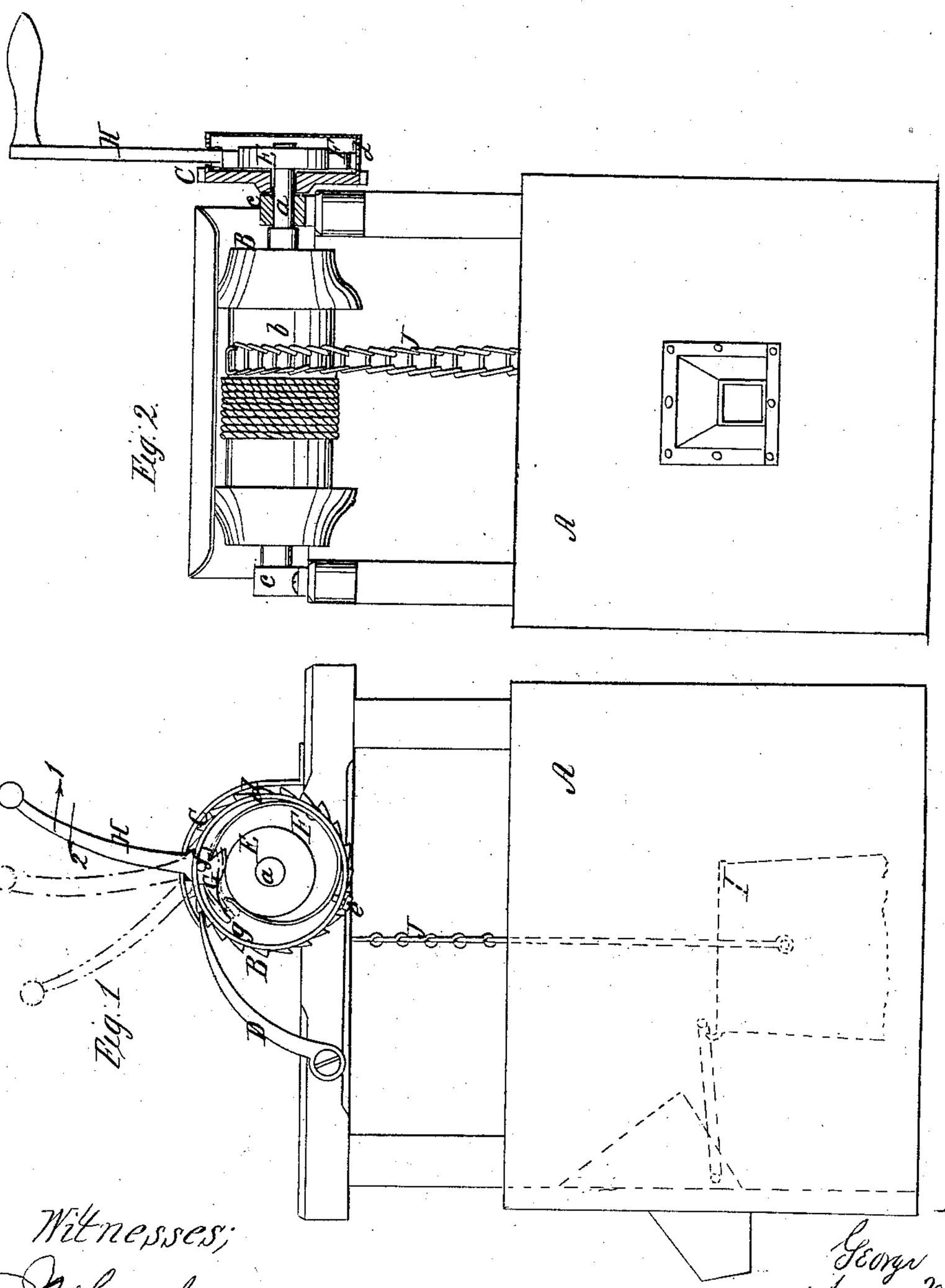
G. Race,

Windlass Water Elevator.

