

Geo. W. Wheeler & Geo. V. Allen, *Water Wheel.*

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Fig. 1.

PATENTED
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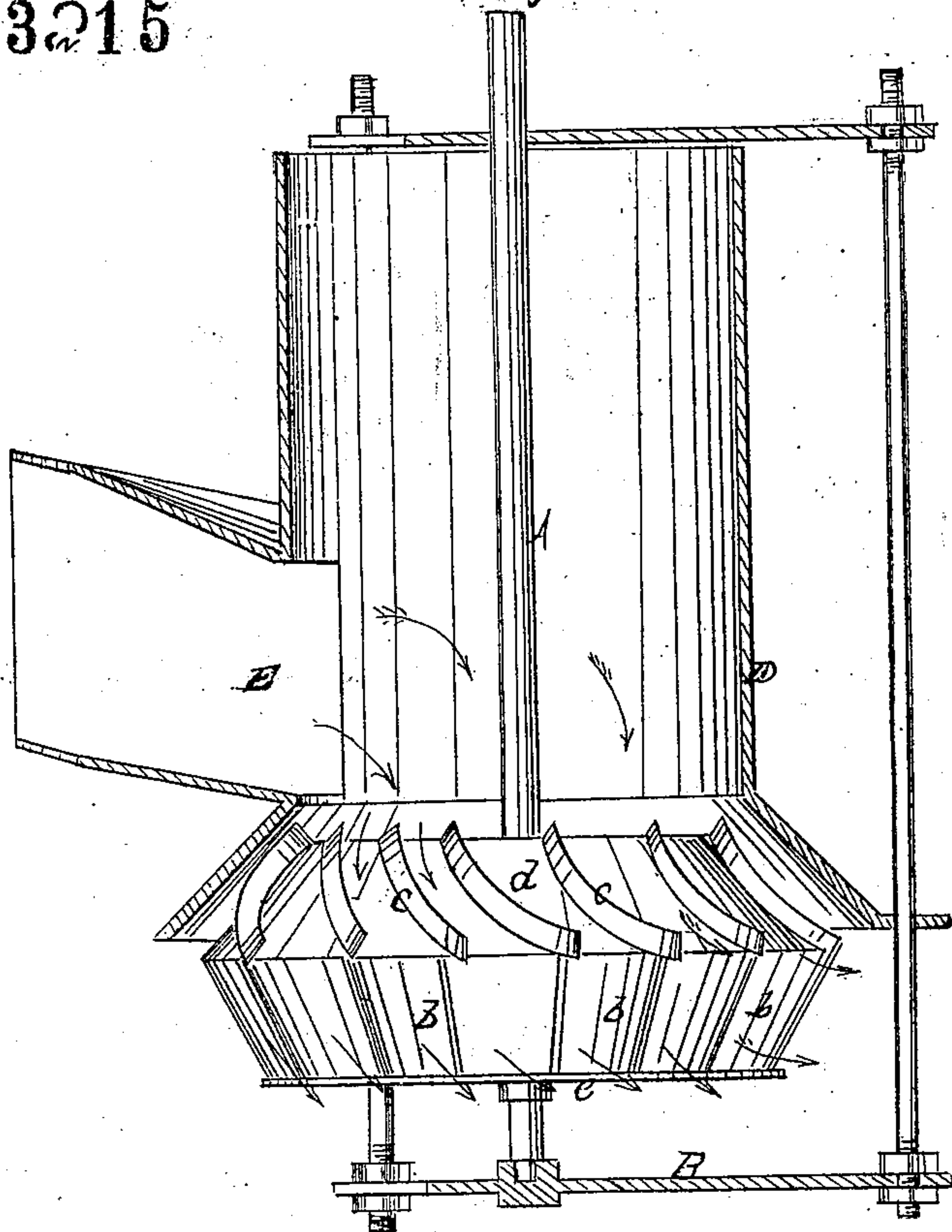


Fig. 2.

