

P. Anderson,
Windlass Water Elevator,
No 38,711
Patented May 26, 1863.

Fig. 1.

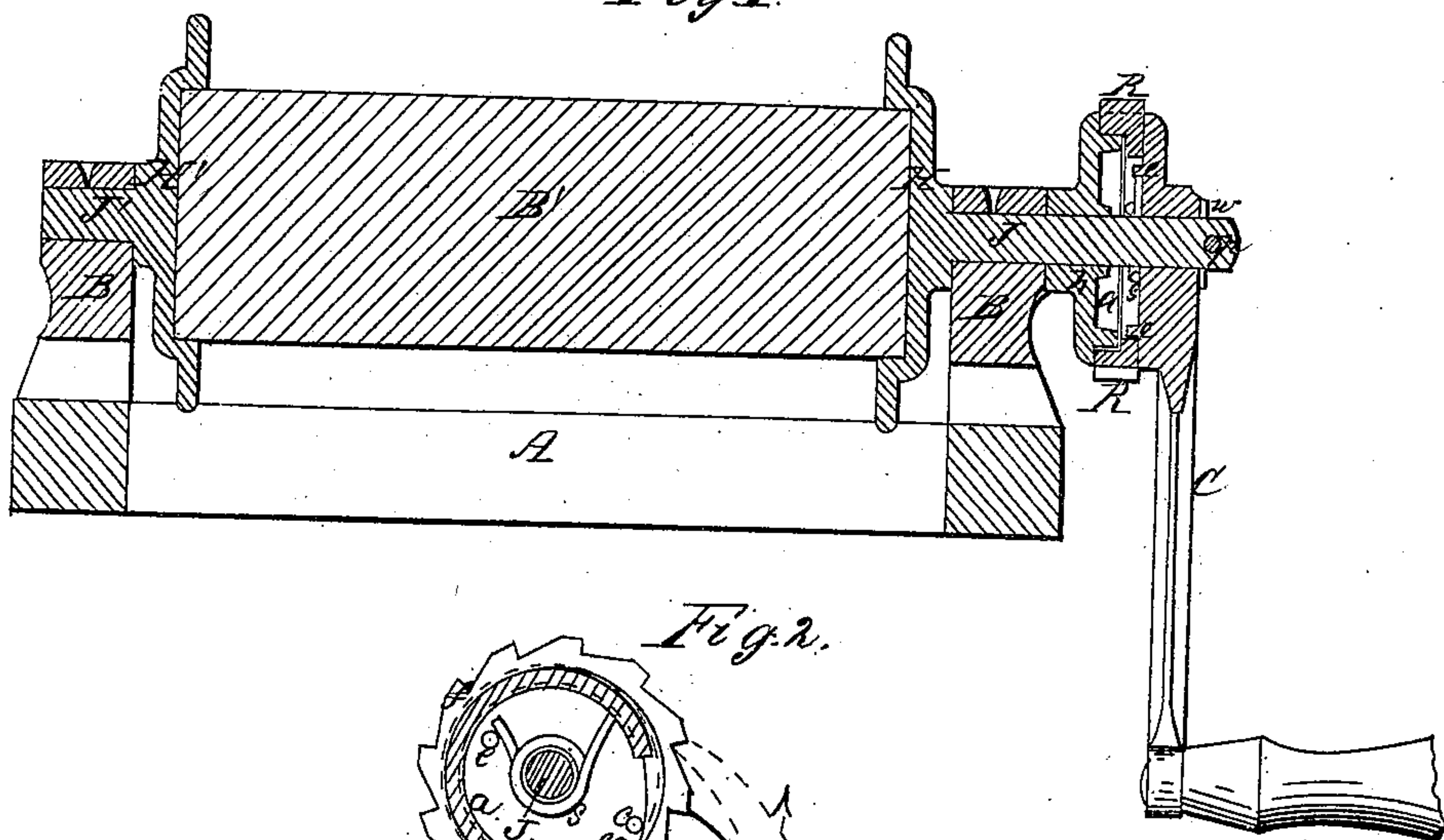


Fig. 2.

