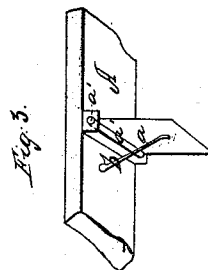
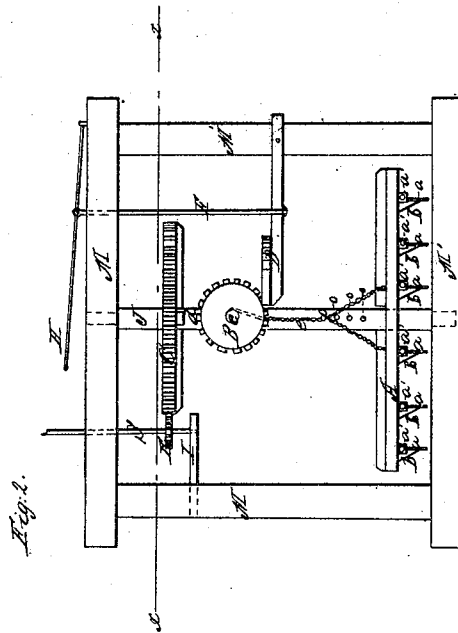
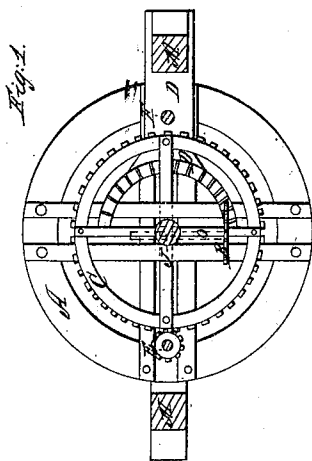


W. AITKEN.
CURRENT WATER WHEEL.

No. 36,265.

Patented Aug. 26, 1862.



Witnesses:

Albert Cook
Nathan G. Davison

Inventor:

Walter Aitken

UNITED STATES PATENT OFFICE.

WALTER AITKEN, OF NEWARK, ILLINOIS.

CURRENT WATER-WHEEL.

Specification of Letters Patent No. 36,265, dated August 26, 1862.

To all whom it may concern:

Be it known that I, WALTER AITKEN, of Newark, in the county of Kendall and State of Illinois, have invented a new and useful
5 Improvement in Current Water - Wheels; and I hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures marked there-
10 on, which form a part of this specification.

In the drawings aforesaid Figure 1 represents a plan view of my invention below the section line *x* in Fig. 2. Fig. 2 represents a side elevation of the same, and Fig.
15 3 shows the construction and arrangement of the floats or buckets marked *a*, as attached to the wheel A.

Similar letters in the several figures in the drawings denote corresponding parts of
20 my invention.

The nature of my invention consists in having a current water wheel so constructed as to be readily raised and lowered to adapt it to the rise and fall of the stream and to
25 be easily controlled in other respects, namely as to the velocity and power of the wheel, by allowing the floats just to dip in the current or by submerging them entirely within it.

To enable others skilled in the art to understand the construction and operation of my improved current water wheel, I will now proceed to describe the same with particularity.

35 In the accompanying drawings M M' represent the upright frame constructed of timbers of suitable size, which supports the vertical axis, marked J, of the water wheel A, and the gearing C, the lower part of which,
40 M', lies in the bed of the stream.

a represents loose pendant floats or buckets, of any desired size or shape, hanging upon the hinges *a'*, which floats or buckets may be attached to the wheel A,
45 either above, below or on the edge thereof, and *b* represents rods or braces, whereof one end is fastened firmly to the floats *a*, and the other rests against the wheel A, and thus keeps the floats in a vertical position in the
50 current.

B represents a cogged or gear wheel, fixed

upon its axis *c*, which passes through J at right angles; and D, which may be thrown into gear or out of gear with B by means of the lever H or its equivalent, is attached at
55 one end to the frame, and at the other is of a semicircular form, fitted with cogs or teeth exactly adapted to those on the circumference of B.

d is a ratchet abutting on the teeth of B, 60 thereby securing it against a reverse motion.

C and E represents the gearing whereby motion is communicated to the shaft S.

My improved water wheel operates as follows: Being fixed in position in the
65 stream, the wheel A is adjusted so as to lie just above the surface of the water, the floats, *a*, being suspended in the stream. The current moving to the left and pressing against the floats, which are kept in a ver-
70 tical position by the braces *b*, moves the wheel A and its axis J around upon its supports. When the floats pass around to the opposite side of the wheel, and so present their reverse side to the current, being with-
75 out support they swing back upon their hinges and float in a horizontal position upon the surface, causing no resistance.

Should the stream rise, so as to render it expedient to elevate the wheel A, the lever
80 H is raised, bringing D in connection with B, when B is revolved with its axis *c*, thereby winding the chain *e* around the axis *c*, and thus raising A to the requisite height, where it can be held by inserting a support
85 in *o*.

My invention may also be used as a tide wheel, the ebb and flow of the tide being
equally effective in propelling it.

By changing the relative positions of the
90 power wheel A and the gearing C E and constructing the floats *a* of cloth or other light and suitable material my invention may also be used very advantageously as a wind mill wheel, the principle being equally
95 adapted to the air current and water current.

I claim as my invention—

1. The arrangement of the horizontal power wheel A, the floats *a*, and the braces
100 *b*, as connected with A in the manner described.

2. I claim the combination and arrangement of the vertical axis J, the wheel and axle B *c*, the ratchet *d*, the cogged semicircle *D*, or its mechanical equivalent for imparting motion to B, with the chain or its equivalent *e*, for the purpose of elevating the wheel A, all constructed and operating sub-

stantially as and for the purposes delineated and set forth.

WALTER AITKEN.

Witnesses:

ALBERT COOK,
NATHAN G. DAVISSON.