J. C. BARRETT.
Water-Elevator.

No. 221,765. Patented Nov. 18, 1879.

Fig. 1.

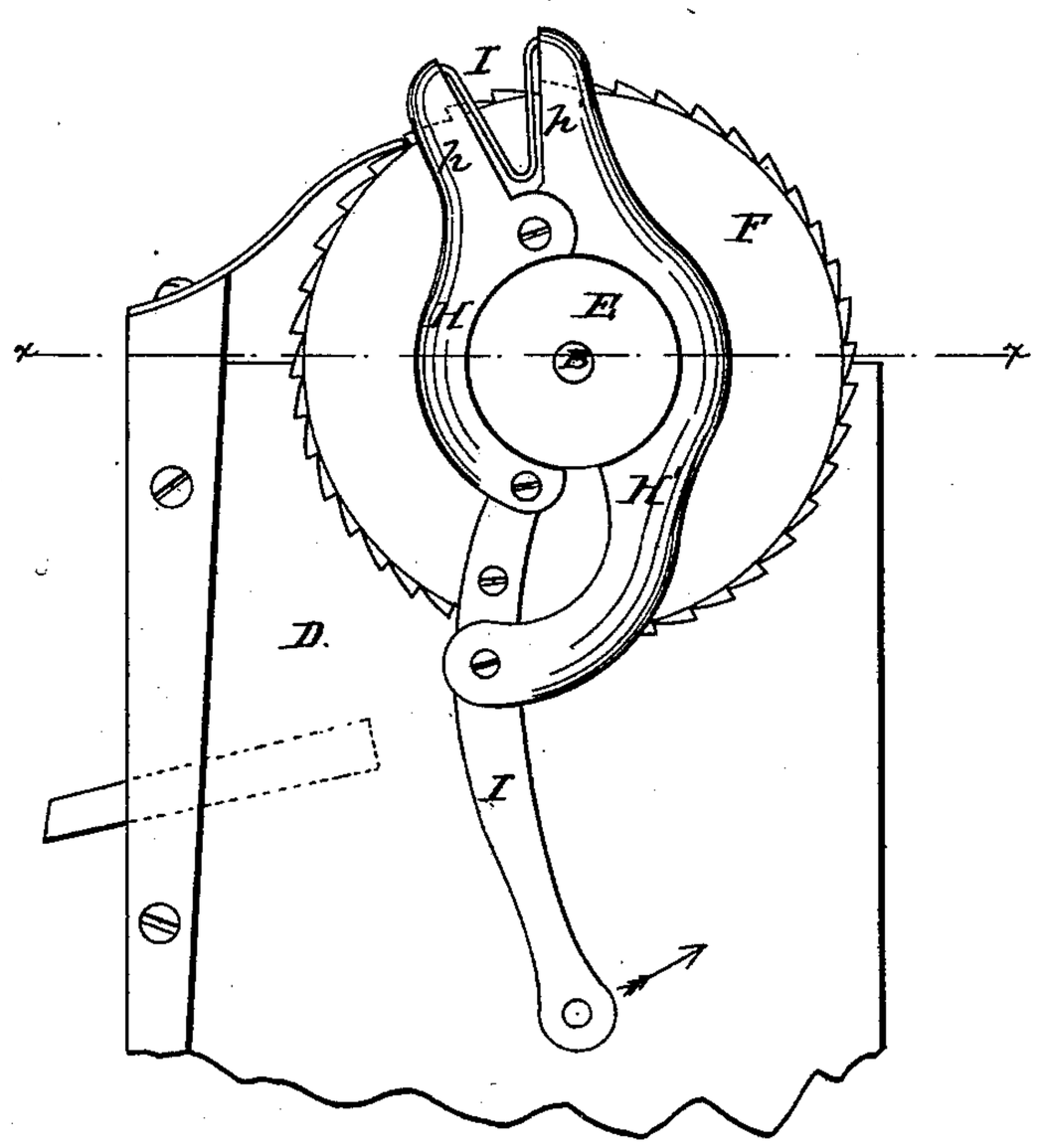
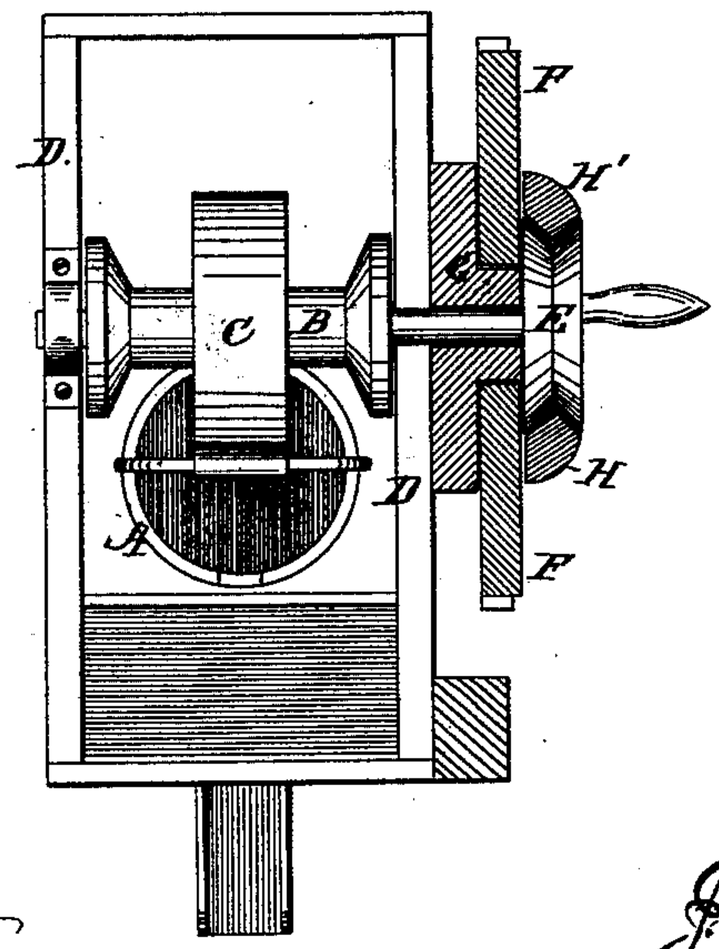


