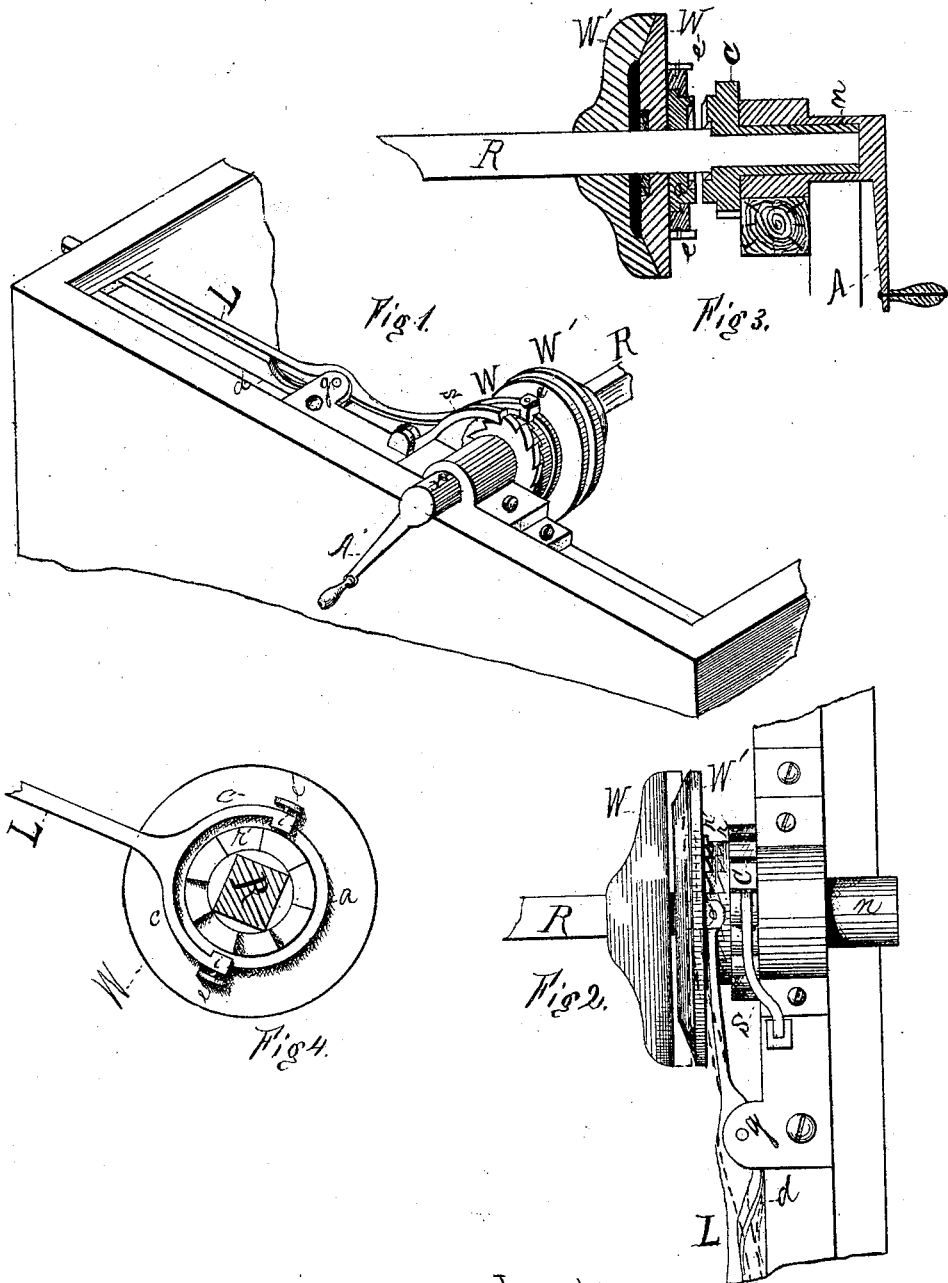


A. A. Moulton,

Water Elevator.

No. 109,235.

Patented Nov. 15, 1870.



