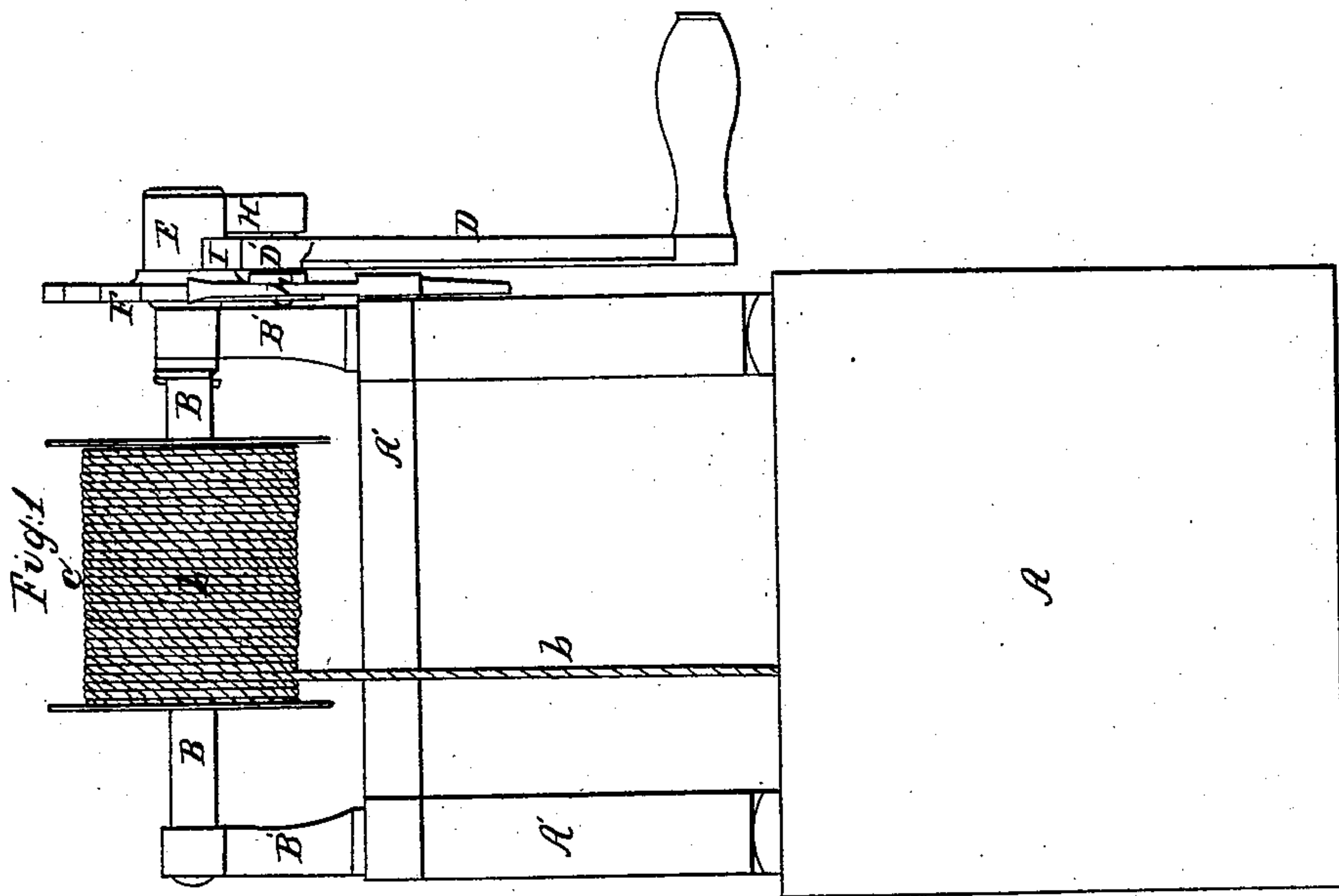
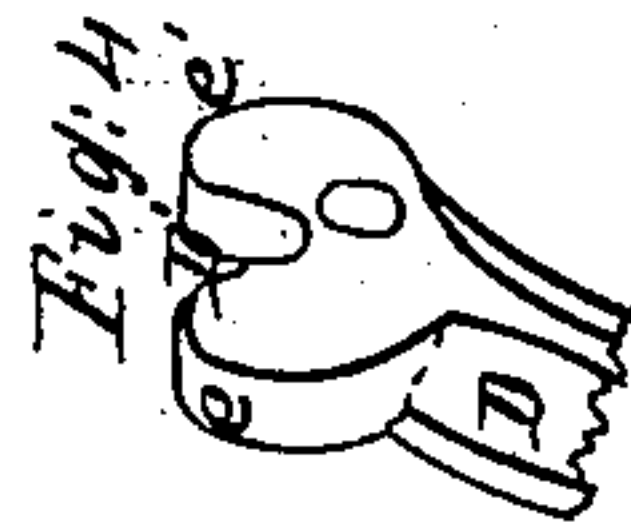
