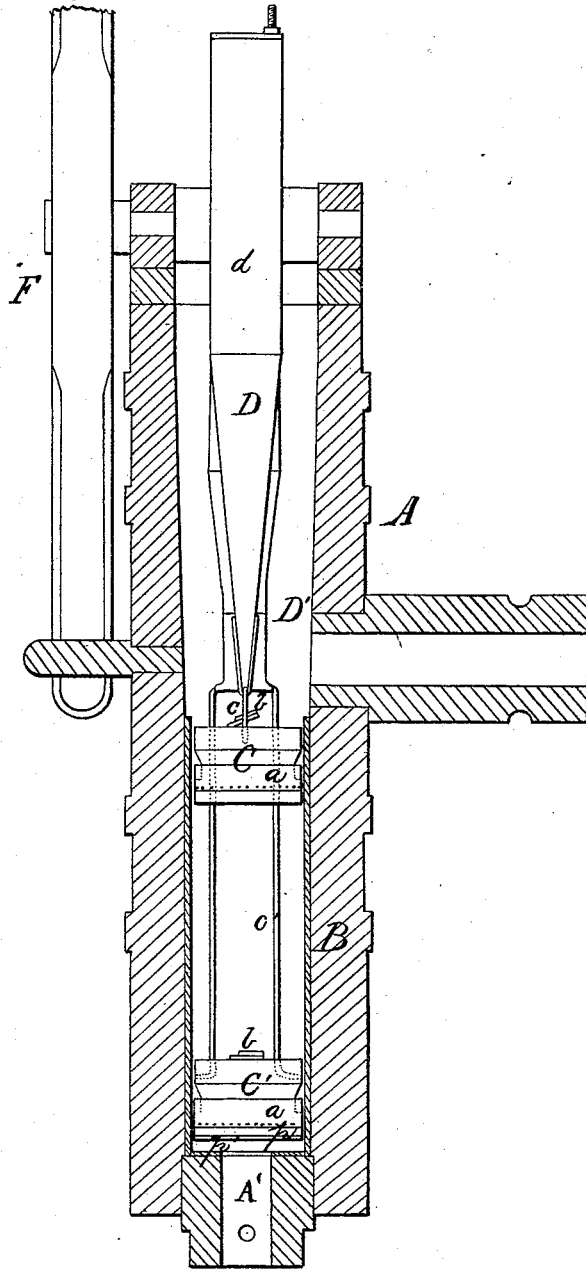


M. COOK.  
Pump.

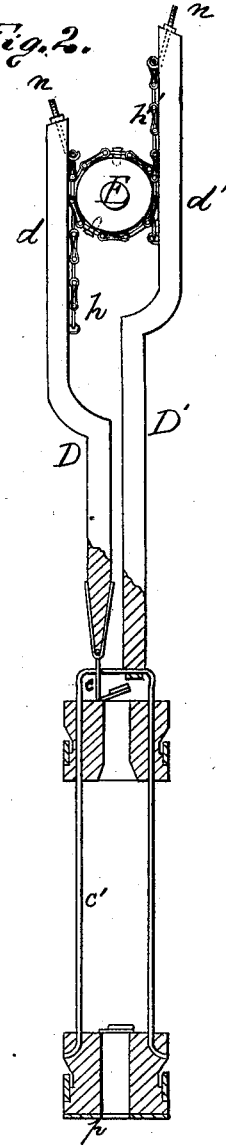
No. 162,532.

Patented April 27, 1875.

*Fig. 1.*



*Fig. 2.*



WITNESSES  
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ATTORNEYS

# UNITED STATES PATENT OFFICE.

MICHAEL COOK, OF WEST LEROY, MICHIGAN.

## IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **162,532**, dated April 27, 1875; application filed November 28, 1874.

*To all whom it may concern:*

Be it known that I, MICHAEL COOK, of West Leroy, in the county of Calhoun and State of Michigan, have invented a new and valuable Improvement in Pumps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a vertical central section of my pump, and Fig. 2 is a sectional detail view of the same.

This invention has relation to lifting-pumps; and it consists in a novel mode of packing the lower piston on the bottom of the penstock, for the purpose of retaining a priming in the pump, as will be hereinafter explained.

In the annexed drawings, A designates the body of the pump, and B a lining, which may be made of glass or other vitreous material, and which is designed for allowing the pistons to work smoothly and with very little friction. C C' designate the pistons or buckets, which are surrounded with leather packing *a*, and provided with valves *b*, both of which open upward. D D' designate two piston-rods, one of which is pivoted at its lower end to a bail, *c*, which is rigidly secured to the upper piston C, and the other rod, D', is pivoted at its lower end to a long bail, *c'*, which passes loosely through the piston C, and is rigidly secured to the piston C'. The upper portions *d d'* of the piston-rods are bent, so that they leave a space between them sufficient to receive a horizontal drum, E, which is free to oscillate in bearings on top of the pump, and which carries handles F on one end. The piston-rods are connected to the drum E by means

of two chains, *h h'*. These chains are flat, and the one which is lettered *h* is secured at the middle of its length to the drum E, and its ends are fixed to the inner sides of the two piston-rods below the drum. The other chain *h'* passes beneath the drum E, and its ends are attached to hooks on the ends of bolts *n n*, which are applied to the upper ends of the piston-rods, and made adjustable by means of nuts, for the purpose of keeping both chains properly tight.

It will be seen from the above description that by giving oscillating motion to the drum E, it will communicate up-and-down movements to the pistons C C', that when one piston is descending the other will be rising, and that a constant stream of water will be discharged from the pump.

When the pumping is ceased, it is desired to retain water above the lower piston C', to act as a priming when the pump is started again. To the accomplishment of this end I secure on the lower end of the piston C' a leather packing, *p*, and on the plug A' at the bottom of the pump I secure a similar packing, *p'*. When the piston C' is depressed, as shown in Fig. 1, the two packings *p p'* will be brought snugly in contact with each other, and leaking will be prevented.

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

The packings *p p'*, arranged as and for the purposes described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MICHAEL COOK.

Witnesses:

WARREN M. GOULD,  
HOWARD COOK.