G. M. Atherton,

Water Elevator.

No. 85,778. Patented Jan. 12. 1869.

Fig: 2.

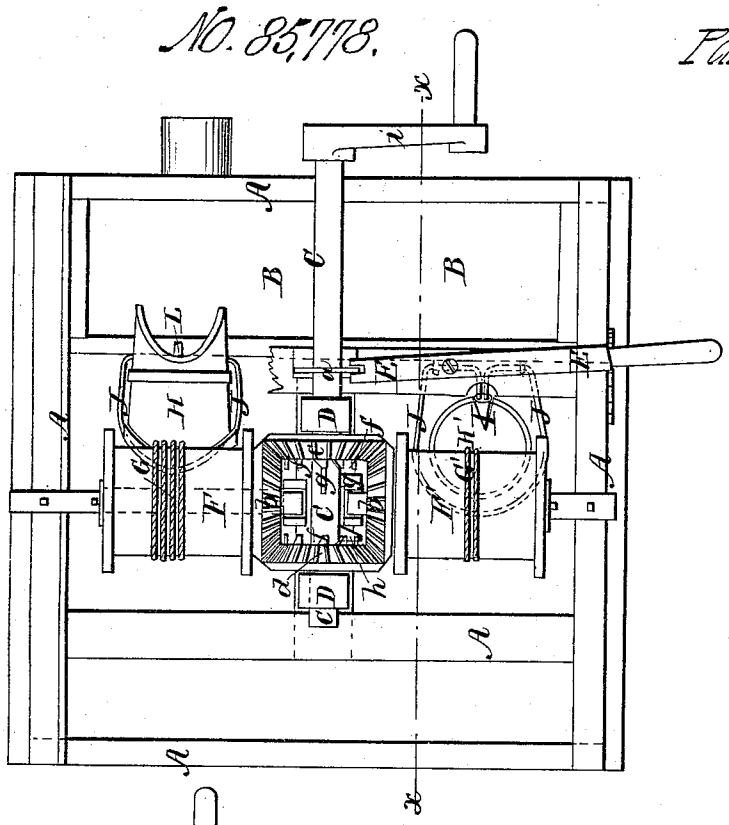
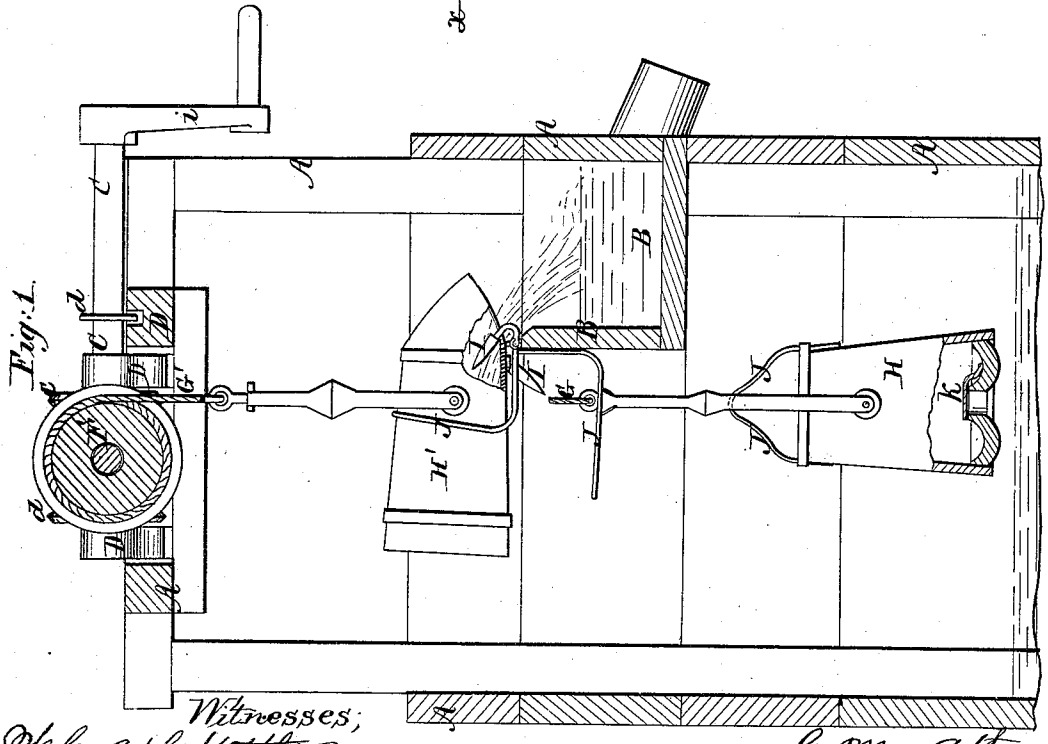