Witnesses:

Henry Marsh Jr.
Charles C. Luther

Inventor:

Amos A. Moulton

United States Patent Office.

AMOS A. MOULTON, OF PROVIDENCE, RHODE ISLAND.

Letters Patent No. 109,236, dated November 15, 1870.

IMPROVEMENT IN WATER-ELEVATORS.

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, AMOS A. MOULTON, of Providence, county of Providence, and State of Rhode Island, have invented a new and improved Water-Elevator, of which the following is a specification.

In the drawing—

Figure 1 is an eye symmetrical drawing.

Figure 2 is a top plan.

Figure 3 is a longitudinal central section.

Figure 4 is a sectional end view, showing the form of the lever and the manner of attaching it.

Similar letters represent like parts in the drawing.

My invention relates to an elevator for raising water, which consists of a shaft operated by a crank, which has its fulcrum upon a set of ratchet-teeth by means of a second similar set of teeth.

There is a lever attached to a friction-wheel, to which wheel is also attached the first-mentioned set of ratchet-teeth.

This lever throws the two sets of ratchet-teeth out of gear, and allows the bucket to descend into the well, and also in combination with two friction-wheels acts as a brake to regulate the speed of the descent.

A dog inclines laterally from the bearings of the shaft, so as to engage a ratchet-wheel, and prevents the crank from revolving backward when the bucket is being lowered.

There is a drum attached to the main shaft in a convenient position for receiving the rope to which the bucket is attached.

This shaft revolves within an annular shaft, to which the crank is attached, by means of a slot and pin.

There are also two friction-wheels. The one to which the lever is attached has a lateral motion to correspond to that of the lever, but does not revolve, while the other is securely fastened upon the main-shaft, and revolves with it.

In the drawing—

A represents the crank, which is attached to the annular shaft *n* by means of a slot and pin at *z*.

The main shaft *R* revolves within the annular shaft *n*.

The ratchet-wheel *O* is firmly secured to the annular shaft *n*, and, in combination with the dog *s*, prevents the crank *A* from revolving backward when the bucket is lowered.

The ratchet-teeth *r* project horizontally from the in-

ner side of the ratchet-wheel *O*, and, in combination with similar teeth *r'* on the circular piece *a*, turn the shaft *R*.

The circular piece *a* fits upon the friction-wheel *W*, so that it may revolve the shaft without revolving the wheel *W*, and is retained in place by two projections, *i* and *i'*, on the arms *c* and *c'* of the lever *L*.

The friction-wheel *W* has a lateral motion, but does not revolve, while the friction-wheel *W'* revolves with the shaft *R*.

The circular piece *a* has its bearings in a circular opening in the center of the wheel *W*, and rests against it.

The lever *L* has its fulcrum at the point *g*, and terminates in two curved arms, *c* and *c'*, by which it is secured to the lips *e* and *e'* on the friction-wheel *W*.

The lever is held in position by a spring, spiral or otherwise, at the point *g*.

The operation of the apparatus is as follows:

In order to raise the water, the bucket is lowered into the well by throwing the lever into the position indicated by the dotted lines in fig. 2. Then, by increasing or diminishing the force applied to the handle of the lever, the speed of the descent may be regulated or the bucket stopped at any point.

By releasing the lever, it is forced into place by a spring, as *d*, at the point *g*, and throws the projecting teeth on the ratchet and friction-wheels into gear. When by turning the crank the bucket is raised.

I do not confine myself to the form of spring *d*, as a spiral spring can be used to equal advantage.

What I claim herein as new, and desire to secure by Letters Patent, is—

1. The combination and arrangement of a lever, *L*, a spring at the point *g*, and the friction-wheels *W* and *W'*.

2. The combination and arrangement of the shaft *R*, friction-wheels *W* and *W'*, annular piece *a*, ratchet-teeth *r* and *r'*, and annular shaft *n*.

3. The combination and arrangement of the friction-wheel *W*, annular piece *a*, ratchet-teeth *r'*, and lever *L*, all as shown, and operating substantially as described.

AMOS A. MOULTON.

Witnesses:

HENRY MARSH,

HENRY MARSH, Jr.