A. B. DRYDEN.

Windlass for Water-Elevators.

No. 151,480. Patented June 2, 1874.

Fig. 1.

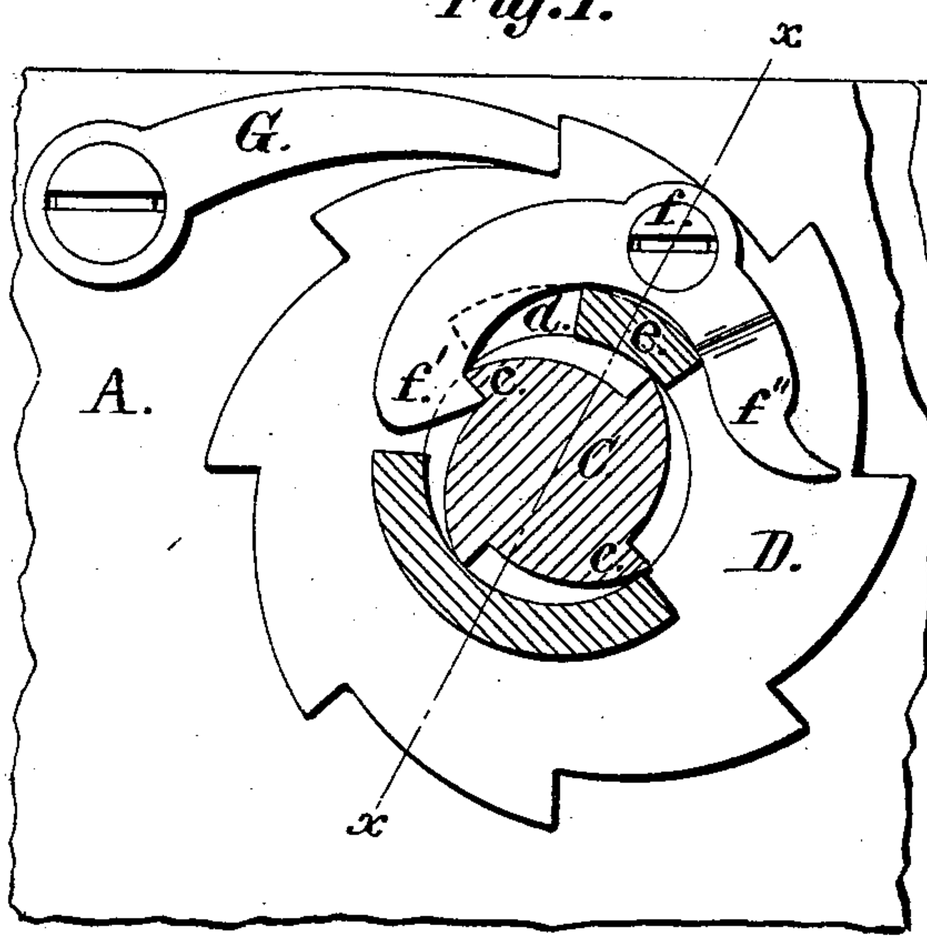


Fig. 2.

