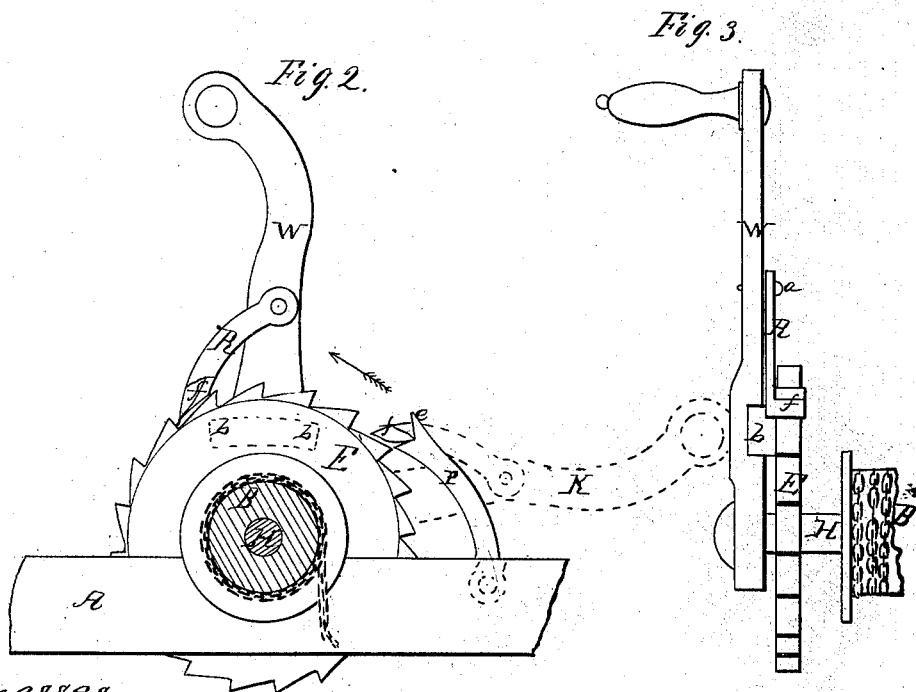
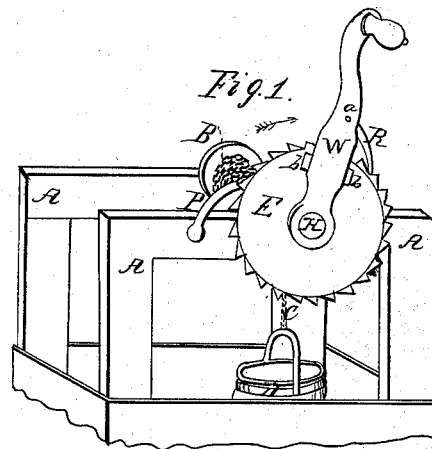


J. H. Best,

Windlass Water Elevator.

N^o 49,217.

Patented Aug. 8, 1865.



Witnesses
Justus Smith & Co.
A. V. DeMott

Inventor
Jacob H. Best

UNITED STATES PATENT OFFICE.

JACOB H. BEST, OF SCHENECTADY, NEW YORK.

IMPROVEMENT IN WATER-ELEVATORS.

Specification forming part of Letters Patent No. 49,217, dated August 8, 1865.

To all whom it may concern:

Be it known that I, JACOB H. BEST, of the city of Schenectady, State of New York, have invented a new and useful improvement in the construction of machinery for raising and lowering the bucket of a well, or for analogous purposes; and I declare the following specification, with the drawings forming part thereof, to be a full and complete description of my invention.

Figure 1 represents in perspective my apparatus attached to a well-frame; Fig. 2, an enlarged diagram of the apparatus as seen in reverse of its position as shown in Fig. 1; Fig. 3, an end view of the same.

Similar letters denote the same parts of the apparatus.

A A is the frame-work of a well supporting the machinery; B, the barrel or cylinder around which the hoisting-chain is wound; C, the chain to which is attached the bucket D.

E is a ratchet-wheel fixed upon the shaft H of the barrel B, by which it operates the barrel.

W is a winch or handle, fitted to turn freely around the shaft H, which is projected outward for that purpose, as shown in Fig. 3.

P is a pawl pivoted to frame A, to hold wheel E by its teeth. Pivoted to winch W at *a* is another ratchet-pawl, R, by means of which the loose winch takes hold of and operates the wheel E when turned in the direction indicated by the arrows, but not when moving in the reverse direction. The foot of this pawl is formed of a piece, *f*, projecting out sidewise, as shown in Fig. 3, from its stem, which does not overhang the wheel E, but lies between it and the winch. This foot is made with its edge toward pawl P beveled, as shown in the drawings.

The pawl P has above its point a lip, *e*, projecting upward at a slight angle, sufficient to allow the beveled edge of *f* to pass between it and the upper point of the ratchet-tooth in which it is engaged.

Within the inner face of the winch W, at *b*, Figs. 1 and 3, (whose position is shown by dotted lines in Fig. 2,) there is inserted a small

flat metal bar, whose surface is fitted to rub against wheel E near its periphery, being intended to operate as a brake to its movements. The bar on its inner side next the winch is made convex, so as to adjust itself to any irregularities in the face of the wheel, or of its movements.

The operation of the machine is thus: The bucket being at the bottom of the well, the winch is turned in the direction shown by the arrows, when the pawl R, holding against the teeth of wheel E, will turn the barrel B and wind up the chain with the bucket. When it is desired to lower it down the winch is brought backward into the position shown by the dotted lines at K, Fig. 2. Then the bevel-edge *f* of pawl R, passing under lip *e*, will disengage pawl P from the wheel and permit the bucket to descend. To prevent its descending too rapidly the winch, which has sufficient lateral play upon its axis for that purpose, is to be pressed sidewise, so as to bring the brake-piece *b* to act upon the surface of wheel E, by which means the speed of the bucket can be regulated at will.

Although this apparatus has been illustrated in connection with the movements of a well-bucket, yet it is to be understood that I employ this arrangement for all purposes of raising and lowering weights by means of a winch and axle.

What I claim as my invention, and desire to secure by Letters Patent, is—

The application to the usual barrel and axle used for hoisting and lowering the bucket of a well, or any weight, of a wheel, E, operating as a ratchet and friction or brake wheel, in combination with the winch W, its brake-piece *b*, and its pawl R, also the pawl P, the whole arranged substantially as described, and for the purposes set forth in the within specification.

JACOB H. BEST.

Witnesses:

RICHD. VARICK DE WITT,
A. V. DE WITT.