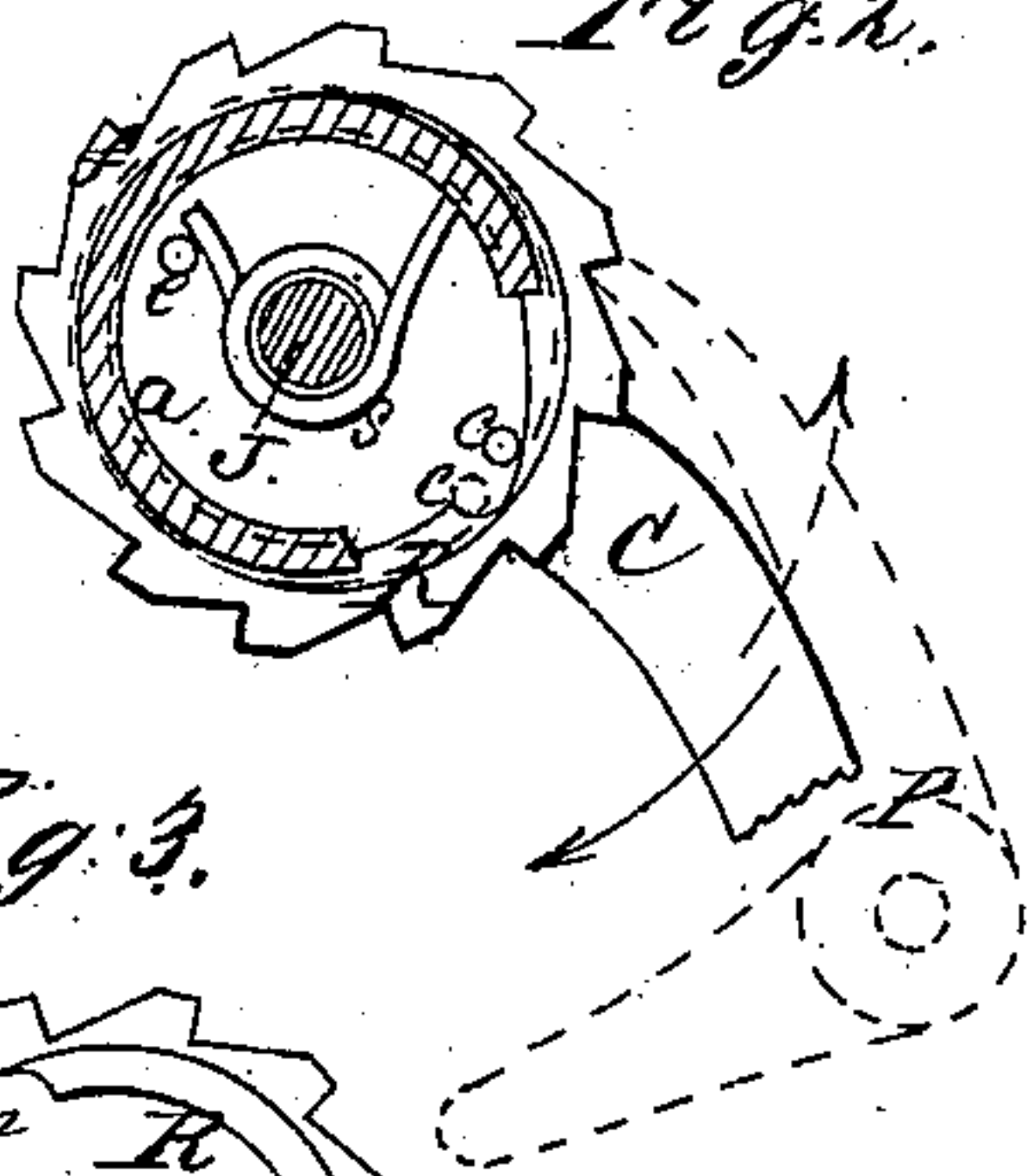


Fig. 3.