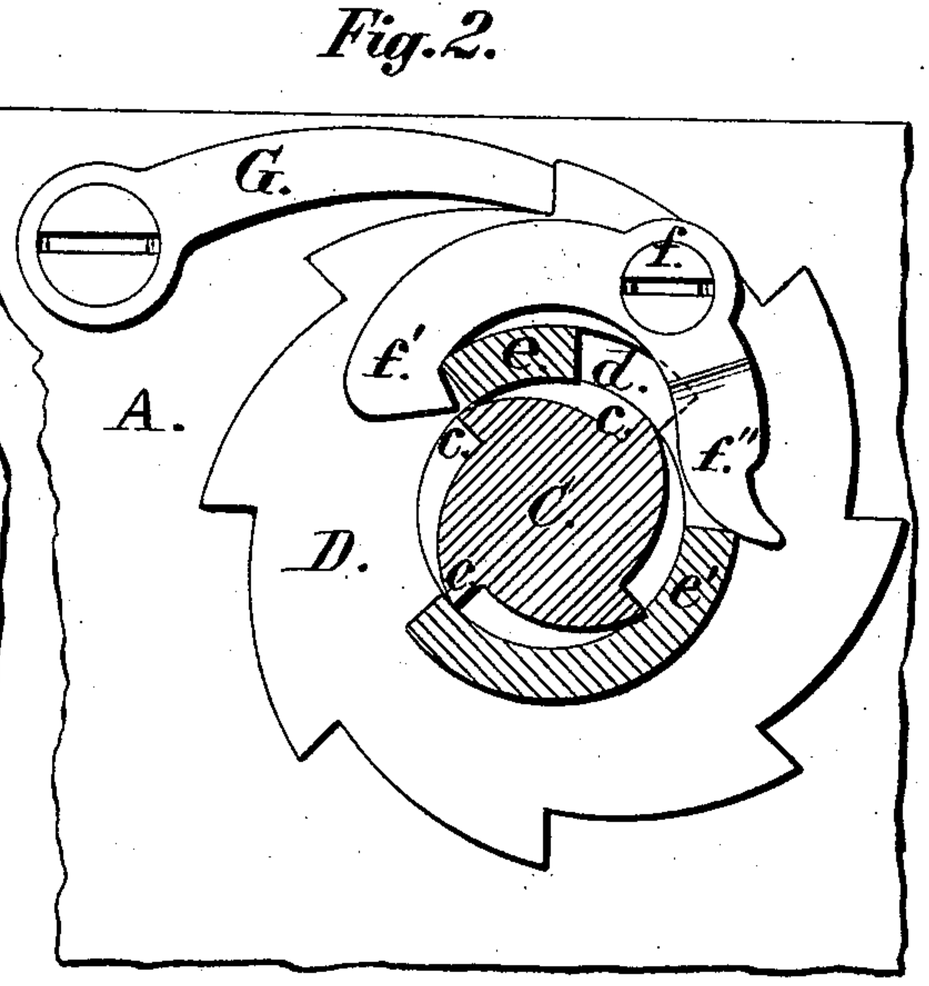


Fig. 3.

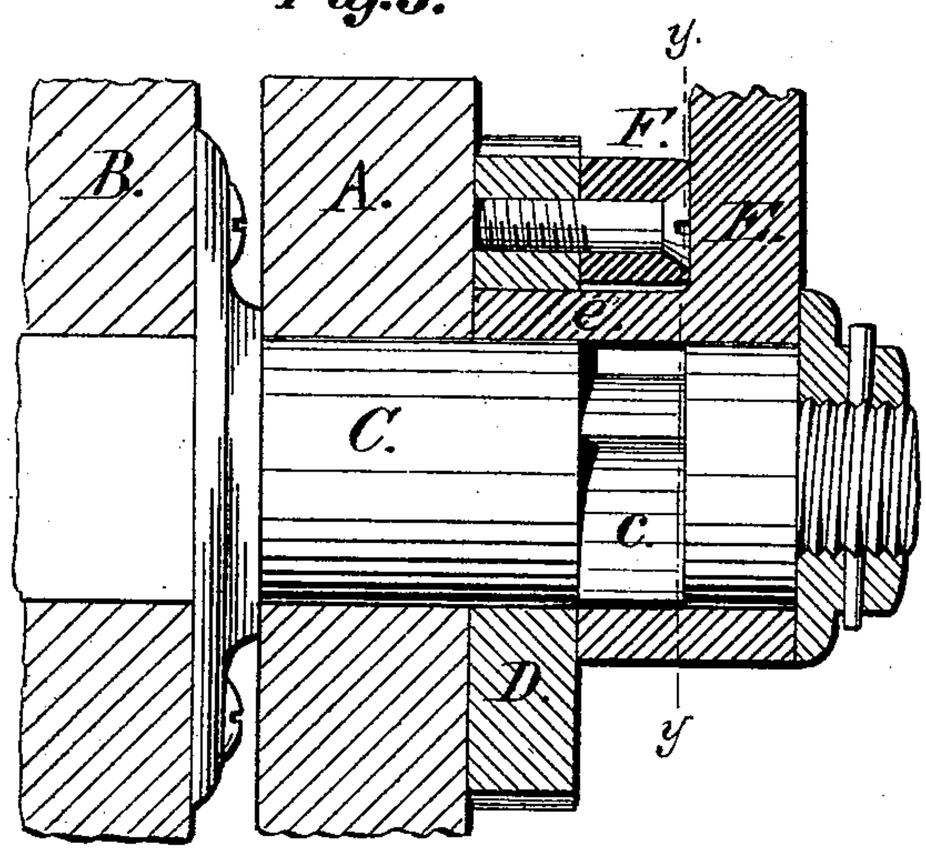
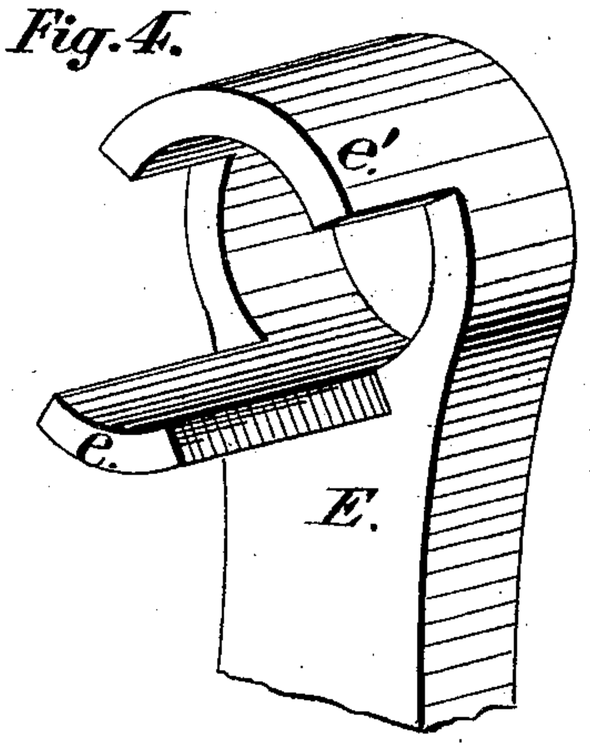


Fig. 4.



