

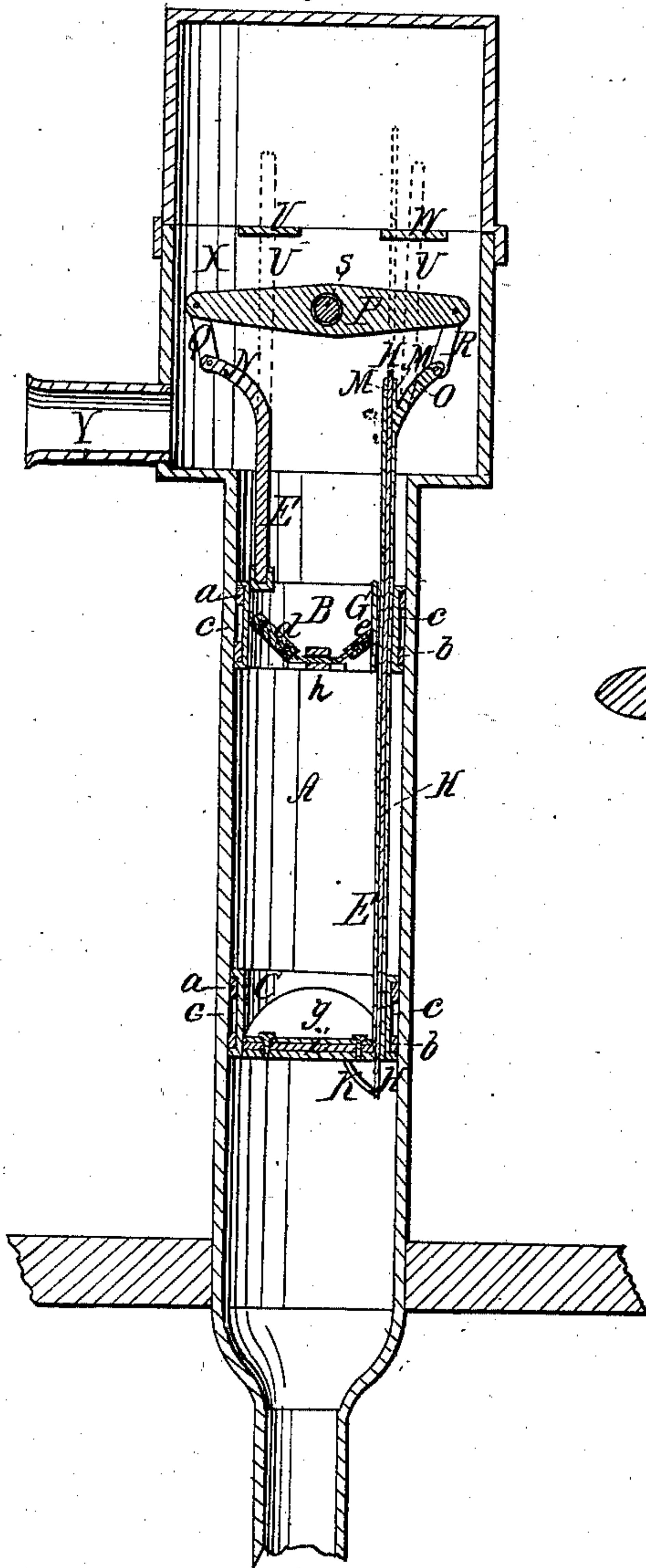
*J. F. Flanders,*

*Pump Lift,*

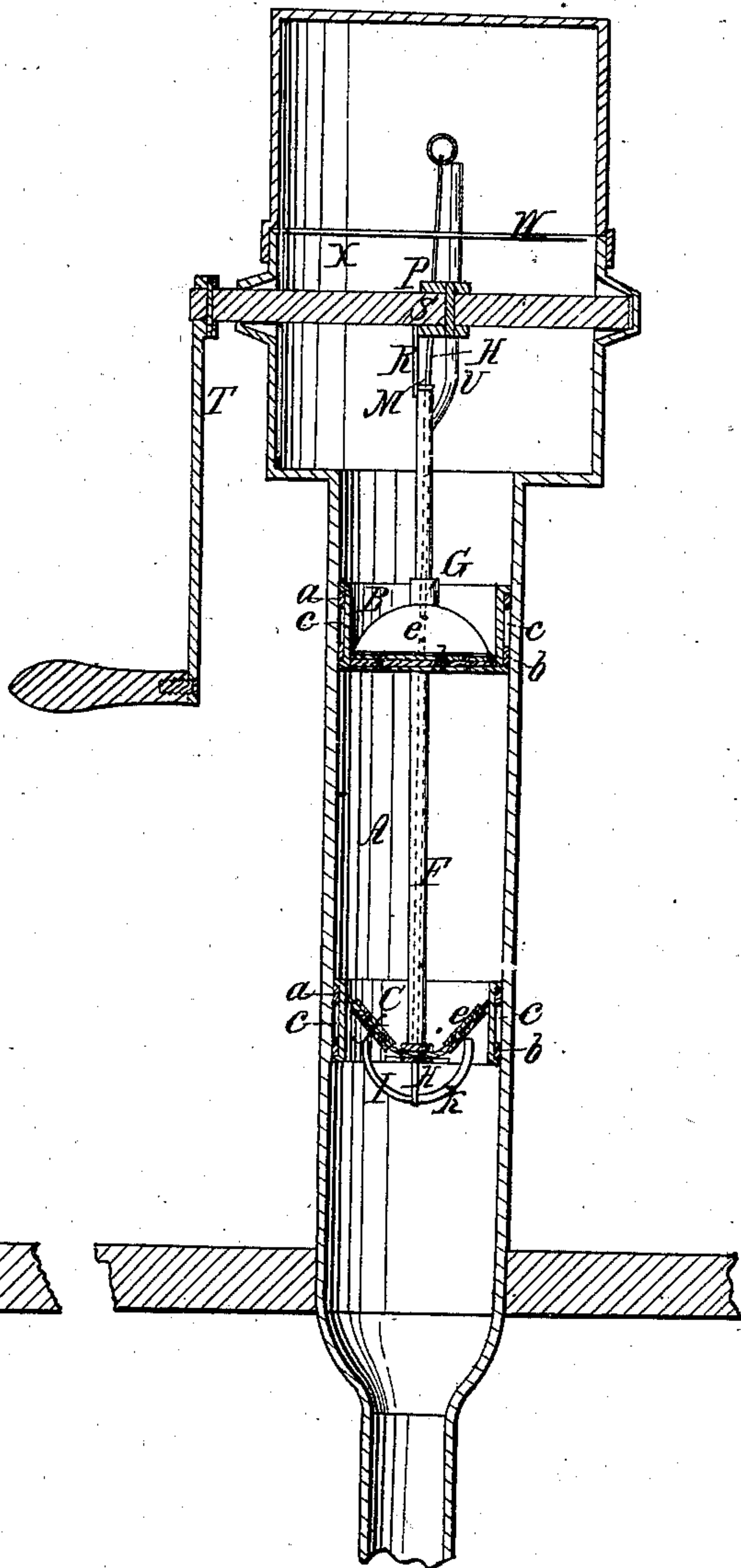
*Nº 8,239.*

*Patented July 22, 1851.*

*Fig. 1*



*Fig. 2*





# UNITED STATES PATENT OFFICE.

J. F. FLANDERS, OF NEWBURYPORT, MASSACHUSETTS.

PUMP FOR RAISING WATER, &c.

Specification of Letters Patent No. 8,239, dated July 22, 1851.

*To all whom it may concern:*

Be it known that I, JOSEPH F. FLANDERS, of Newburyport, in the county of Essex and State of Massachusetts, have invented a  
5 new and useful Improvement in Pumps for Elevating Water; and I do hereby declare that the same is fully described and represented in the following specification and accompanying drawings, letters, figures, and  
10 references thereof.