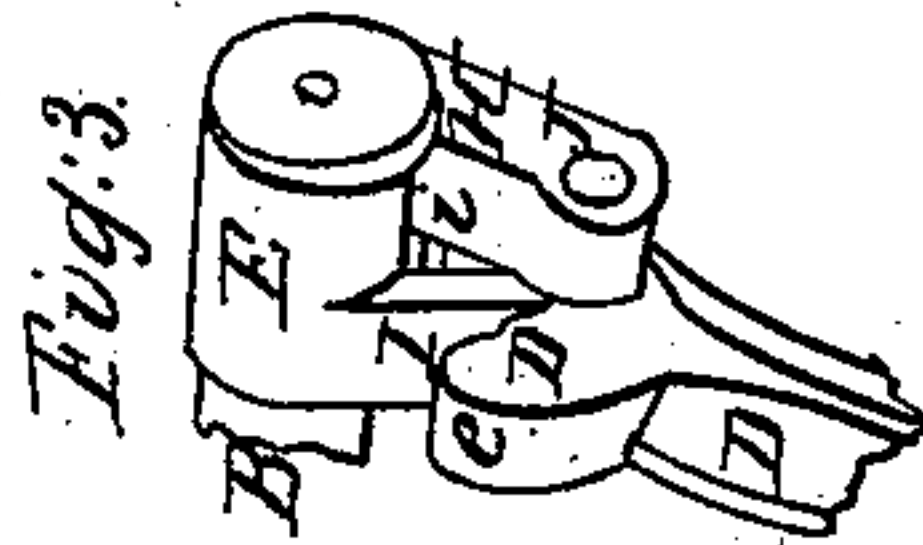
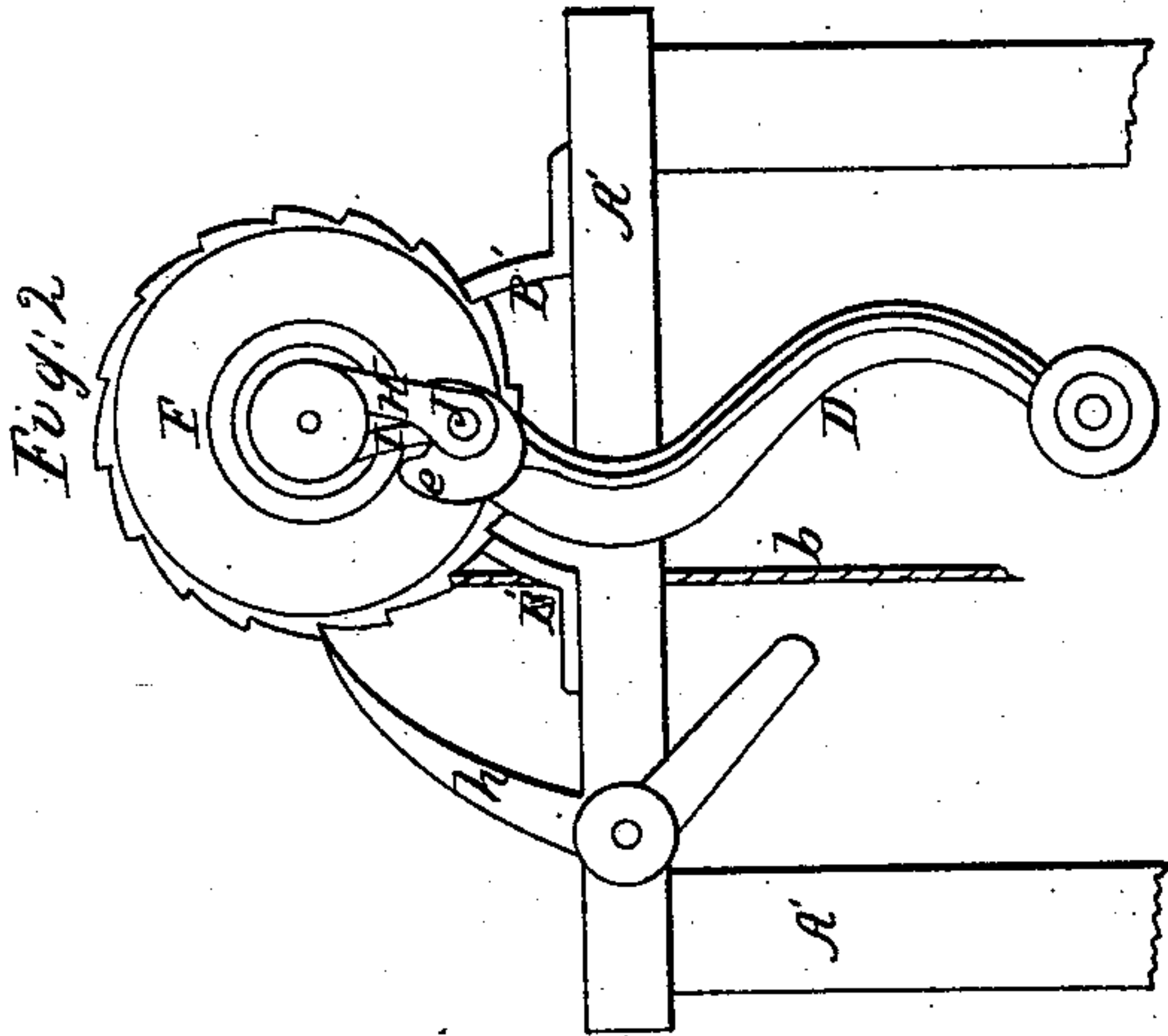