ATTEST.

Robert Burns.
H. T. Tanner.

INVENTOR.

Artemas B. Dryden
By Knights Bros.
Attys.

UNITED STATES PATENT OFFICE.

ARTEMAS B. DRYDEN, OF MONTGOMERY CITY, MISSOURI.

IMPROVEMENT IN WINDLASSES FOR WATER-ELEVATORS.

Specification forming part of Letters Patent No. **151,480**, dated June 2, 1874; application filed May 8, 1874.

To all whom it may concern:

Be it known that I, ARTEMAS B. DRYDEN, of Montgomery City, Montgomery county, Missouri, have invented a certain new and useful Improvement in Well-Windlasses, of which the following is a specification:

My improvement relates to that class of windlasses in which the barrel of the bucket-rope is allowed backward rotation without the hand-crank when disengaged therefrom by a suitable device.

In my improvement the hand-crank has limited oscillation on the gudgeon, its oscillation being checked by a lug upon it, which enters a segmental recess in a ratchet-wheel upon the gudgeon. The backward rotation of the ratchet-wheel is prevented by a pawl or dog pivoted to the frame. The ratchet-wheel is turned forward with the crank, and the barrel is also carried forward therewith by means of a pawl pivoted to the ratchet-wheel, and engaging a ratchet upon the gudgeon. By giving the hand-crank slight backward movement, the pawl is disengaged from the gudgeon-ratchet, and the barrel receives a backward rotation from the weight of the empty bucket. The forward turn of the hand-crank again engages the pawl in the gudgeon-ratchet, and the bucket may be drawn up.

Figure 1 is a section at line *y y*, Fig. 3, with the parts in position for drawing up the bucket. Fig. 2 is a section at same line, with parts in position to allow the descent of the bucket. Fig. 3 is a section at line *x x*, Fig. 1. Fig. 4 is a perspective view of the eye of the hand-crank, showing the lug at the inner side, the figure being on an enlarged scale.

A is the frame at one side of the well-curb. B is the barrel on which the bucket-rope is coiled. C is one of the gudgeons of the barrel. D is a ratchet-wheel, which is loose on the gudgeon. The gudgeon-hole through the center of the ratchet-wheel has upon one side a recess, *d*, in which moves a lug, *e*, projecting from the hand-crank E. F is a pawl, which is pivoted to the side of the ratchet-wheel, in such a position that one end of the pawl (the other end being forced out by the lug *e*) will cover part of the recess, so that when the lug is moved to the opposite end of the recess it will raise the opposite end of the pawl. (See Figs. 1 and 2 for the two positions of the lug and pawl.) The pawl F is pivoted at *f*, and at one end is a catch, *f'*, which engages a ratchet, *c*, of the gudgeon C, so that as the hand-crank is turned forward, the lug *e* is carried beneath the end *f''* of the pawl, and presses the catch *f'* in the ratchet *c*. (See Fig. 1.) Thus the barrel is carried around by means of the pawl F and ratchet-wheel D, and the latter by means of the hand-crank, by the pressure of the lug *e* against the end of the recess *d*. G is a pawl, pivoted to the frame, and engaging the ratchet-wheel D, to prevent its backward rotation, and consequently to prevent the backward rotation of the barrel, as long as the pawl F is engaged with the ratchet *c*, as in Fig. 1.

To allow the backward rotation of the barrel and consequent descent of the bucket, the hand-crank is turned backward a little distance, (see Fig. 2,) raising the catch *f'* from the ratchet *c* by means of the lug *e*, which allows the gudgeon to turn freely in the ratchet-wheel D and hand-crank. The throwing out of the catch *f'*, brings the other end *f''* down upon the projection *c'*, to hold the pawl F firmly in position.

I claim—

The gudgeon or shaft C, having a ratchet, *c*, ratchet-wheel D, with recess *d*, pawls F and G, and the hand-crank E, having a lug, *e*, all combined substantially as set forth.

In testimony of which invention I have hereunto set my hand.

Witnesses: ARTEMAS B. DRYDEN.
JOSEPHUS S. MCCLEAREY,
EUGENE B. PEGRAM.