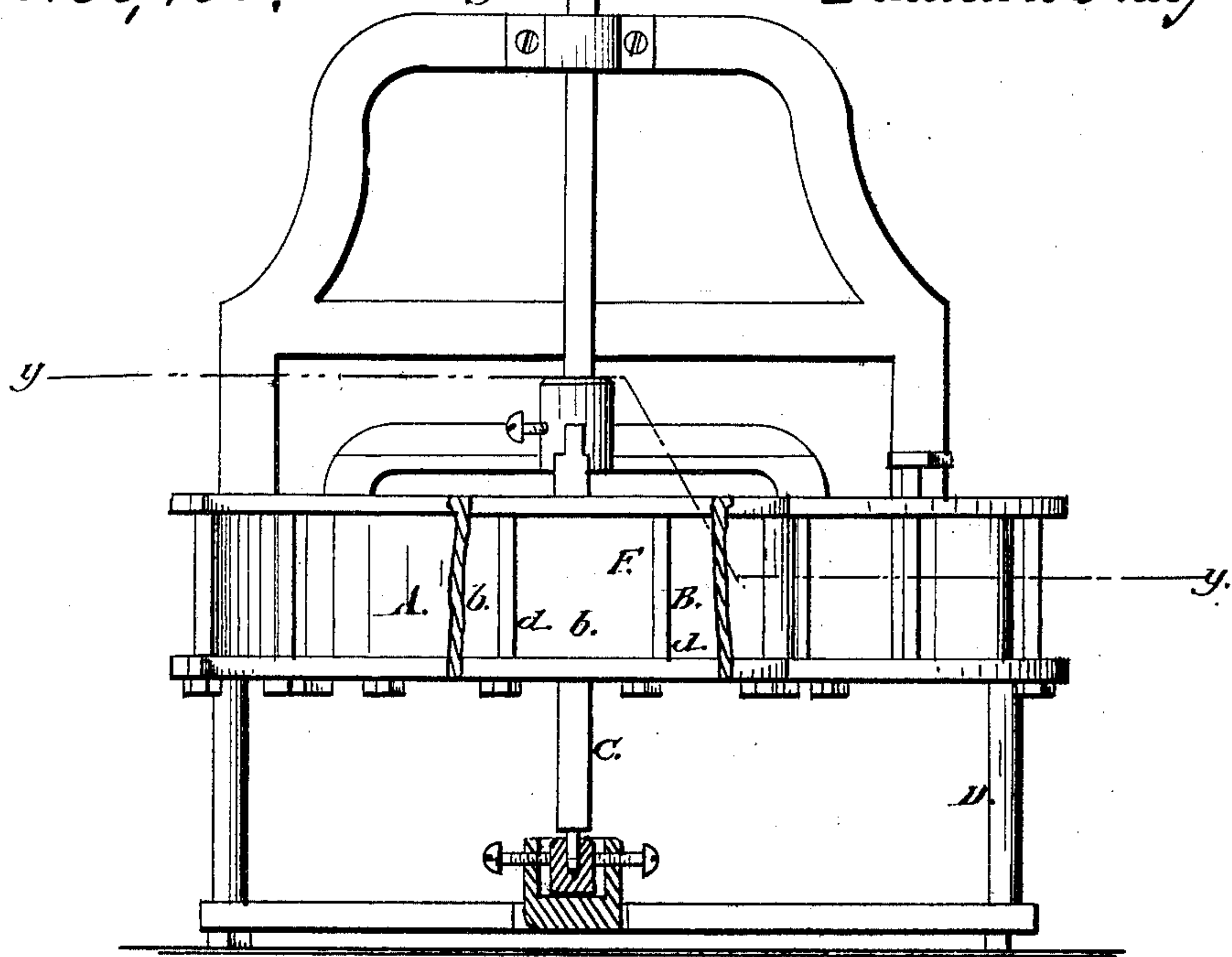
*W. H. Snyder,*

*Water Wheel.*

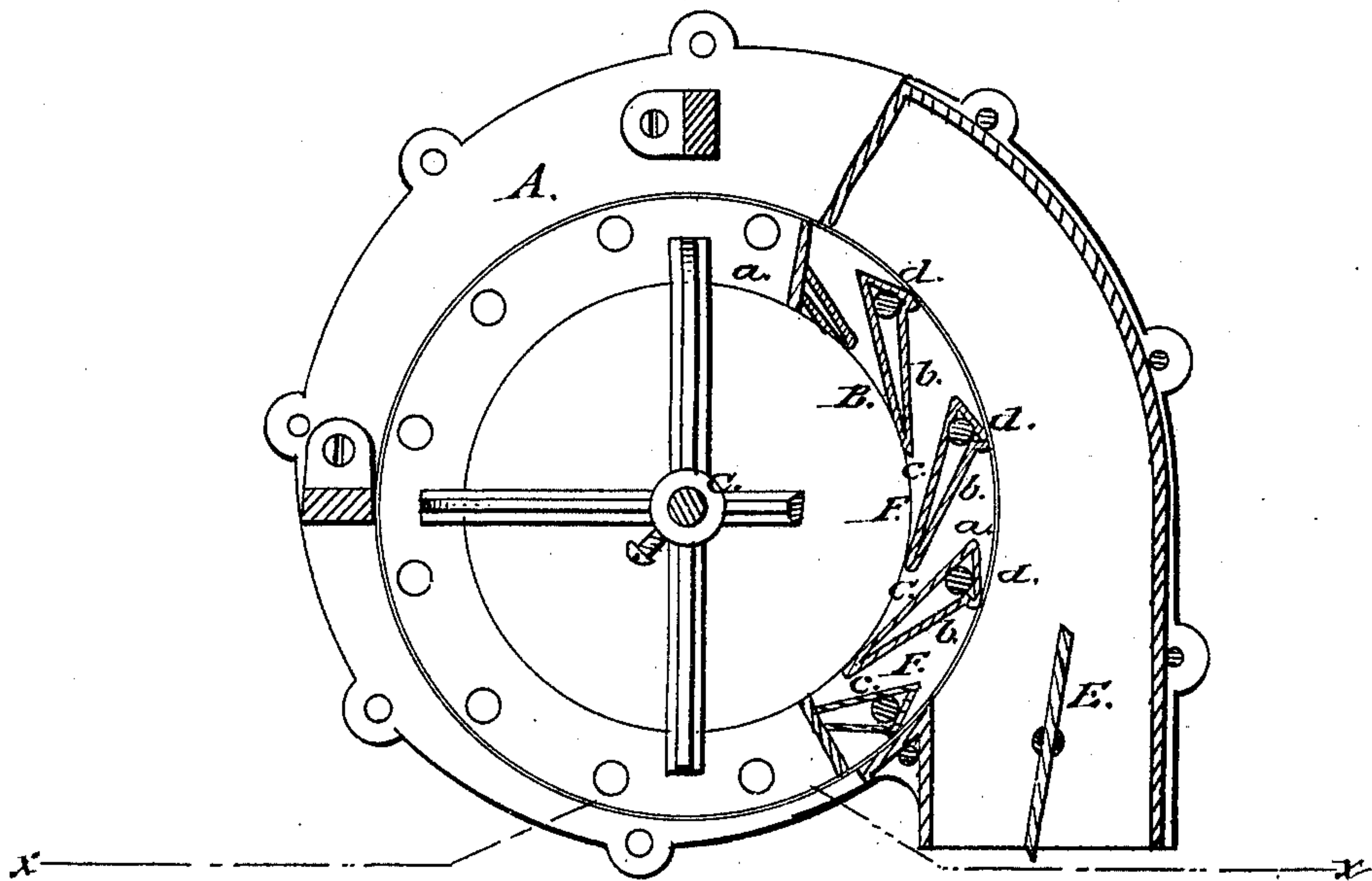
*No. 90469.*

*Fig. 1.*

*Patented May 25, 1869.*



*Fig. 2.*



*Witnesses:*

*Wm A. Morgan*  
*G. L. Cotton*

*Inventor:*

*W. H. Snyder*  
*per Munroe & Co*  
*attorneys*

# United States Patent Office.

WILLIAM H. SNYDER, OF PHELPS, NEW YORK.

*Letters Patent No. 90,469, dated May 25, 1869.*

## 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, WILLIAM H. SNYDER, of Phelps, in the county of Ontario, and State of New York, have invented a new and useful Improvement in Water-Wheels; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others 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 view of my invention, partly in section, as indicated by the line *xx*, fig. 2.

Figure 2 is a longitudinal section of the same, taken in the line *yy*, fig. 1.

Similar letters of reference indicate like parts.

This invention relates to a new and improved water-wheel, of that class which is placed on a vertical shaft, and fitted within a scroll, and are commonly termed "turbine wheels."

The invention consists in a peculiar construction of the buckets, as hereinafter fully shown and described, whereby a chute, or guide is combined with each bucket, and a large percentage of the effective force of the water obtained.

In the accompanying sheet of drawings—

A represents the scroll of the wheel;

B, the wheel; and

C, the wheel-shaft.

D is a framing, on which the scroll is secured, and

E is the gate, through which water is admitted into the scroll.

The wheel is composed of two annular plates, or

rims *a a*, placed one above the other, and having the buckets *F* secured between them.

These buckets are constructed in a peculiar manner, *b* being their face sides, and *c* the rear sides.

The face sides *b* are curved slightly at their outer ends, as shown in fig. 2, and the rear sides *c* are planes, having an oblique position relatively with the face sides *b*, so that a plane surface, *d*, is formed or allowed at the outer end of each bucket, said surfaces *d* extending inward from the outer ends of the face sides *b*.

The face and rear sides *b c*, and also the outer ends *d*, are all cast or made in one piece, and perfect chutes or guides are obtained for the water from the scroll through the wheel, there being the least possible obstruction, and consequently a large percentage of the effective force of the water is obtained.

The base of this triangular gate, or outer part, forming the periphery, has a projection, or lip, the object of which is to arrest the current in the flume, and thus receiving the impact thereof, divert it into the gate.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

The hollow bucket *F*, of triangular form, the base whereof is in excess, so as to form an external lip, or point on the periphery, all substantially as described.

WM. H. SNYDER.

Witnesses:

W. D. NORTON,

S. E. NORTON.