Of the said drawings, Figure 1, represents a vertical and central section of our improved pump, taken through the nose or discharging orifice thereof. Fig. 2, is a  
15 similar section, taken at right angles to the first.

In the said drawings, A represents the pump barrel, in which are placed two hollow cylinders B, C, and which by rings of  
20 packing *a, b*, are made to closely fit within the interior of the barrel. Between each two rings *a, b*, there is a space *c*, extending entirely around the outer surface of the cylinder, and for the purpose of holding tallow  
25 or other suitable unctuous material, which bearing against the inner surface of the pump barrel may serve to cause the boxes B C, to work water tight. Each of said  
30 boxes B C, is provided with two butterfly valves *d, e*, or *f, g*, which are respectively hinged to a cross bar *h, i*, which extends diametrically across the lower part of the box.

Instead of the butterfly valves when  
35 closed down being made to rest on a ledge or flanch in the usual way, they are inclined a little, and made on their external edges to rest against the vertical inside surface of the box to which they belong. Each valve  
40 is fastened to a long rod E, or F. The rod E, to which the lower box is attached, works freely through a pipe G, attached to the internal surface of the upper box, and such  
45 rod is made hollow or tubular so as to receive another rod H, which extends downward entirely through it, and has two arms I, K, extended upward from its lower end, and respectively and directly under the two  
50 lower valves of the lower box. A collar M, is fixed upon the rod H, and made to rest upon the top of the rod or stem of the lower valve, and to be fitted air tight thereupon. Each of the valve rods, has an arm N, or O,  
55 extended from it, which arm is connected to a vibrating lever P, by a connecting rod or link or links Q, or R, the same being jointed

together in such manner as to create a reciprocating vertical motion of the boxes, when the lever beam is vibrated. The said lever beam is fixed upon a horizontal shaft S, 60 which has a crank T, fixed to it, for the purpose of enabling a person to put it in motion. In order to sustain or guide the upper end of each valve rod, a rod U, is extended upward from it, and made to slide 65 through a bar V, or W, extended across the upper part of the head part X, of the barrel of the pump, or that part from which the nose Y, extends.

In the operation of the pump, the two 70 boxes are made to alternately approach to, and recede from one another. This will cause a constant stream of water to flow out of the nose. By laying hold of, and lifting the rod H, at any time, we can elevate the 75 arms on its lower end against the valves of the lower box, so as to raise said valves and allow what water may be above them, or between them and the valves of the upper box to escape or flow downward through 80 the pump, and back into the source from which the water was taken. At the same time air will pass down between the rods F, and H, (in consequence of the shoulder or collar M, being elevated above its seat on 85 the top of the rod E,) and into that part of the pump which is below the lower box, and will cause all the water which may be in that part of the pump which is below the lower box, to descend into the well or 90 source from which the water is derived.

I would remark that by so making the arms, which extend upward from the lower end of the rod H, that when the collar rests upon its seat, there shall be a short distance 95 between the tops of said arms, and the lower surfaces of the lower valve. I am enabled to raise the rod H, a little, and so as to lift its collar from its seat or top of the rod F, without at the same time raising 100 the lower valves. Thus I can at any time allow air to pass down into that part of the pump which is below the lower valve, and free such part from water while I retain in the pump, such water as may rest 105 on the lower valves, or between the upper and lower boxes.

The advantages of such improvement will be readily appreciated in winter, as by means of it I am enabled to free the pump 110 from water, in order to prevent freezing of the same.



What I claim as my invention or improvement is as follows:

I claim the rod H, and its arms or other equivalent contrivances, and its valve collar,  
5 as applied to or combined with the rod E, of the lower box, and the valve or valves made to operate therewith substantially as above set forth.

In testimony whereof I have hereto set my signature this second day of May, A. D. 1851.

JOSEPH F. FLANDERS.

Witnesses:

R. H. EDDY,

FRANCIS BRINLEY.