

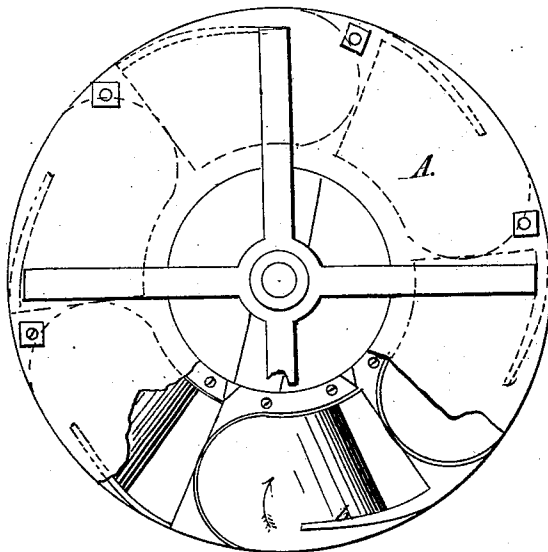
*I. Morse,*

*Water Wheel.*

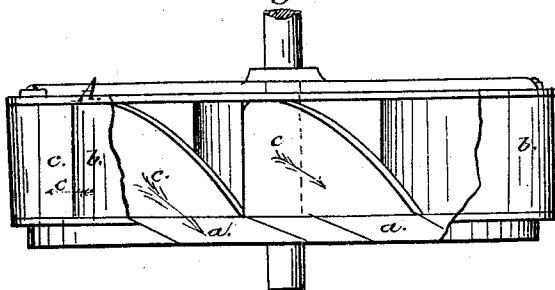
*No. 89,063.*

*Patented Apr. 20. 1869.*

*Fig. 1.*



*Fig. 2.*



*Witnesses:*  
*Adolphus Cook,*  
*William M. Laughlin.*

*Inventor:*  
*Isaac Morse*  
*Daniel Breed*  
*attorney*

# United States Patent Office.

ISAAC MORSE, OF HENNIKER, ASSIGNOR TO HIMSELF AND CHARLES H. THORNDIKE, OF WEARE, NEW HAMPSHIRE.

Letters Patent No. 89,063, dated April 20, 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, ISAAC MORSE, of Henniker, in the county of Merrimack, and State of New Hampshire, have invented a new and useful Improvement in Water-Wheels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in a novel construction of combined turbine wheel, having two peculiar water-guides.

In the accompanying drawings—

Figure 1 is a top view of my improved water-wheel, part of the same being shown in section.

Figure 2 is a lateral view, a portion being cut away to better show the improvement.

In the construction of water-wheels, a small change in the form of the bucket will often make an important difference in the power of the wheel. And by long study and observation, or experiment, I have succeeded in producing a wheel of greater power than any similar wheel heretofore known.

In the construction of my improved wheel, the general form is similar to other known bottom-vent wheels.

Where the water enters the bucket, I make a guide,

(*b*, fig. 1,) extending forward into the mouth of the bucket, so as to guide the water in a compressed or confined volume against the concave of the bucket, where it thus strikes with unusual force, giving my wheel an increased number of revolutions with a given amount of water.

It will be observed that the guides *b* fill part of the space between two buckets, so as to bring the water to act mainly at the circumference of the wheel, and there spend the stroke.

By means of a second guide, *c*, at the back of the bucket *a*, the water is turned suddenly back upon its own current, and then passes out at the bottom of the wheel. This guide also increases the power of the wheel with a given amount of water.

Having thus fully described my invention,

I claim the water-wheel, having the guide *b* projecting forward into the mouth of the bucket, toward the guide *c*, at the back of the bucket, substantially as set forth.

ISAAC MORSE.

Witnesses:

JOHN W. CHASE,  
DANIEL HANSON.