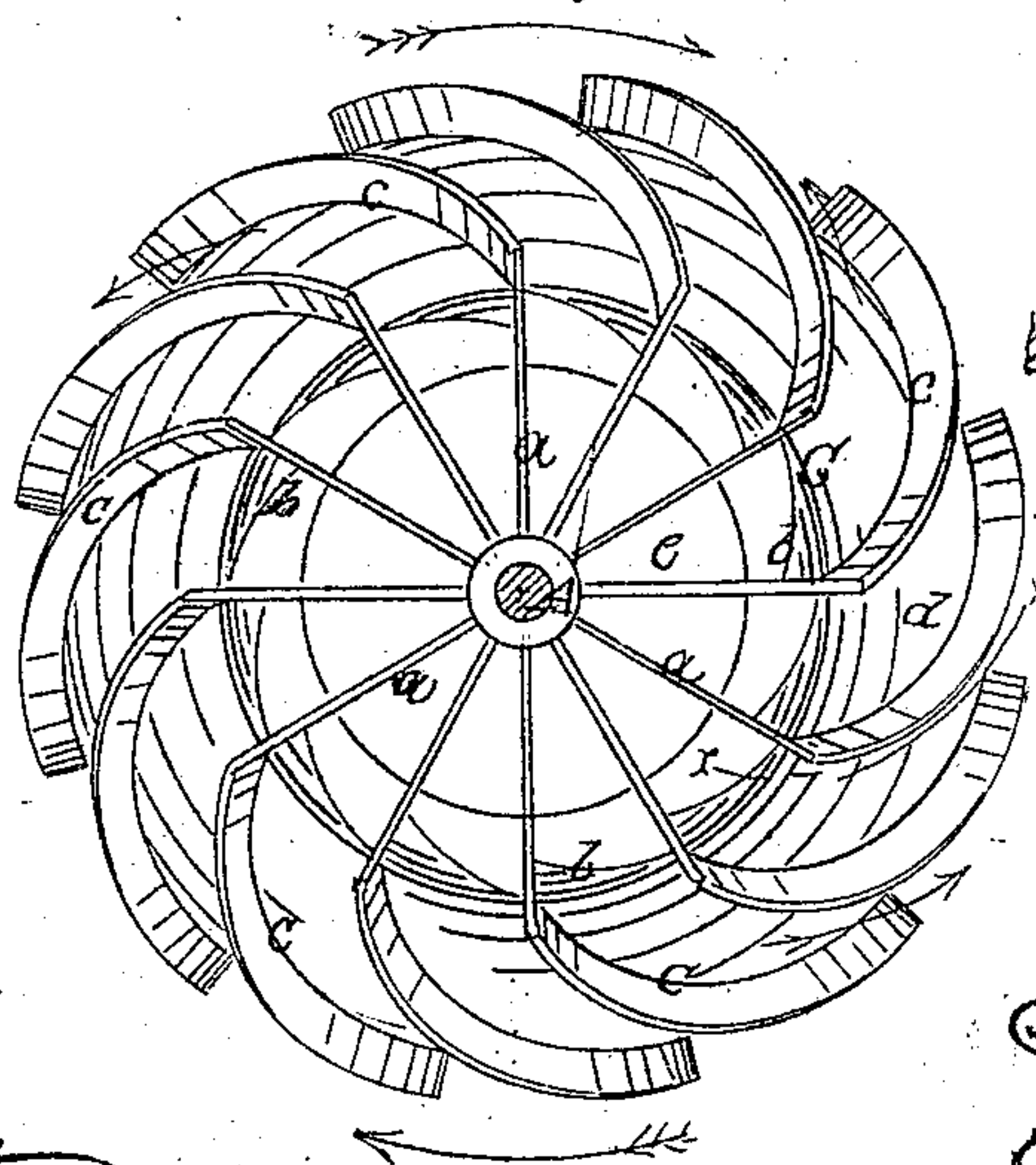
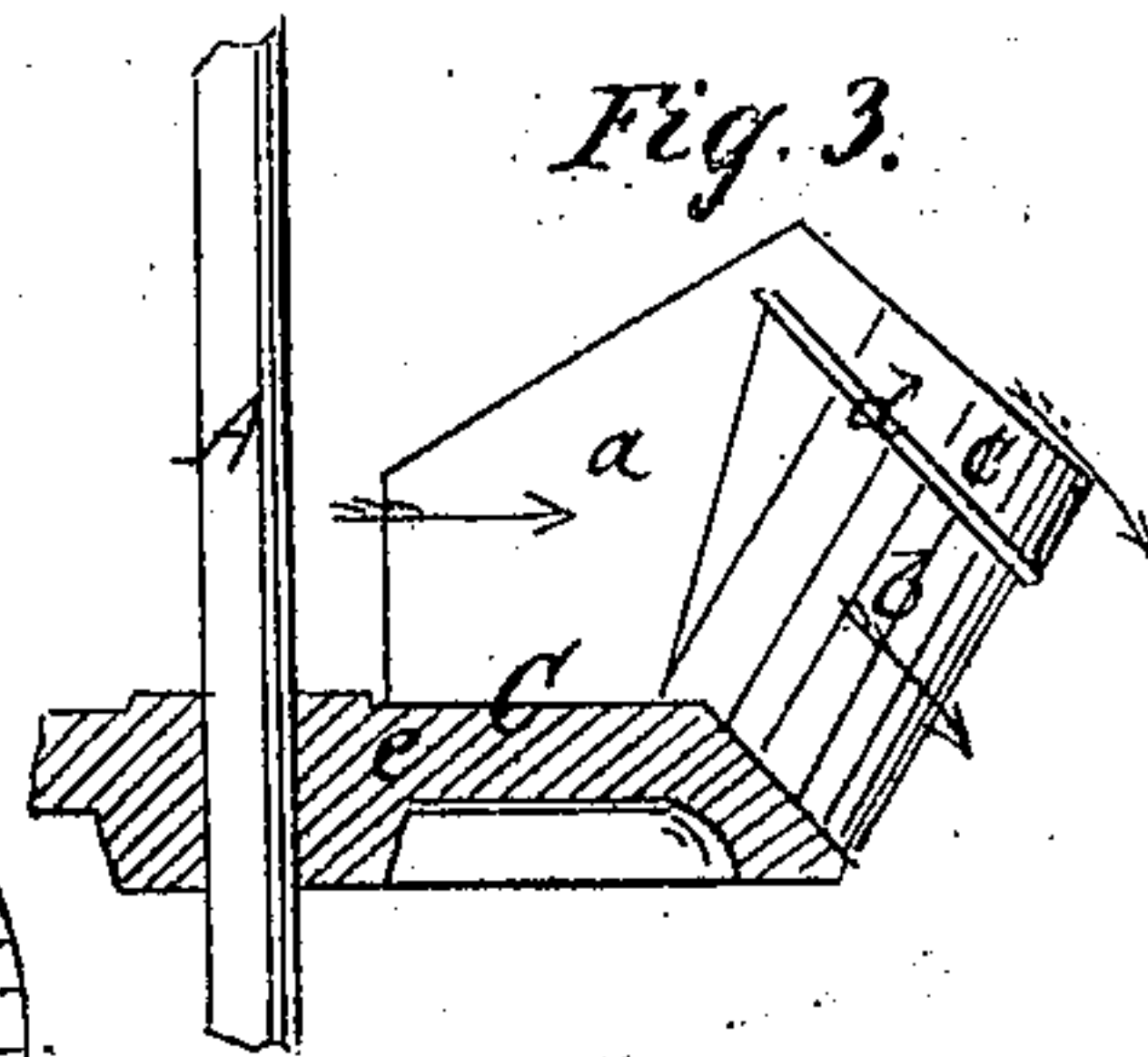


