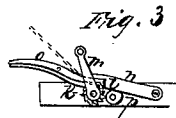
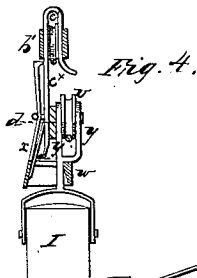
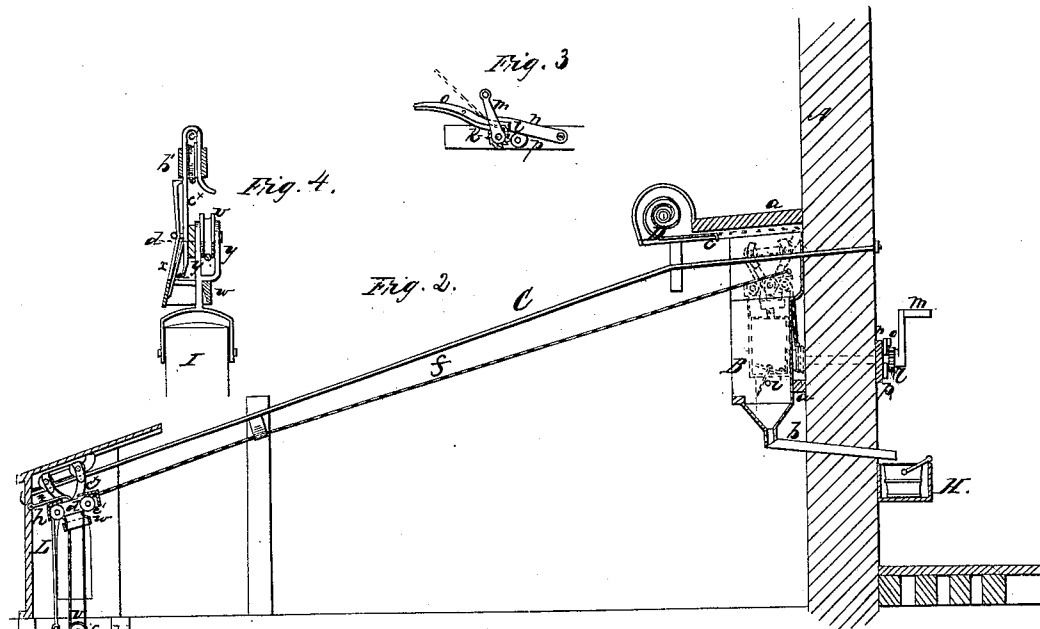
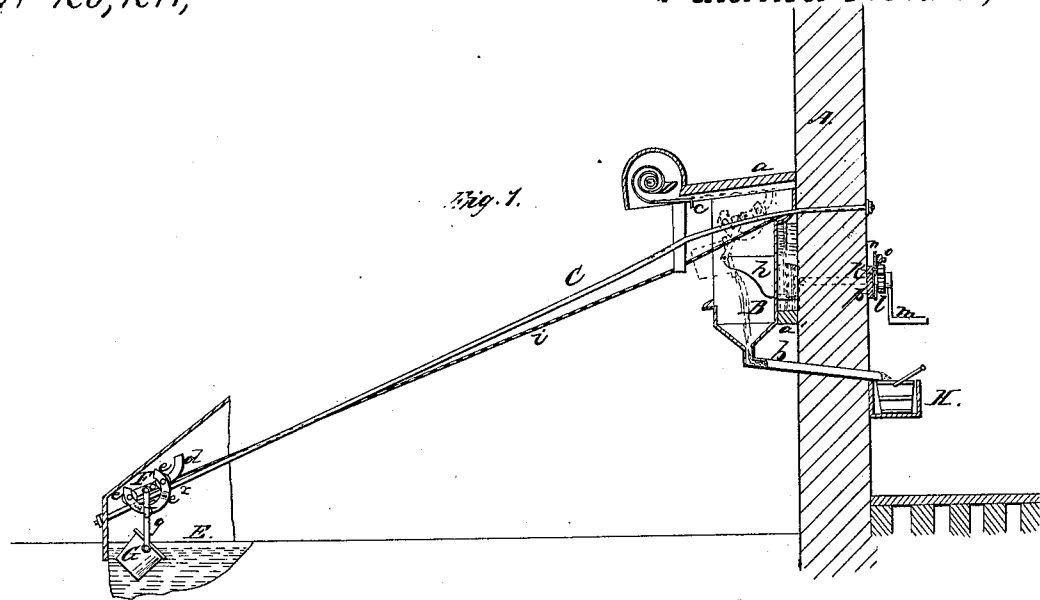


*L. Taylor,*

*Windlass Water Elevator,*

*N<sup>o</sup> 26,211,*

*Patented Nov. 22, 1859.*



*Witnesses*  
*L. Taylor*  
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# UNITED STATES PATENT OFFICE.

