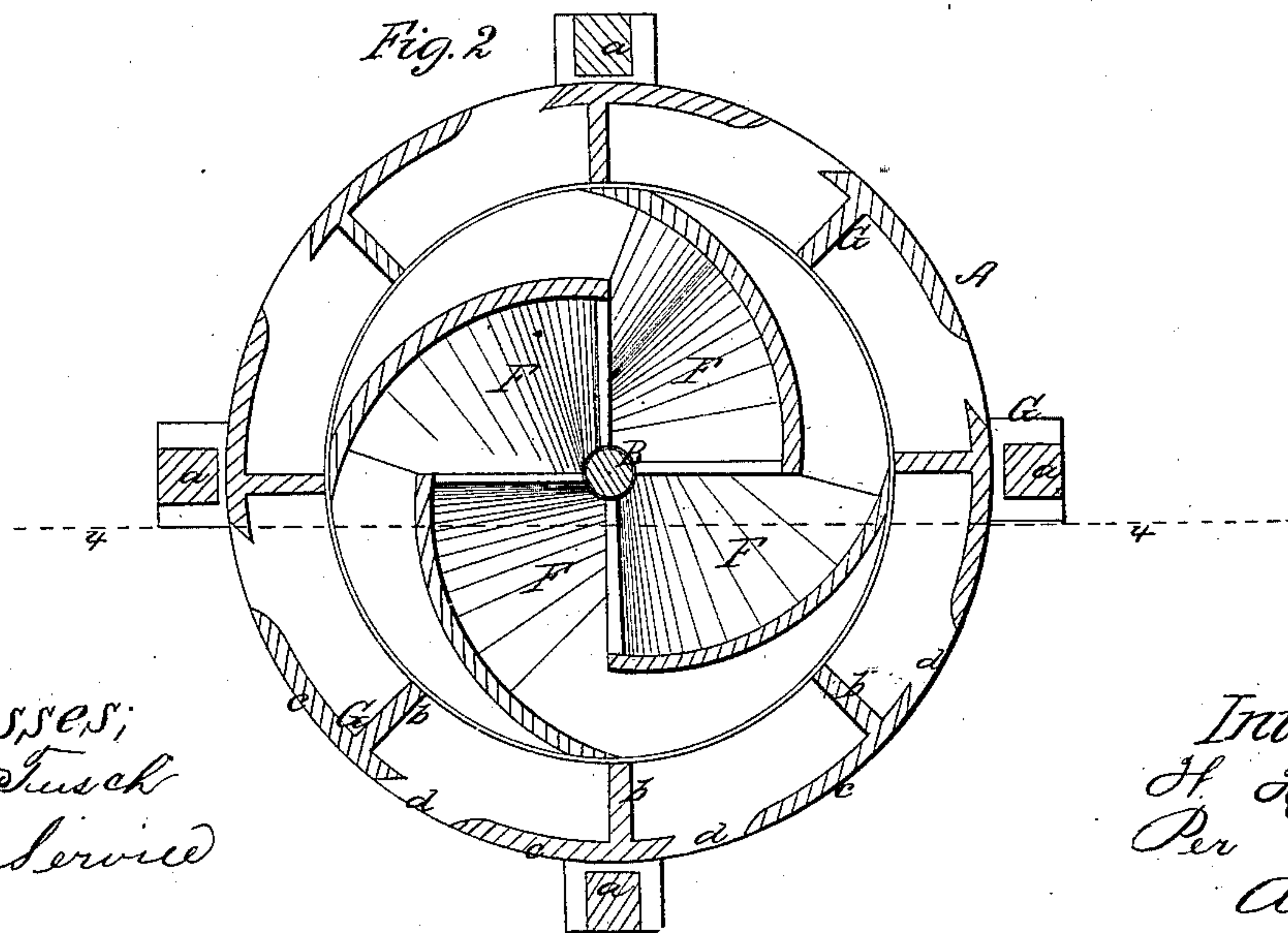
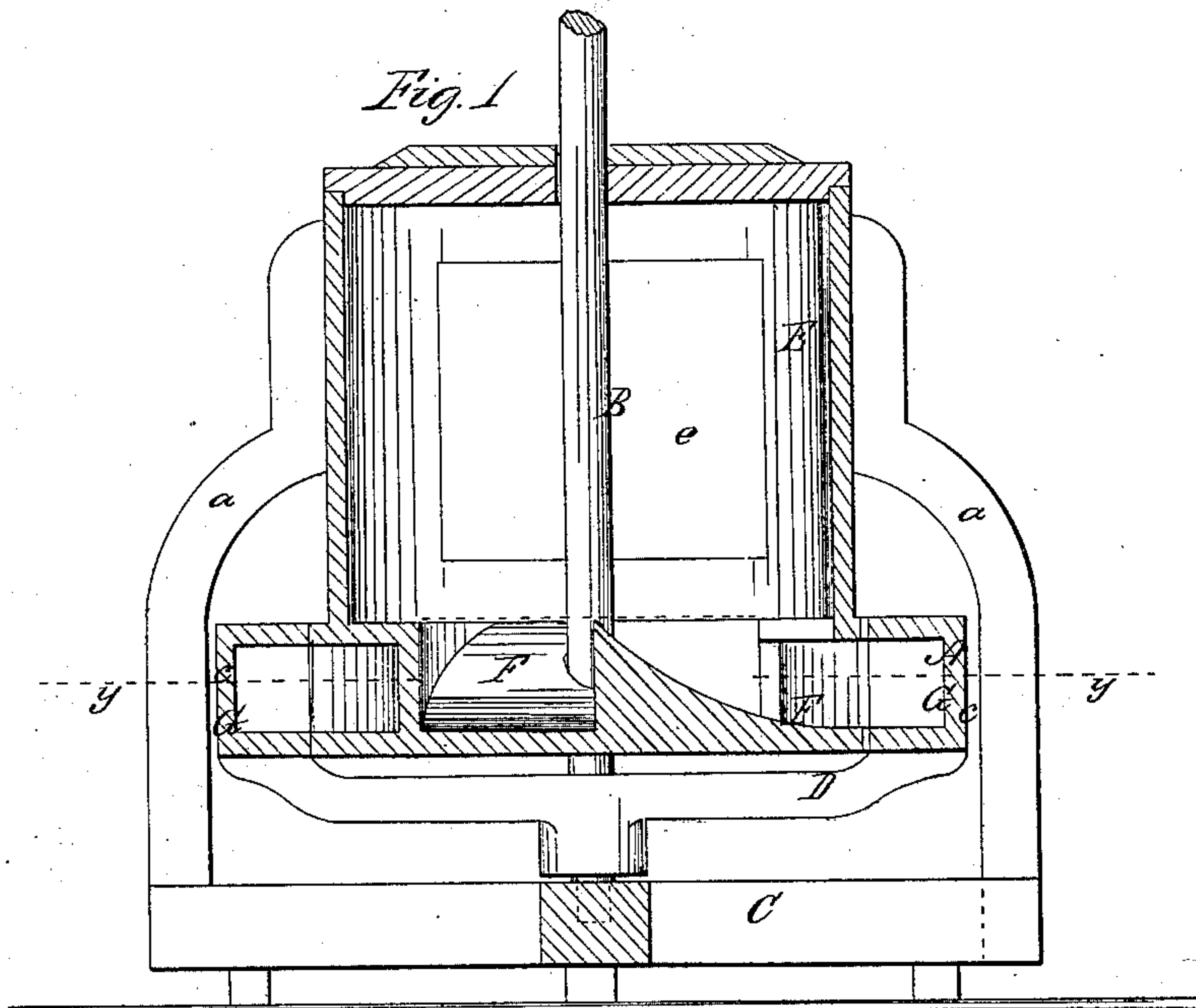