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES C. BARRETT, OF MARION, NEW YORK.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. **221,765,** dated November 18, 1879; application filed October 24, 1879.

To all whom it may concern:

Be it known that I, JAMES C. BARRETT, of Marion, in the county of Wayne and State of New York, have invented a new and Improved Water-Elevator; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention is an improvement in that class of water-elevators in which a well-bucket is attached to a rope or chain plying over a windlass provided with a crank for rotating it.

My invention is more particularly an improvement upon that for which I have received Letters Patent of the United States No. 41,410.

In such former invention the windlass or shaft to which the bucket rope or band is attached has a hub or friction-disk firmly keyed on one end, and two lever-clamping jaws are pivoted to a ratchet-disk revolving loosely on said hub, and also pivoted to a crank in such manner that pressure on the latter will close or tend to open the jaws, according to the direction in which it is applied. The spring which tends to hold the clamping-jaws pressed on the friction-hub of the windlass or winding-shaft is, however, so applied, and is necessarily of such stiffness that the clamps cannot open free of the hub, and hence the empty bucket has insufficient gravity to rotate the shaft and descend into the well. Another objection exists in that the ratchet-disk is arranged on the reduced portion of the winding-shaft, so that the friction and obstruction to free rotation of the shaft are considerable.

These mechanical defects of my former invention have been fully obviated in the present elevator by simple and inexpensive changes of construction and arrangement of parts, as hereinafter fully described, and as shown in accompanying drawings, in which—

Figure 1 is a side elevation of a well-curb having my improved elevator attached, and Fig. 2 is a plan view of the same.

The bucket A is attached to the windlass or winding-shaft B by means of a chain or band, C, in the usual way. The journal *a* of said shaft is extended beyond the side of the curb D and has a peripherally-grooved hub, E, fixed thereon. A large ratchet-disk, F, is placed next to the inner side of hub E and revolves loosely on a fixed hub, G, which is concentric with the shaft. To this disk F the jaws H H′ of the clamp and the crank I are pivoted, in substantially the same manner as in my former invention; but as a novel construction the pivoted ends of the jaws H H′ are extended longitudinally, thus forming arms *h h′*, between which is placed a spring, I. The action of the spring tends to hold the clamps in contact with the grooved periphery of the friction-hub E, and when the crank is moved to the right (see arrow, Fig. 1) the spring allows both jaws H H′ of the clamp to open equally and remove out of contact with the hub, so that the latter is relieved of friction and the well-bucket A allowed to descend freely and rapidly by its own gravity; whereas, in my said former invention, such result was impracticable, because the spring was so arranged and attached that it required to be made very long, and hence very stiff, so that it hindered opening of the jaw to which it was attached, and thus obstructed the free rotation of the windlass and absolutely prevented the descent of a bucket of ordinary size and weight.

As before stated, the ratchet-disk F revolves on a hub, G, which is fixed and is not placed directly on the shaft B, as heretofore. Such hub forms an integral part of a plate attached to the side of the curb D. Said disk revolves more easily, or with less friction and tendency to bind, and the shaft is not subjected to wear, as in the former case. The disk thus offers no hinderance to free rotation of the windlass either in raising or lowering the bucket.

By my present invention, therefore, I produce a practicable, easily-operated, and efficient water-elevator.

What I claim is—

1. In a water-elevator, the clamping-jaws H H′, having the arms *h h′* extended beyond their common pivot, and the spring I interposed between said arms, in combination with the windlass or winding-shaft, the fixed hub E, and a ratchet-disk mounted loosely thereon, as shown and described.

2. In a water-elevator, the combination, with the windlass-shaft, of the concentric hub G, which is fixed in position, and the ratchet-disk F mounted on said hub, and the clamping-jaws H H′, as shown and described.

JAMES C. BARRETT.

Witnesses:
SOLON C. KEMON,
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