Norman Rose & E. H. Wright.
Water Wheel.

PATENTED
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Fig. 1.

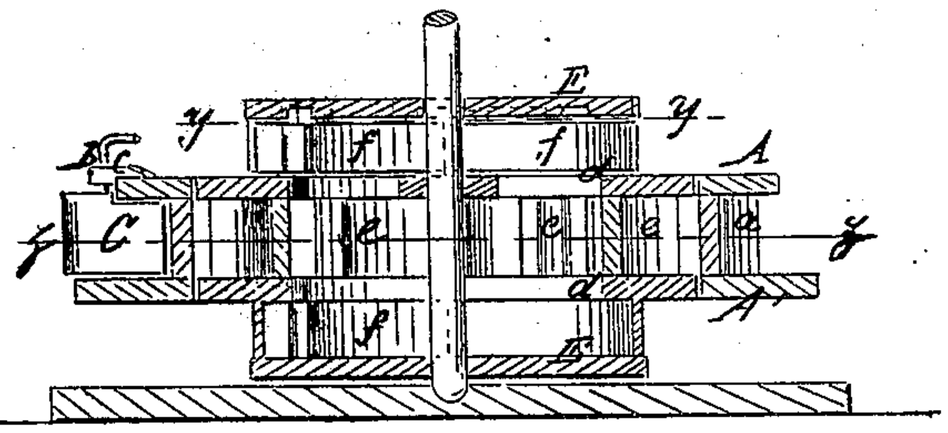


Fig. 2.

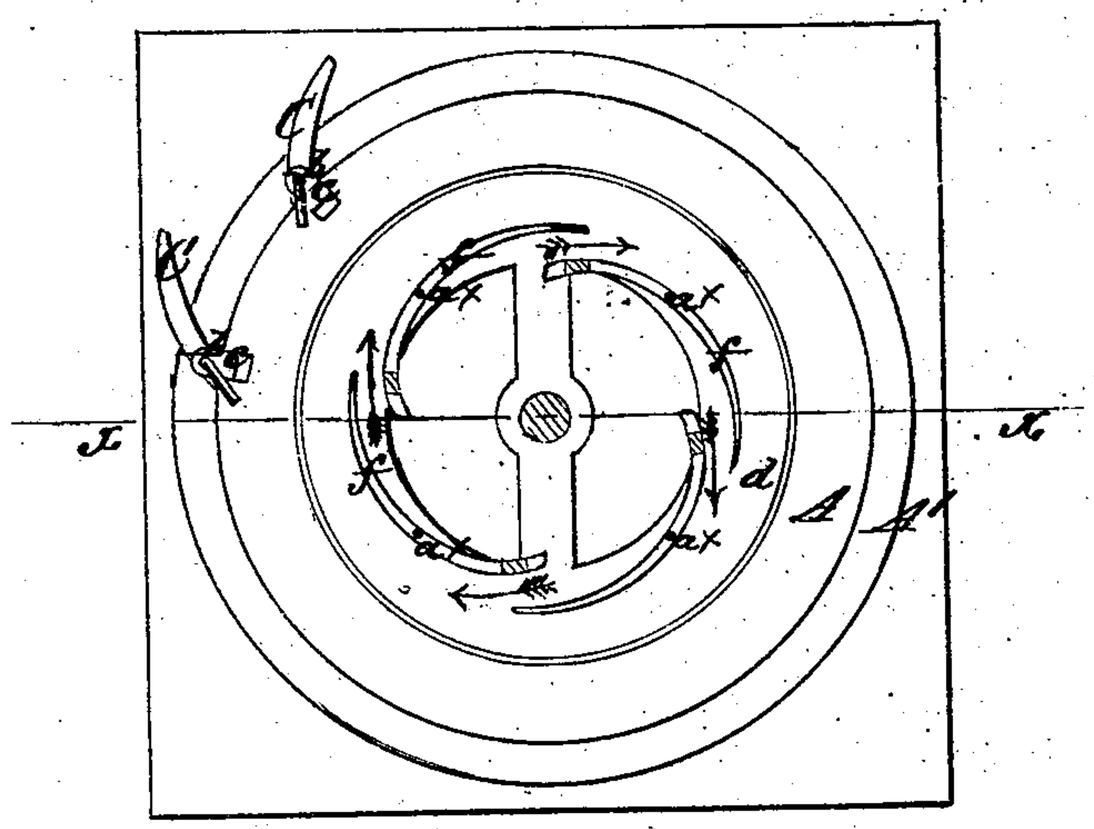
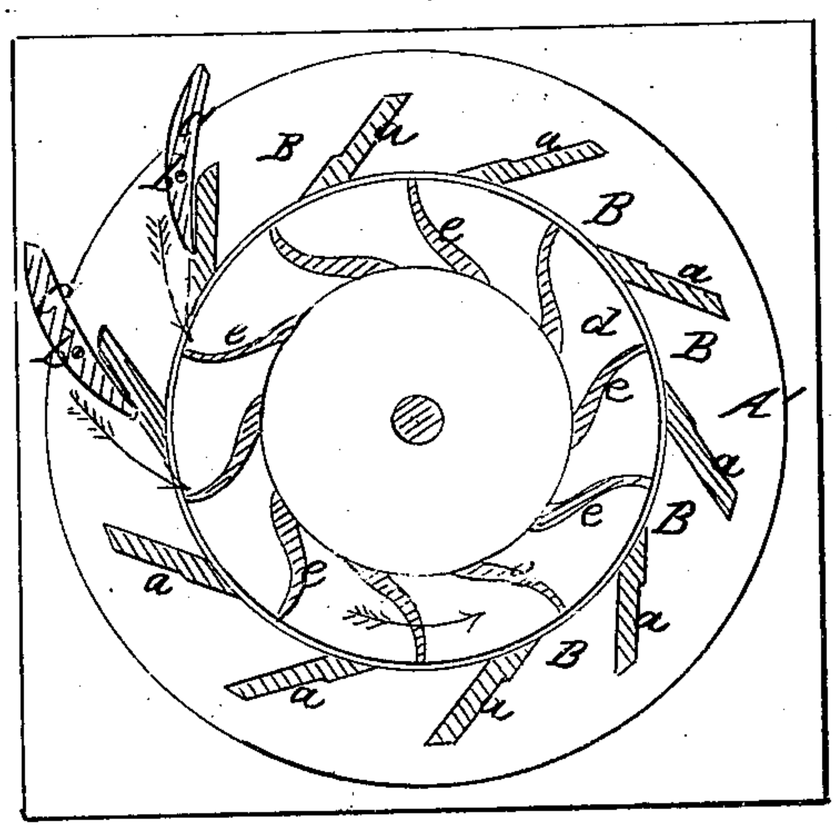