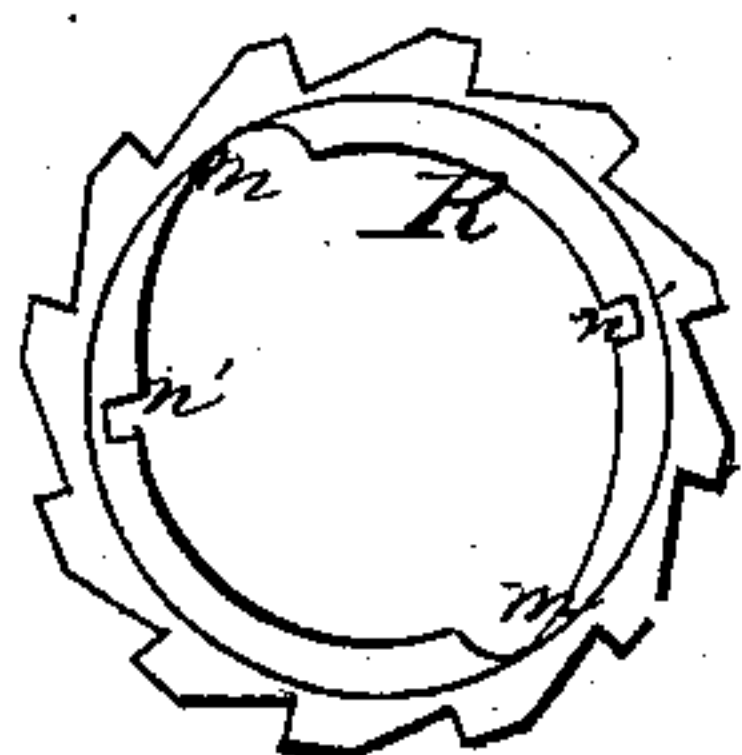
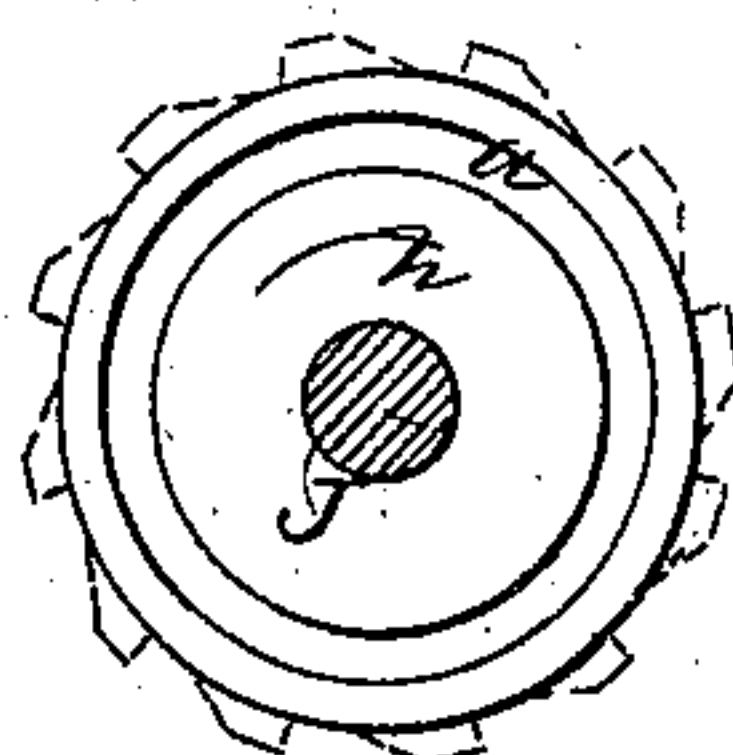


Fig. 4.



Witnesses.