L. TAYLOR, OF JORDAN, WISCONSIN.

## APPARATUS FOR ELEVATING WATER FROM WELLS, &c.

Specification of Letters Patent No. 26,211, dated November 22, 1859.

*To all whom it may concern:*

Be it known that I, L. TAYLOR, of Jordan, in the county of Green and State of Wisconsin, have invented certain new and useful Improvements in Devices for Elevating Water; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1 and 2, are side sectional views of my invention, Fig. 3 a detached face view of the hand crank with its ratchet and pawls, Fig. 4, a detached side view of a dropping bucket.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain improvements in that class of water-elevating devices in which the buckets or pails are connected to carriages that run on inclined wires or ways from the well or spring to the house.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, Figs. 1 and 2, represents the side of a building and B, B', receivers attached thereto. These receivers may be of metal and are secured to the building by brackets *a*, *a'*. The lower parts of the receivers are of inverted conical form and communicate with a pipe *b*, leading into the building, the upper parts of the receiver have rounded backs. C represents an inclined wire or way one end of which is secured directly over the well or spring the other end passing through the upper part of the receiver and securely attached to the building as shown in Figs. 1 and 2.

To the upper bracket *a*, of each receiver a coil spring D, is attached. The ends of these springs extend along underneath the brackets *a*, and have each a small pendant *c'* attached, shown both in Figs. 1 and 2.

In Fig. 1, the invention is shown applied to a spring E. On the wire or way C, a carriage F, is placed. This carriage is simply a bar *d*; having two small wheels *e*, *e*, attached, the peripheries of the wheels being grooved so that they may fit on the wire. One end of the bar *d*, is turned upward as shown clearly in Fig. 1, so that it may come in contact with the pendant *c*, of spring D, when the carriage is drawn into the receiver. To the bar *d*, a semi-circular bar *e*<sup>x</sup> is at-

tached. This bar *e*<sup>x</sup> serves as a guide to a bar *f*, which is pivoted to the bar *d*, equidistant between the two wheels *e*, *e*. To the lower end of the bar *f*, the bail *g*, of the bucket G, is permanently attached.

Within the receiver B, a bracket-shaped projection *h*, is secured, the form of which is plainly shown in Fig. 1. This projection *h* may be of metal at least that would be the most preferable material.

To the bar *d*, a cord *i*, is attached. This cord passes through the receiver B, at one side and is attached to a pulley *j*, the shaft *k*, of which passes through the wall or side of the building and has a ratchet *l*, and crank *m*, on its inner end. To the inner side of the wall of the building and directly over the ratchet *l*, an arm *n*, is pivoted said arm having a pawl *o*, attached to prevent the casual turning of the shaft *k*. Directly below the arm *n*, a button *p*, is attached in order to retain the arm *n*, in an elevated state when necessary.

The operation of the spring bucket is as follows. When the ratchet *l*, of the shaft *k*, of the pulley *j* is free from the pawl *o*, the carriage and bucket will descend on the wire or way C, by their own gravity and the bucket will fill in the spring E. The operator then by turning the crank *m*, within the building will by means of the cord *i*, raise the bucket G the carriage F, passing up the inclined wire or way C, and as it enters the receiver B, catching the pendant *c*, of spring D, which resists the progress of the carriage and bucket and thereby intimates to the operator the entrance of the bucket into the receiver. The operator thus made aware of the position of the bucket prevents the same from entering the receiver, with too great rapidity and all concussions are avoided at the same time the speed is sufficient to cause the bucket to be tilted as it comes in contact with the projection *h*, which on account of its curved form projecting over the rim of the bucket tilts the bucket slowly at first the speed increasing as its contents pass out. The water passes through the pipe *b*, into a receptacle H, prepared to receive it within the building. The spring D, it will be seen is compressed by the carriage F, as the latter enters the receiver B, and when the shaft *k*, is released said spring gives the bucket an impulse sufficient to discharge it from the receiver so that it may pass down the wire by its own

gravity, the wire within the receiver being nearly horizontal.