No. 32,648. Patented June 25, 1861.



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UNITED STATES PATENT OFFICE.

GEORGE RACE, OF NORWICH, NEW YORK.

WATER-ELEVATOR.

Specification of Letters Patent No. 32,648, dated June 25, 1861.

To all whom it may concern:

Be it known that I, GEORGE RACE, of Norwich, in the county of Chenango and State of New York, have invented a new and Improved Water-Elevating Device; 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—

Figure 1 is an elevation of a well-curb, showing an end-view of the windlass with my invention applied to it. Fig. 2, an elevation of same, with my invention bisected in line with the axis of windlass.

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

The object of this invention is to obtain a water-elevating device which will admit of being operated with greater facility than usual.

The invention relates to that class of water-elevators in which a windlass and bucket are employed, and consists in the employment or use of a ratchet placed loosely on the windlass shaft, in connection with a wheel attached permanently to the windlass shaft, and inclosed within a barrel attached to the ratchet, said wheel being acted upon by a spring and an eccentric and brake all being arranged substantially as hereinafter described, whereby the bucket may be elevated by the rotation of the crank and released at any time so as to descend in the well as gradually as may be desired and suddenly stopped at any desired point, the descent of the bucket being under the perfect control of the operator.

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

A, represents a well-curb which may be of quadrilateral form and placed over the well as usual. This curb A, has a windlass B, placed on the upper part of its framing, the shaft *a*, of the drum *b*, being fitted in suitable bearings *c*, *c*. On one end of the shaft *a*, there is placed loosely a ratchet C, said ratchet having a barrel or cylinder *d*, projecting concentrically from its outer side as shown clearly in Fig. 2.

D, is a pawl which is attached to the framing of the curb and engages with the ratchet C.

To the end of the shaft *a*, which passes through the ratchet C, there is attached permanently a wheel E. This wheel is inclosed within the drum *b*, and has one end of a spring F, bearing against it, said spring being attached to the inner side of the barrel or cylinder *d*, and having its pressure on the wheel E, graduated by a screw *e*, as will be fully understood by referring to Fig. 1. The opposite end of the spring F, bears against an eccentric G, which is at the inner end of a lever H, having its fulcrum at *f*, and forming the crank of the windlass. The eccentric G, has an arm *g*, attached to, or formed at one end of it, as shown clearly in Fig. 1. The spring F, has a tendency to keep the eccentric G, in contact with the periphery of the wheel E.

From the above description it will be seen that by turning the crank or lever H, in the direction indicated by the arrow 1, the eccentric G, will bind or press against the wheel E, and the windlass will be turned and the bucket I, elevated, the rope or chain J, being wound on the drum *b*. In order to allow the bucket to descend the lever H, is shoved or pressed a little backward in the direction indicated by arrow 2, and the wheel E will be relieved from the eccentric G, the bucket descending by its own gravity. The gravity of the empty bucket is nearly counterpoised by the pressure of the spring F, on the wheel E, the pressure of the spring being graduated by the screw *e*, so as to allow the bucket to descend gradually. If at any time it should be desired to stop the bucket instantly, the lever H, is pressed sufficiently far back to allow the arm *g*, to bear against the wheel E. This arm *g*, it will be seen serves as a brake and may be made to stop the drum *b*, instantly. By this arrangement a very slight backward movement of the lever H, will release the drum *b*, and it is believed that the windlass may be operated or manipulated with greater facility than by any of the modes hitherto devised.

I do not claim the ratchet C, and barrel *d*, either separately or combined, for both of said devices have been previously used; but—

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

1. The ratchet C, with barrel *d*, attached, placed loosely on the windlass-shaft *a*, in connection with the wheel E, on the wind-

lass-shaft *a*, and the spring F, and eccentric and brake G, *g*, on lever H, all arranged substantially as and for the purpose set forth.

2. The particular arrangement of the spring F, substantially as shown and described whereby the spring F, is made to perform the double function of a friction brake and spring as set forth.

GEORGE RACE.

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