Fig. 3.



Witnesses
Chas. Truitt
J. A. Fraser

Inventor
G. W. Wheeler
Geo. V. Allen
 Per *James G. Atmeyer*
 Attorney

UNITED STATES PATENT OFFICE.

GEORGE W. WHEELER AND GEORGE V. ALLEN, OF HARTFORD, VERMONT.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. **73,215**, dated January 7, 1868.

To all whom it may concern:

Be it known that we, GEORGE W. WHEELER and GEORGE V. ALLEN, of Hartford, in the county of Windsor and State of Vermont, have invented a new and Improved Water-Wheel; and we 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.

This invention relates to a new and useful improvement in that class of water-wheels which are keyed on a vertical shaft and work horizontally within a suitable case.

The invention consists in a peculiar construction of the wheel and arrangement of the buckets, as hereinafter fully shown and described, whereby a large percentage of the power of the water is obtained.

In the accompanying sheet of drawings, Figure 1 is a side view of our invention, the case of the wheel being bisected vertically; Fig. 2, a detached plan or top view of the wheel; Fig. 3, a vertical section of a portion of the latter, taken in the line *x x*, Fig. 2.

Similar letters of reference indicate corresponding parts.

A represents the shaft of the water-wheel, the lower end of the former being stepped in a bridge-tree, B, as shown clearly in Fig. 1.

C represents the wheel, which is firmly keyed on the shaft A, and is provided with three sets of buckets, *a b c*, the former, *a*, having a radial position within the body of the

wheel, the buckets *b* being curved and forming the lower part of the exterior of the wheel, the outer edges of the buckets being inclined outward from their lower ends upward to an inclosed rim, *d*, which extends all around the wheel. On the top of this rim *d* the buckets *c* are placed. These buckets are of curved form, as shown in Figs. 1 and 2, the curvature of the buckets *b* and *c* being about the same.

The wheel is closed at the bottom, as shown at *e*, and all the water that acts upon the buckets escapes from the issues of the buckets *b c*, as indicated by the red arrows in Fig. 1. The lower end of the case D of the wheel is of flaring form and covers or projects over the buckets *c*, the buckets *b* being fully exposed.

By this arrangement the water, which is admitted into the case D through a chute, E, just above the wheel, is made to act directly upon the buckets and then escape. It cannot "hug" the wheel and serve as a drag to the same, as in many wheels of the same class.

We claim as new and desire to secure by Letters Patent—

The combination of the three sets of buckets *a b c* and the inclined rim *d* and bottom *e* to form the wheel C, in connection with the case D, applied to the wheel, and all arranged substantially as and for the purpose specified.

GEO. W. WHEELER.

GEO. V. ALLEN.

Witnesses:

G. B. FENNO,

H. B. GILLET.