*H. P. Castle,*

*Windlass Water Elevator.*

*N<sup>o</sup> 53411.*

*Patented Mar. 27, 1866.*



*Witnesses.*

*W. H. Burridge  
J. Holmes.*

*Inventor*

*H. P. Castle*

# UNITED STATES PATENT OFFICE.

H. P. CASTLE, OF ASHTABULA, OHIO.

## IMPROVEMENT IN WATER-DRAWERS.

Specification forming part of Letters Patent No. 53,411, dated March 27, 1866.

*To all whom it may concern:*

Be it known that I, H. P. CASTLE, of Ashtabula, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Water-Drawers; and I do hereby declare that the following is a full and complete description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of the water-drawer. Fig. 2 is an end view. Figs. 3 and 4 are detached sections.

Like letters of reference denote like parts in the views.

My improvement relates to constructing a water-drawer so that when the bucket is drawn up and the water discharged it will descend again into the well without unwinding the rope by turning the crank, as in the ordinary windlass, but the shaft is released, so that the rope unwinds, lowering the bucket without the crank or ratchet-wheel turning, as hereinafter described.

A, Fig. 1, is the well-curb, constructed in the ordinary manner; and B is an iron shaft that has its bearings in supports B' extending up from the top of the frame A' of the curb. C is a drum secured on the shaft, on which the rope *b* is wound, as represented. F is a ratchet-wheel on the shaft, outside of which, on the end of the shaft, is a thimble or clamp, E. This clamp is made of steel, and is open longitudinally between a pendent arm, H, and lug I, as seen at *i* in Fig. 3, the arm being on one side of the opening and the lug on the other. The arm and lug are cast in one piece with the clamp that clasps around the shaft. The crank D is connected to the arm H of the clamp and the ratchet-wheel F by a pin, J, that extends through the crank into the wheel, securing the crank to the arm and wheel.

This end of the crank is forked, as shown at D' in Fig. 4, to receive the lug I when it is connected to the clamp and ratchet-wheel. *h* is a pawl, pivoted to the side of the curb, that catches into the ratchet-wheel.

By turning the crank so as to elevate the bucket, the clamp is tightened up on the shaft so that the shaft turns with it, and the shaft cannot be turned in this direction independent of the shaft, for the end *e* of the fork presses upon the lug I in the opposite direction, which acts as the short arm of a lever, the crank the longer arm, and the pin J a fulcrum; hence the greater the weight to be raised the tighter will the clamp be clasped or compressed around the shaft.

When the bucket is drawn up and the water discharged the pawl *h* catches into the ratchet-wheel, holding it, and the clamp being thus released from its compression around the shaft by its elastic power, the shaft is allowed to turn in the opposite direction by the weight of the bucket as it descends into the well without the ratchet-wheel or crank turning. Should the clamp not sufficiently relax by its own elasticity, allowing the shaft thereby to turn, the clamp can be opened by pressing on the crank in the opposite direction from that required in raising the bucket, the other end, *e'*, of the fork, the pin J, and crank acting as a lever for this purpose.

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

The clamp E, provided with an arm, H, and lug I, in combination with the shaft B and forked crank, constructed and arranged as and for the purpose set forth.

H. P. CASTLE.

Witnesses:

W. H. BURRIDGE,  
A. W. McCLELLAND.