Fig. 3.



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NORMAN ROSE AND E. W. WRIGHT, OF MILFORD, NEW YORK.

Letters Patent No. 75,056, *dated March* 3, 1868.

IMPROVED WATER-WHEEL.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that we, NORMAN ROSE and E. W. WRIGHT, of Milford, in the county of Otsego, and State of New York, have invented a new and improved Water-Wheel; and that the following description, taken in connection with the accompanying drawings hereinafter referred to, forms a full and exact specification of the same, wherein we have set forth the nature and principles of our said improvements, by which our invention may be distinguished from all others of a similar class, together with such parts as we claim, and desire to have secured to us by Letters Patent.

This invention relates to a new and useful improvement in that class of water-wheels which rotate or work in a horizontal plane, and which are acted upon both by the direct and reacting power of the water.

The invention consists in the employment or use of adjustable buckets, so arranged and applied that water may be discharged from the wheel in greater or less quantities according to the power required, and the amount of water used be in proportion to the amount of power given out by the wheel. In the accompanying sheet of drawings—

Figure 1 is a vertical central section of our 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.

Figure 3, a horizontal section of the same, taken in the line *z z*, fig. 1.

Similar letters of reference indicate like parts.

A A′ represent two rims or annular plates placed one above the other, and having partition-plates *a* placed between them at equal distances apart to form chutes B, through which water is admitted upon the wheel. The upper rim or plate A is not as wide as the lower one A′, and the partition-plates *a* extend out to the edge of the upper plate A. On the lower rim or plate A′, pivoted gates C are placed, the pivots or rods *b* extending centrally and vertically through the gates, the lower ends of the rods being pivoted in the rim or plate A, and having their upper bearings in arms *c*, attached radially to the upper plate A. These pivoted gates C are designed to regulate or cut off the supply of water to the wheel D, which is fitted and works within the rims or annular plates A A′. The wheel D is composed of two rims, *d d*, having curved buckets *e*, between them, to receive the direct action of the water, and also composed of two sets of buckets *f f*, one set at the top and the other set at the bottom of the wheel to receive the reactive force of the water, the buckets *f f* being placed between the rims or plates A A′ and plates E E, at the top and bottom of the wheel, as shown clearly in fig. 1. These buckets *f f* are pivoted as shown at $a^{\times}$, and by adjusting them the issues between them may be contracted or enlarged to vary the power or capacity of the wheel as may be required. Any suitable appliance may be used for adjusting the buckets *f*. They should all be moved simultaneously

The water, it will be seen, is discharged both at the top and bottom of the wheel, and after acting by impact against the buckets *e*, reacts, in passing out of the wheel, against the buckets *f f*. The rims A A′ of the wheel are fitted within a suitable penstock, and it is designed to have the gates C all moved or adjusted simultaneously, which may be accomplished by having the rods *b* of the chutes provided with cranks *g* at their upper ends, and these cranks connected to a ring, D, moved by a lever or other means.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

The buckets *e* at the central or main part of the wheel D, in combination with the adjustable buckets *f f* at the top and bottom of the same, substantially as and for the purpose specified.

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Witnesses:

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