Fig: 1.



Witnesses;

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G. M. ATHERTON, OF FRIENDSVILLE, ILLINOIS.

Letters Patent No. 85,778, *dated January* 12, 1869.

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, G. M. ATHERTON, of Friendsville, in the county of Wabash, and State of Illinois, have invented a new and improved Water-Elevator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical transverse section of my improved water-elevator, taken on the plane of the line *x x*, fig. 2.

Figure 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new water-elevator, which is so arranged that the crank-handle can be turned continually in one direction, and will still operate to alternately hoist up one bucket and to lower the other, and which is furthermore so arranged that the little water remaining in a bucket cannot freeze the valve to its seat, and so that the buckets will be kept separated, and will be emptied in a certain desired place and in one certain position.

A, in the drawing, represents the curb of a well, made in suitable manner, of suitable material.

B is the trough arranged within the curb for the purpose of receiving and conveying the water that is elevated by the buckets.

C is the driving-shaft.

It has its bearings in suitable cross-bars or lugs, D, that are supported by the curb, and is so hung that it can slide in its bearings.

It is, by means of a flange, *a*, connected with a claw on a pivoted lever, E, by means of which it can be shifted in its bearings.

F F′ are the two drums to which the ropes G G′, carrying respectively the buckets H H′, are respectively attached.

These drums are arranged at right angles with the shaft C, and in line with each other, as is clearly shown in fig. 1.

Each drum carries, at that end which is nearest the shaft C, a bevel-gear wheel, *b*, as shown, and these latter mesh both into the teeth of two bevel-gear wheels, *c d*, that are hung loose on the shaft C, as shown, but which cannot slide with the same, being prevented therefrom by means of suitable stops, or by the supporting-lugs D.

The gear-wheels *c d* carry both projecting pins or lugs *f f*, and the shaft C carries also projecting lugs *g* and *h*, which are so arranged that they can be brought respectively between the lugs *f* of the wheels *c* or *d*, and thus, by adjusting the shaft, it can be brought into gear with one of the wheels *c d*, whereby the drums are caused, if the shaft C is turned, to revolve, so as to respectively elevate and lower the required buckets. By then shifting the shaft C, by means of the lever E, it will be brought in gear with the other wheel *c* or *d*, and will thereby cause the reversal of the motion of the drums, and a consequent reversed motion of the buckets.

The shaft C is provided with a crank, *i*, or other equivalent device, to which suitable motive-power may be applied.

The upper edges of the buckets H H′ are depressed, at least on that side which is to be nearest the trough B, so that when the bucket reaches the hook I, which is pivoted to the trough, such depression will cause it to be turned on the hook into the right position for emptying.

Instead of having the depression formed on the edge of the bucket, a wire or other metal bar, *j*, may be arranged upon the edge, to obtain the desired object.

The hooks I are formed in connection with bails or rings J, through which the ropes G G′ pass, as shown, and which serve not only to hold and steady the buckets while they are tipped over the edge of the trough, but also to keep the buckets apart while they pass each other.

The perforated part or parts of the bottom of each bucket are elevated so as to bring the valve or valves K, in the bucket, out of reach of the residue of water that may remain in the bucket, and to consequently prevent the freezing of the valve to its seat.

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

The hinged hooks and bails I and J, the latter surrounding the buckets, adapted to guide them in their ascent and descent, and to receive them when elevated to discharge the water, as herein shown and described.

Witnesses: G. M. ATHERTON.

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