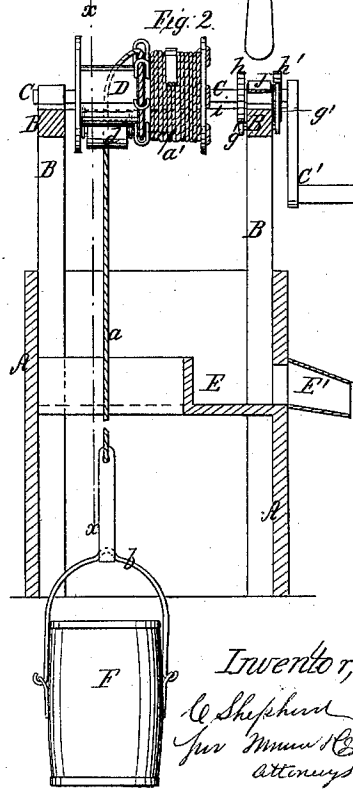
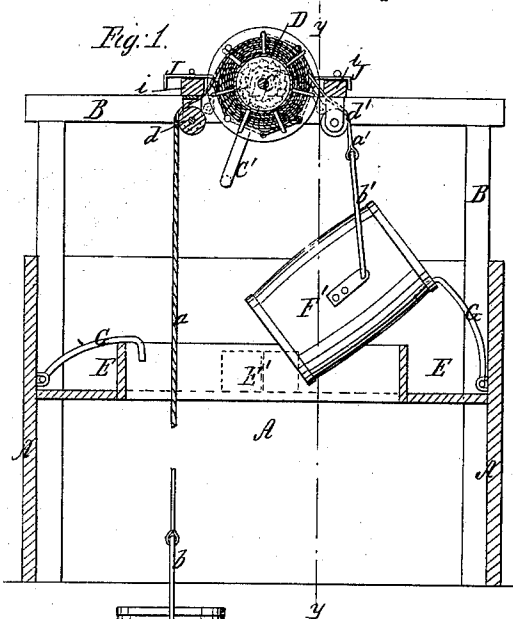
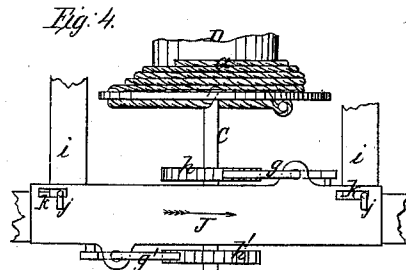
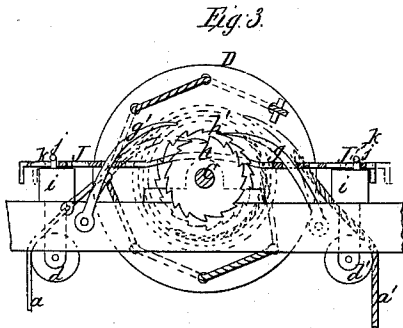


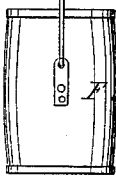
C. SHEPHERD.  
OPERATING WELL BUCKETS.

No. 32,151.

Patented Apr. 23, 1861.



Witnesses;  
J. W. Cramb  
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Inventor;  
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per M. M. Cramb  
Attorneys

# UNITED STATES PATENT OFFICE.

CALVIN SHEPHERD, OF CHENANGO, NEW YORK.

## WATER-ELEVATOR.

Specification of Letters Patent No. 32,151, dated April 23, 1861.

*To all whom it may concern:*

Be it known that I, CALVIN SHEPHERD, of Chenango, in the county of Broome and State of New York, have invented a new and useful Improvement in Operating Well-Buckets; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a section through the well curb and windlass, taken in the vertical plane indicated by the red line *x, x*, in Fig. 2. Fig. 2, is a transverse section through the well curb, taken in the vertical plane indicated by red line *y, y*, in Fig. 1. Fig. 3, is an enlarged end view of the windlass, and the device for operating the pawls. Fig. 4, is a plan view of Fig. 3.

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

This invention and improvement relates to a method of raising and depressing well buckets wherein two buckets are employed, the chains to which they are attached being wound and unwound alternately upon the common drum or windlass, so that when one bucket is raised the other bucket will be lowered into the well.

The object of my invention and improvement, is to operate the two pawls which are used to keep either one of the buckets in an elevated position when filled, so that one pawl can be thrown off at the same time and by the same movement which throws the opposite pawl on its ratchet wheel, for the purposes, and as will hereinafter be explained.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents the well curb; B, the framework for supporting the transverse shaft C, of flanged drum D.

E, E, are troughs which extend across the ends of the curb inside thereof and along one side of this curb where they communicate with a discharge spout E', as shown in Figs. 1, and 2, of the drawings.

The buckets F, F', are suspended by ropes or chains *a, a'*, attached to bales *b, b'*, which are pivoted on each side of and a little above the middle of the buckets F, F'. The ropes *a, a'*, pass around the drum D, in opposite directions so that when this drum D, is turned in one direction one of the ropes will be wound upon it while the other rope

is wound off, thus as one of the buckets F, is elevated the other is depressed. The ropes *a, a'*, are carried off from the drum and pass over pulleys *d, d'*, so that these ropes *a, a'*, will hang some distance apart and the buckets will not be liable to strike as they pass each other. The pulleys *d, d'*, also keep the buckets in a position, when being raised, to be caught and upset by the pivoted hooks G, G. These hooks G, G, catch on the top edge of the bucket when it is at a proper height and tip it over so as to discharge the water into the trough E, from which trough the water flows through spout E'.

Drum D, is merely a cylinder having a flange on each end to prevent the ropes *a, a'*, from winding off. This drum is secured to shaft C, which has its bearings on frame B. The hand crank C', is used to rotate the cylinder D, in raising and depressing the buckets.

In order to save time in drawing water from the well the two buckets F, F', are employed as before described, so that in lowering one bucket the other will be drawn up, and vice versa. The crank C', must therefore be turned first in one direction and then reversed, and in order to retain the buckets when they are in a tilted position until all the water can be discharged from them into the troughs, without the necessity of holding the crank, I employ a right, and a left hand pawl *g, g'*, which engage alternately with ratchet wheels *h, h'*, keyed to the shaft C, as clearly shown in Figs. 3, and 4, of the drawings.

The pawls *g, g'*, pass loosely through holes through a sliding plate J. This plate J, passes across the shaft C, between the two ratchet wheels *h, h'*, and its ends rest on the ends of transverse pieces *i, i*, to which the plate J, is attached by pins *j, j*, which pass through slots *k, k*, in the plate J. These slots *k, k*, allow plate J, to be moved endwise back and forth, and this back and forth movement of the plate J, operates the pawls *g, g'*, so as to engage one and disengage the other simultaneously, with their respective ratchet wheels *h, h'*, thus if the sliding plate J, is moved in the direction indicated by the arrow in Fig. 4, the pawl *g*, will be disengaged from its ratchet wheel *h*, and pawl *g'*, will be engaged with the ratchet wheel *h'*. With this arrangement of pawls and sliding plate the person raising water will have no difficulty in stopping

a bucket of water at any moment and when one bucket has been raised and its water discharged it is only necessary to give the plate J, a slight movement to place both  
5 pawls in proper positions for allowing the other bucket of water to be raised.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is;

10 The sliding plate J, pawls *g*, *g'*, and

ratchet wheels *h*, *h'*, in combination with the drum and axle and the two buckets, when the same are arranged in the manner, and for the purposes herein described and shown.

CALVIN SHEPHERD.

Witnesses:

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