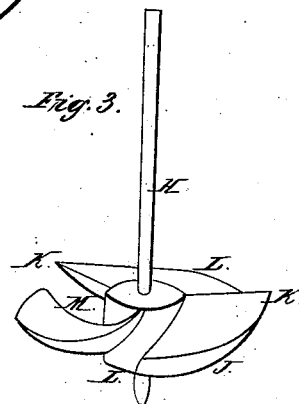
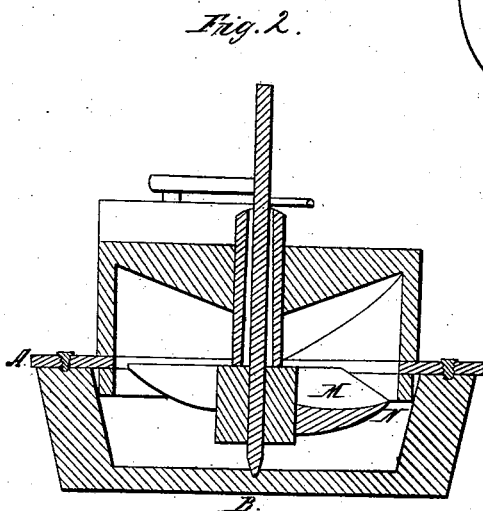
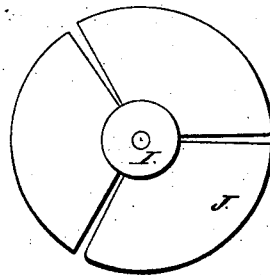
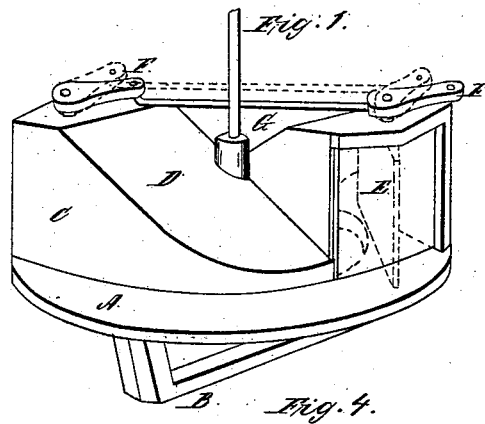


L. S. Fairchild

Water Wheel

N^o 48,866.

Patented July 18, 1865.



Witnesses:
W. H. Burrage
J. Holmes

Inventor:
L. S. Fairchild

UNITED STATES PATENT OFFICE.

L. S. FAIRCHILD, OF NEWTON FALLS, ASSIGNOR TO HIMSELF AND
G. F. FRENCH, OF CLEVELAND, OHIO.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 48,866, dated July 18, 1865.

To all whom it may concern:

Be it known that I, L. S. FAIRCHILD, of Newton Falls, in the county of Trumbull and State of Ohio, have invented new and useful Improvements in Water-Wheels; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a vertical section. Fig. 3 is a detached view of the wheel in perspective, and Fig. 4 is a top view of the wheel detached.

A represents the bottom of the flume, and B the step upon which the lower end of the wheel-shaft rests. A circular opening is formed in the bottom of the flume, where the wheel is to run, just the size of the wheel. This opening is surmounted by two chutes, C C, each one of which covers one-half of the opening for the wheel. The upper side of these chutes form an inclined plane, as shown at D, the outer border of which conforms to the circular opening in which the wheel is placed. The large end of these chutes opens directly into the flume, so as to admit a free flow of water into the opening in which the wheel is placed.

The open or upper ends of the chutes are provided with balance-gates E, the shafts of which are provided with arms F. These arms are connected by a connecting-rod, G, so that they are caused to move in concert. The water therefore enters the chute on both sides of the gate.

The wheel, Figs. 3 and 4, consists of the

shaft H, the hub I, and buckets J. Of the buckets there are three, each one of which occupies one-third of the circle. They are attached to and supported wholly by the hub I, the outer margins being free and their upper borders closely fitting into the opening beneath and within the chutes. The upper edge of each bucket extends in a horizontal radial line from the hub, and from thence curves in a spiral form downward six or eight inches, or more if desired, according to the depth of the wheel. This feature is shown at K L in Fig. 3. The lower end of each bucket is scooped out, as shown at M in Fig. 3, so that the outer border is elevated above the parts nearer the hub. In this way the bucket is caused to receive the full force of the water.

The whole wheel is surrounded with a curb, N, extending from the bottom of the flume, as shown in Fig. 2.

By having two chutes and three buckets one or another of the buckets is always in position to receive the full force of the water as it enters the chute to act upon the wheel.

What I claim as my improvement, and desire to secure by Letters Patent, is—

The herein-described improvement in water-wheels, consisting of the bed A, chutes C C, wheel H I J, gates E, connected as described, when the several parts are constructed and arranged as and for the purpose herein set forth.

L. S. FAIRCHILD.

Witnesses:

W. H. BURRIDGE,
J. HOLMES.