

J. J. HILL.

SUBMERGED TIDE AND CURRENT WHEEL.

No. 170,263.

Patented Nov. 23, 1875.

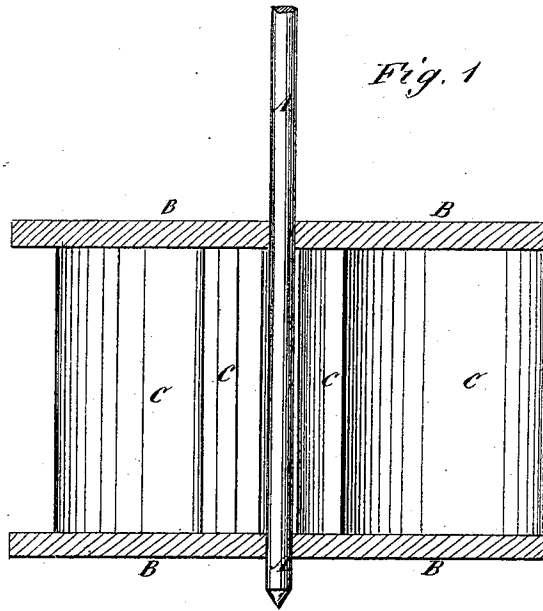
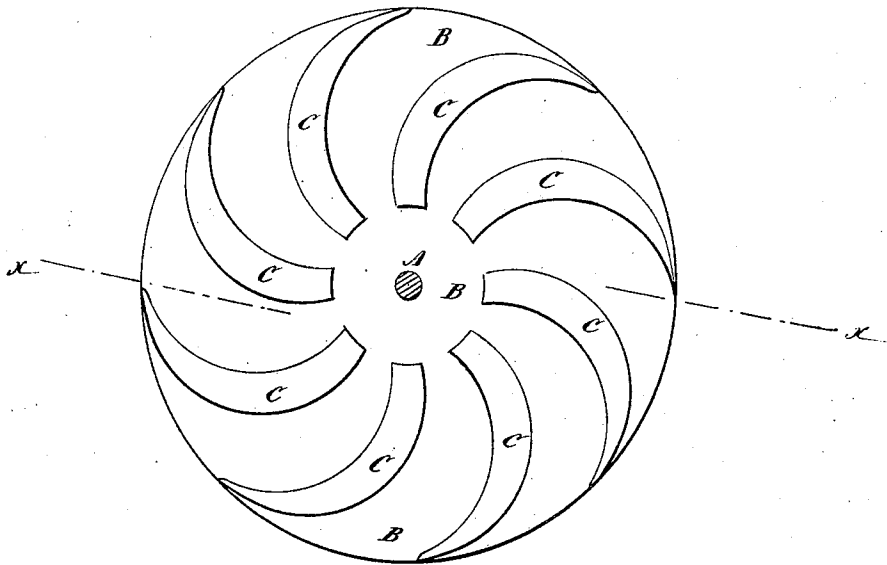


Fig. 2



WITNESSES:

C. Neveu
A. F. Terry

INVENTOR:

J. J. Hill
BY *mm*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN J. HILL, OF HAYDEN'S FERRY, ARIZONA TERRITORY.

IMPROVEMENT IN SUBMERGED TIDE AND CURRENT WHEELS.

Specification forming part of Letters Patent No. **170,263**, dated November 23, 1875; application filed July 24, 1875.

To all whom it may concern:

Be it known that I, JOHN J. HILL, of Hayden's Ferry, in the county of Maricopa and Territory of Arizona, have invented a new and useful Improvement in Submerged Tide and Current Wheel, of which the following is a specification:

Figure 1 is a vertical cross-section of my improved wheel, taken through the line *xx*, Fig. 2. Fig. 2 is a top view of the same, the top plate being removed.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with drawing, and then pointed out in the claim.

A represents the shaft to which the wheel is attached, and the lower end of which is designed to revolve in a step in a simple frame secured in the bed of the stream. The upper end of the shaft A is designed to extend above high-water mark, and with it is connected the gearing to give motion to the machinery to be driven. To the shaft A, at suitable distance apart, are secured two disks, B, between which the buckets C are placed, and to which

the upper and lower edges of said buckets C are attached. The buckets are vertical, are thicker at their inner ends, taper to an edge at their outer ends, and are curved, as shown in Fig. 2. The inner ends of the buckets C do not extend quite to the center of the shaft, so as to leave a clear space around the shaft A. With this construction the water will enter at one side of the wheel, and escape at the other side, giving it an impulse both times, and will rotate the said wheel in the same direction, in whatever direction it may be flowing.

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

A water-wheel, B C, having the curved vertical buckets tapered toward the outer edge, and having the thicker inner edge coming short of the shaft, a space being thus left around the shaft, as and for the purpose specified.

JOHN J. HILL.

Witnesses:

JULIUS S. JOHNSON,
J. T. PRIEST.