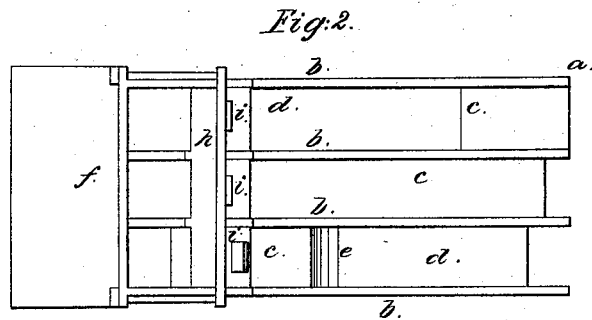
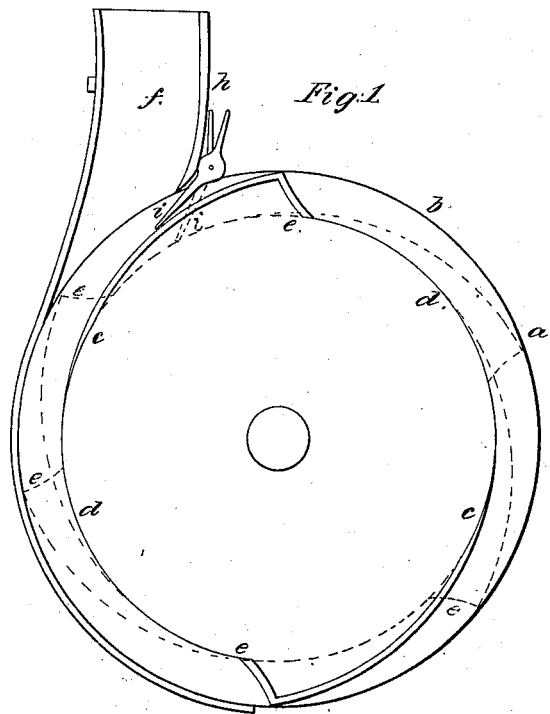


J. M. Abels

Water Wheel.

N^o 5,350.

Patented Oct. 30, 1847.



UNITED STATES PATENT OFFICE.

J. M. ABELS, OF CATO, NEW YORK.

WATER-WHEEL.

Specification of Letters Patent No. 5,350, dated October 30, 1847.

To all whom it may concern:

Be it known that I, J. M. ABELS, of Cato, in the county of Cayuga and State of New York, have invented new and useful Improvements in Water-Wheels and the Mode of Supplying Them with Water, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical section through the wheel and water trunk; and Fig. 2, a plan of the wheel.

The same letters indicate like parts in all the figures.

It is a well known fact that in using water as a motive power, especially under great heads, an advantage is gained by continuing its current in a steady flow; but heretofore the difficulty of effecting this without loss of water, or an apparatus too complicated and liable to get out of order, has been insurmountable. By my apparatus I get the full force due to the head of water at all times and by having the same amount always passing through the wheel at the same time the current is not checked during any portion of the revolution of the wheel.

The construction is as follows: The wheel is a cylindrical drum of any required diameter, shown at (a) in the drawing; from the periphery of this drum four flanches (b) project, one on each end and two between them, thus dividing the face of the cylinder into three parts, as is clearly shown in Fig. 2. The spaces between the flanches are occupied by the buckets which are wedge shaped on their backs (c) rising gradually from the soling (d) in an eccentric curve

out to the outer circumference of the flanches, thence the face of the bucket curves downward as at (e) to the soling in a nearly radial line. It will be observed that the buckets in the three divisions are not opposite each other, one only passing the breast of the chute at a time; it is obvious that the wheel may be divided into more or less than three parts on the face, but those I deem sufficient. This wheel is placed in a chute (f) which surrounds one-half (more or less) of its face and lets the water on in a tangent to the periphery; on the breast (h) of the chute are hinged as many valves (i) as there are divisions on the wheel, each valve fitting the cross section of the division in which it is placed; when the wheel revolves as the buckets come around they raise these valves to pass under them and then they fall again onto the soling, thus preventing the escape of the water backward.

It will be observed that owing to the peculiar position and construction of the buckets there is always the same quantity of water escaping—consequently the current through the chute is continuous through the wheel while it is in motion without any vibration or check.

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

The employment of a wheel constructed substantially as herein described, so as to have the same quantity of water flowing through it at all times during its revolution in combination with the valves on the breast of the chute, to prevent the escape of the water backward as herein set forth.

J. M. ABELS.

Witnesses:

A. P. BROWNE,
A. W. VON SCHMIDT.