W. H. Elmer,

Water Wheel,

N^o 61,059

Patented Jan. 8, 1867.



Witnesses;
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J. A. Service

Inventor;
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Per Munnyc
Attorn. up.

United States Patent Office.

W. H. ELMER, OF FAIR WATER, WISCONSIN.

Letters Patent No. 61,059, dated January 8, 1867.

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, W. H. ELMER, of Fair Water, in the county of Fond du Lac, and State of Wisconsin, have invented a new and improved Water-Wheel; and I 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, in which—

Figure 1 is a vertical central section of my invention taken in the line *x x*, fig. 2.

Figure 2, a horizontal section of the same, taken in the line *y y*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved horizontal water-wheel, and it consists in a novel and improved manner of applying the water to wheel whereby several important advantages are obtained, as hereinafter fully shown and described.

A represents the wheel, which is of annular form, and has its shaft, B, stepped in a frame, C, the wheel resting on a yoke, D, which is firmly keyed or otherwise secured on the shaft, as shown in fig. 1. E represents a cylinder case, which is supported by standards, *a*, from the frame C. This case, it will be seen, is fixed or stationary, the shaft B extending centrally upward through the same. At the lower part of the case E there are four inclined spiral chutes, F, which conduct the water to the buckets G of the wheel. The wheel A, it will be seen, encompasses the chutes F, the case E being over the centre of the space within the wheel, and the water consequently enters the wheel at its inner side, and is discharged at its outer side. The buckets are composed of a radial portion, *b*, and an outer segmental portion, *c*, issues *d* being between the portions *c*, as shown in fig. 2. The water acts by impact against the portions *b* of the buckets, while the segmental portions *c* retain the water or prevent its too ready escape. The chutes F direct the water to the buckets, so that the former will impinge against the latter at right angles. The water is admitted into the case E through an opening, *e*, and it is designed to have the supply greater than the discharge, so that a full pressure and head will always be obtained. By this arrangement there will be but little loss of power by friction of the water in passing to and through the wheel. The water has a less distance to travel in passing through the wheel than when an external curb is used, and in case of repairs the wheel is easily rendered accessible by removing the case E.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A horizontal water-wheel provided with buckets G, composed of radial and segmental portions, *b c*, as shown, in combination with a central case, E, and chutes F, all arranged to operate substantially in the manner as set forth.

W. H. ELMER.

Witnesses:

WILLIAM FLOCKER,

JAMES O. M. HEWITT.