

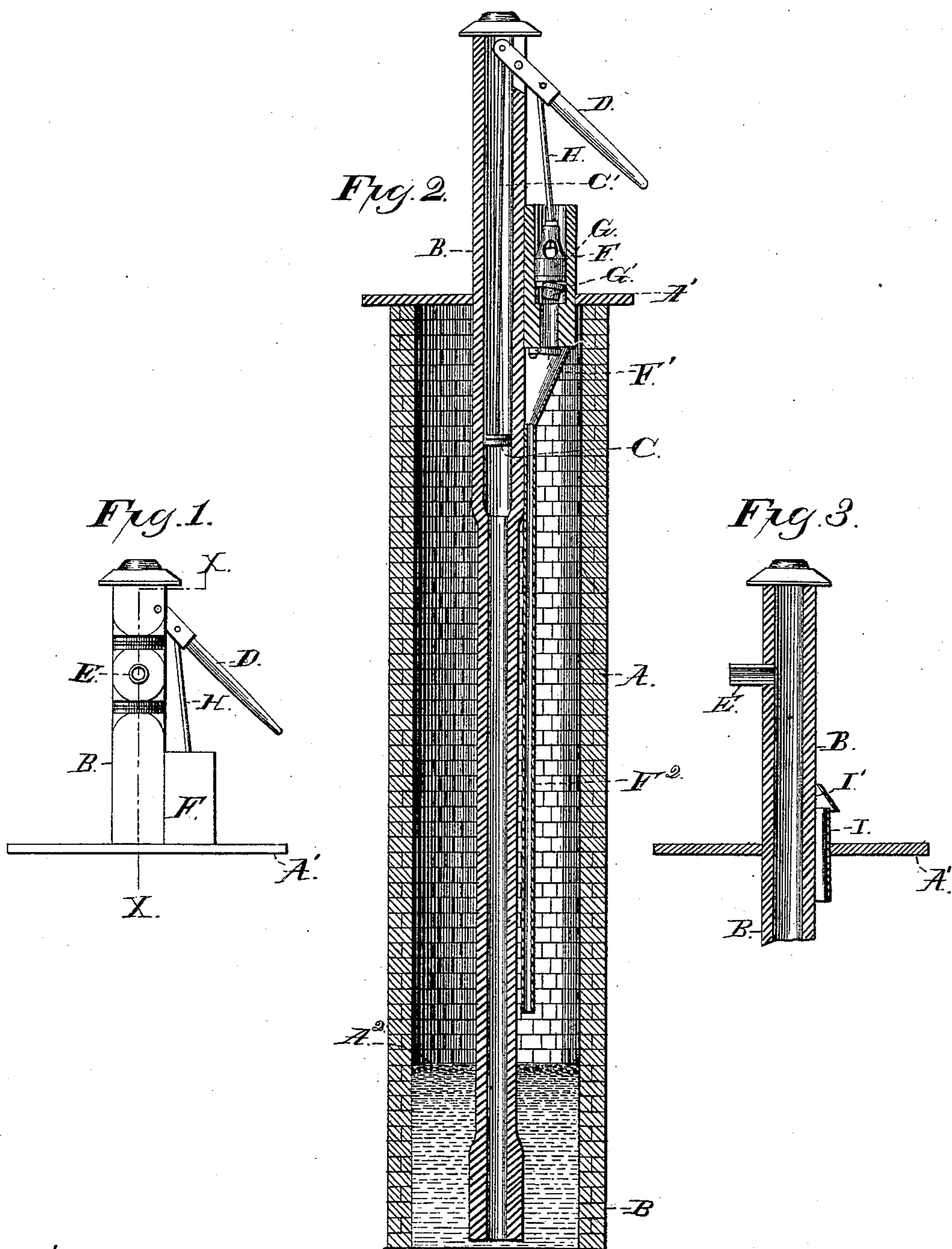
(No Model.)

E. A. MILLER.

PUMP.

No. 300,623.

Patented June 17, 1884.



WITNESSES

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# UNITED STATES PATENT OFFICE.

ELI A. MILLER, OF CONNEAUT, OHIO.

## PUMP.

SPECIFICATION forming part of Letters Patent No. 300,623, dated June 17, 1884.

Application filed December 20, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ELI A. MILLER, a citizen of the United States, residing at Conneaut, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Pumps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

My invention relates to improvements in pumps, and has for its object to provide devices whereby pure air is supplied to the well simultaneous with the operation of the pump, as will be hereinafter more fully described and claimed.

In the drawings, Figure 1 is a front view of my pump. Fig. 2 is a vertical section of the pump and well. Fig. 3 is a vertical section of the pump on about line *x x*, Fig. 1.

The well A is provided with a cover, A', and its water-line is represented at A<sup>2</sup>, Fig. 2. The pump-stock B extends through the cover, and its lower end is arranged below the water-line of the well. This stock is provided with a sucker, C, having rod C', the upper end of which is connected with the inner end of the handle D. This handle is pivoted in the pump-stock, as is usual, and serves to operate the sucker, and thereby raise the water. The stock is provided with a suitable spout, E. An air-cylinder, F, is arranged alongside the stock B, with its lower end below and its upper end above the cover A'. At the lower end of the cylinder I arrange a valve, F', as clearly shown in Fig. 2. A pipe, F<sup>2</sup>, is secured on the lower end of the cylinder, and depends therefrom into the well, with its lower end terminating a short distance above the water-line. The piston G is arranged and operated within the cylinder. A suitable valve, G', is arranged in the piston, so as to permit air to pass through the latter in its upper stroke into the cylinder F. The connecting-rod H has one end secured to the top of the piston, and its other or upper end connected with the handle D. The escape-

pipe I is arranged on the rear side of the stock B, and extends above and below the cover A'. Both ends of this pipe are open, the upper end being preferably provided with a hood, I', so as to prevent dirt, &c., from getting into the well.

The operation of my invention is simple and readily understood. As the pump-handle is operated air is forced by piston G through cylinder F and pipe F<sup>2</sup> into the well. This pipe F<sup>2</sup> terminates close above the water-line, and does not extend into the water, so that the fresh air circulates freely above the water and passes out through pipe I. This circulation of fresh air and expulsion of the foul air in the well takes place simultaneous with the operation of pumping, and therefore cannot be overlooked or neglected when the pump is used.

Pumps, when in use at all, are usually worked at short intervals through the day, so that foul air will not have time to accumulate during the day, and it is the practice in the morning ordinarily to pump out considerable water before drawing any for use. This would also free the well of the foul air, and consequently the water used would be always free from bad or foul air, which obviously is desirable.

It is obvious that the form of the air-cylinder may be modified; also, that where so desired a bellows or other suitable air-purifying device could be substituted therefor and connected with the pump-handle, so its operation would be simultaneous with the act of pumping, though I prefer the devices shown and before described.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a pump substantially as described and shown, of the stock, the sucker arranged therein, the sucker-rod, the handle, the air-cylinder arranged alongside the pump-stock, and provided with a tube extended into the well, a piston arranged in the air-cylinder, a rod connecting the piston and the pump-handle, and the escape-pipe, arranged substantially as described, with its lower end opening into the well and its up-

per end extended above the well-cover, as and for the purposes specified.

5 2. The combination, substantially as described, of a pump-stock, an air-cylinder having a discharge into the well, a piston arranged in said air-chamber, and means connecting the pump-operating devices and the said piston, as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

ELI A. MILLER.

Witnesses:

N. KOLZ,  
J. A. MARSH.