Wm. S. Coughborough
J. Lann

Inventor.

P. Anderson

UNITED STATES PATENT OFFICE.

PHILANDER ANDERSON, OF NORWICH, NEW YORK, ASSIGNOR TO HIMSELF
AND P. K. BRONSON, OF SAME PLACE.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. 38,711, dated May 26, 1863.

To all whom it may concern:

Be it known that I, PHILANDER ANDERSON, of Norwich, in the county of Chenango and State of New York, have invented a new and useful Improvement in Frictional Windlasses for Water-Elevators; 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 vertical section of the invention, taken longitudinally through the rope-barrel B'. Fig. 2 is an inside view of the head of the crank C, showing the relative arrangement of the ratchet-ring R, spring s, and pins c and e, as in action with the annular flange or friction-ring a of the head h. Fig. 3 is a detached view of the ratchet-ring R. Fig. 4 is a face view of the head h, showing its friction-ring a.

This invention relates to that class of water-elevators which are operated by frictional windlasses, and its nature will be clearly understood by reference to the drawings and specification.

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

The heads H and H' may be cast, and are fixed to the rope-barrel B' by screws or otherwise. The journals J and J' may be cast to the heads. The bearings B B are bolted to the top of the curb. The head h is keyed or otherwise rigidly fixed to the elongated journal J, and it is provided with an annular projecting flange or ring, a, to which is loosely fitted the ratchet R. This ratchet has an inner flange, in which is formed several cam-recesses, m, in, any one of which the pin c of the crank-head may be placed, as seen in Fig. 2. One end of the spring s takes in one of the notches n' in the ratchet-ring R, and the other end rests against the pin e. This spring encircles the journal J with one or two turns, the journal answering as a steady-pin to keep it in position. The crank C also turns loosely upon the shaft or journal J, to which it is secured by the burr or washer w and pin n, or other equivalent device. The pins c and e may be cast on the crank-head.

Operation: The spring s, as seen in Fig. 2, tends to throw the ratchet up to its present position, the pin c pressing against the cam side of recess m. The crank C being turned in the direction of the dotted arrows, as in the act of

raising the bucket, the opposite side of the ratchet is thereby firmly clamped against the friction-ring a of the tight head h, forcing it and the barrel B' to rotate with the crank. To allow the bucket to descend, it is only necessary to reverse the crank C, moving it in the direction indicated by the full-line arrow, which brings the pin c back, as shown by the dotted line c', into the deeper portion of the recess m, thus releasing the ratchet, (it being prevented from following the crank in this direction by the pawl P, shown by dotted lines, which is pivoted to the frame or curve,) when it assumes its concentric position, indicated by the dotted circle f entirely relieving its pressure against the friction-ring a, and thereby permitting the bucket to descend, the rapidity of its descent being entirely under the control of the operator, it being governed by a greater or less pressure of the ring c against the curved back of the recess m, making more or less friction between the ratchet R and ring a.

The advantage in having several recesses m and notches n' in the flange of the ring R is, that when the side bearing against the friction-ring a shall have become worn, it may be turned so as to place the pin c and the end of the spring s in the next recess m and notch n', thereby rendering it much more lasting. This change is effected by simply removing the crank and changing the end of the spring to the next notch, then adjusting the crank with pin e behind the opposite end of the spring s, as shown in Fig. 2, and turning the crank backward until the pin c drops in one of the recesses m. The action of the spring may be strengthened by spreading its ends, so as to require more of a turn of the crank before the recess m shall receive the pin c, and vice versa.

The pin c may be provided with a friction-roller, if desired, to render it more sensitive in its action and to decrease the wear upon it.

I claim—

The pin c, attached to the head of the crank C, or its equivalent, and the cam-recess m, of the ratchet-ring R, in combination with the friction-flange a, spring s, pin e, and pawl P, substantially as and for the purposes specified.

P. ANDERSON.

Witnesses:

WM. S. LOUGBOROUGH,

I. TANN.