In Fig. 2, the invention is shown applied to a well. It will of course be seen that in the latter case the bucket will require to be dropped from the carriage in order that it may descend into the well, and to effect this involves additional mechanism although the gist of the invention is the same in both cases.

I, is a well bucket, the bottom of which is provided with a valve *r* opening upward said valve having a pendent rod *s*, attached. This bucket I, has a vertical bar *t*, secured to one side of it and to the bail *u*, of the bucket a pulley *v*, is attached. The pulley *v*, passes up through a loop *w*, which is attached to a lever *x*, at one side of the carriage J—and the pulley is fitted between cheeks *y*, *y*, one of which is bent or curved at its lower end to form a shoulder *z*, which when the bucket is elevated in close proximity to the carriage J, rests on the loop *w*, of lever *x*, a spring *a'* behind the lever *x*, keeping one edge of the loop underneath the shoulder *z*. This will be fully understood by referring to Fig. 4.

The carriage J, is formed of a bar *b'* provided with wheels *c'*, *c'*, which run on the wire or way C. To the bar *b'* two curved pendants *c<sup>x</sup>*, *c<sup>x</sup>* are attached, said pendants being united at their lower ends and having a cross bar *d'* attached to which two pulleys *e'*, *e'*, are secured, one near each end, the loop *w* being between the pulleys. To the upper end of the bar *t*, a cord *f'* is attached. This cord passes over the two pulleys *e'*, *e'*, and under the pulley *v*, of the bucket I.

Over the well K a covering or house L may be placed and within which the lower end of the wire C may be secured. Within this house in close proximity to the wire a taper rod *g'* is placed and a spring catch *h'* is placed joint below the rod *g'*. Within the receiver B' a cross bar *i'* is placed.

The operation is as follows. The bucket I and carriage J, is raised on the wire precisely similar to the carriage F, and bucket G, and as the carriage J, enters the receiver B' the spring *c'* is acted upon in the same way as carriage F acts on its spring D, and as the bucket gets fully within the receiver B' the rod *i'* trips the valve *r* and the water is discharged into the pipe *b'* see red lines Fig. 2. The bucket I, and carriage J, are forced from the receiver B' by the spring D, as the shaft *h*, is released and the bucket and carriage descend by their own gravity down the wire C, and as the carriage J, passes over the well K, the rod *g'* forces outward the upper part of lever *x*, and thereby releases the bucket I, which drops into the well and fills, the valve *r* being forced open by the descent of the bucket in the water.

When the bucket is filled it is raised bodily upward from the well by turning crank *m*, the cord *f'* raising the bucket while the catch *h'* hooking over a ledge on the carriage as the latter reaches its lowest point. When the bucket has nearly reached its highest point the pulley *v*, is brought in contact with the catch *n'* and elevates it thereby releasing the carriage J, which, as the rotation of crank *m* is continued is drawn up the wire, and its contents discharged in the receiver B'.

By having the bar *f* of bucket G attached to the center of bar *d*, of carriage F equal weight will at all times rest on each wheel which will cause the carriage to keep to the wire or way in shifting from one grade to another, the bucket will also move steady with but little slope or inclination and will strike the projection *h*, with less violence than it otherwise would. The projection *h*, facilitates the emptying operation causing the bucket to tilt slowly at first and gradually increasing its movement as its contents are discharged, thereby avoiding all undue strain and wear on the working parts of the device. The receivers being attached to the building by brackets may be placed in any position to suit the direction of the well or spring. The springs D, also in intimating to the operator the proximity of the buckets to the receivers enable the speed of the latter to be checked or graduated without producing any unnecessary concussion and at the same time eject the empty buckets from the receivers. By arranging the well buckets I, as shown the bucket is drawn from the well and up the wire C, by the operation of a single cord and a simple mechanism.

I do not claim broadly the attaching of a bucket to a carriage placed on an inclined wire or way for the purpose of drawing or conveying water from a well or spring to a dwelling house for such device has been previously used, but,

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

1. The employment or use of the springs D, arranged in connection with traveling buckets G, I and receivers B, B', to operate as and for the purpose set forth.

2. The means substantially as shown of connecting the bucket I, to the carriage J, to wit, the lever *x*, on the carriage provided with the loop *w* and the bail *w'* of the bucket with its pulley *v*, in connection with the pulleys *e'*, *e'*, on the carriage and the taper rod *g'* and catch *h'* in the well house L, whereby the bucket is drawn up the wire or way and dropped and raised from the well.

L. TAYLOR.

Witnesses:

M. TAYLOR,  
M. STEVENS.