D. E. BANGS.

PRESSURE ATTACHMENTS FOR AIR-PUMPS.

No. 184,456. Patented Nov. 21, 1876.

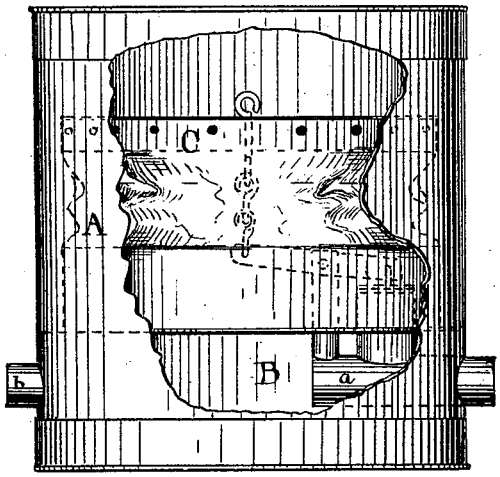

Fig. 1.

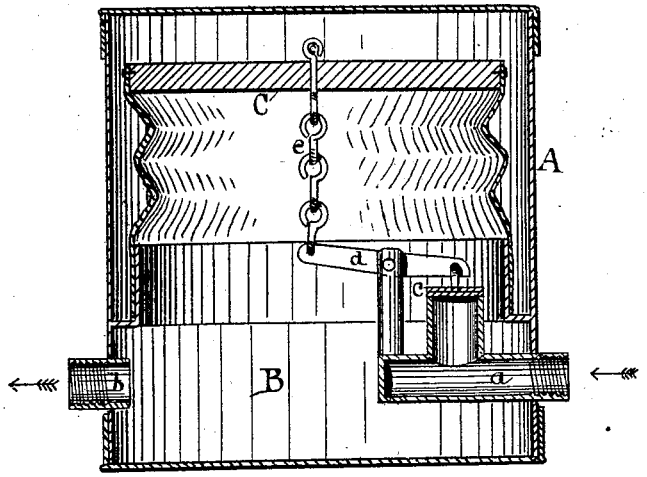

Fig. 2

WITNESSES

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DAVID E. BANGS, OF MEDFORD, MASSACHUSETTS.

IMPROVEMENT IN PRESSURE ATTACHMENTS FOR AIR-PUMPS.

Specification forming part of Letters Patent No. **184,456**, dated November 21, 1876; application filed July 12, 1876.

To all whom it may concern:

Be it known that I, DAVID E. BANGS, of Medford, county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in a Regulating Attachment for Air-Pumps, of which the following is a specification:

This invention relates to certain improvements in a regulating attachment for air-pumps, whereby a more even flow of air may be obtained, and is especially designed to prevent any jar or sudden change that might arise from the uneven working of the pump. It consists of a valve working within an expansion-cylinder, and attached to the outlet-pipe of the pump, and so arranged as to be operated by the action of the air itself, closing when a certain pressure has been reached, and opening when the pressure is reduced, thus working automatically to keep an even pressure in the pipe.

In the drawing, Figure 1 is an elevation of my invention, with the outlet-case broken away, to show the expansion-cylinder within. Fig. 2 is a vertical section of the same.

A is the outer case; B, the expansion-chamber; C, the diaphragm. *a* is the inlet-pipe; *b*, the outlet-pipe; *c*, the valve attached to the lever *d*. *e* is the chain connecting the lever with the movable diaphragm C.

The operation of my invention is thus described: Air coming from the pump enters the expansion-chamber B through the valve *c*, and having filled the outlet-pipe *b*, any further pressure will cause the movable diaphragm C to rise, when, through the medium of the chain *e* and lever *d*, the valve *c* will be closed, thus preventing any further admission of air until the pressure is reduced sufficient to allow the diaphragm to fall.

In the drawing the diaphragm is shown in its highest position, with the valve closed. The diaphragm may be weighted to give any pressure required.

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

The cylinder A, inlet-pipe *a*, outlet-pipe *b*, valve *c*, with lever *d*, and chain *e*, operating in combination with the movable diaphragm C, in the manner and for the purpose specified.

DAVID E. BANGS.

Witnesses:
WM. F. GRUBB,
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