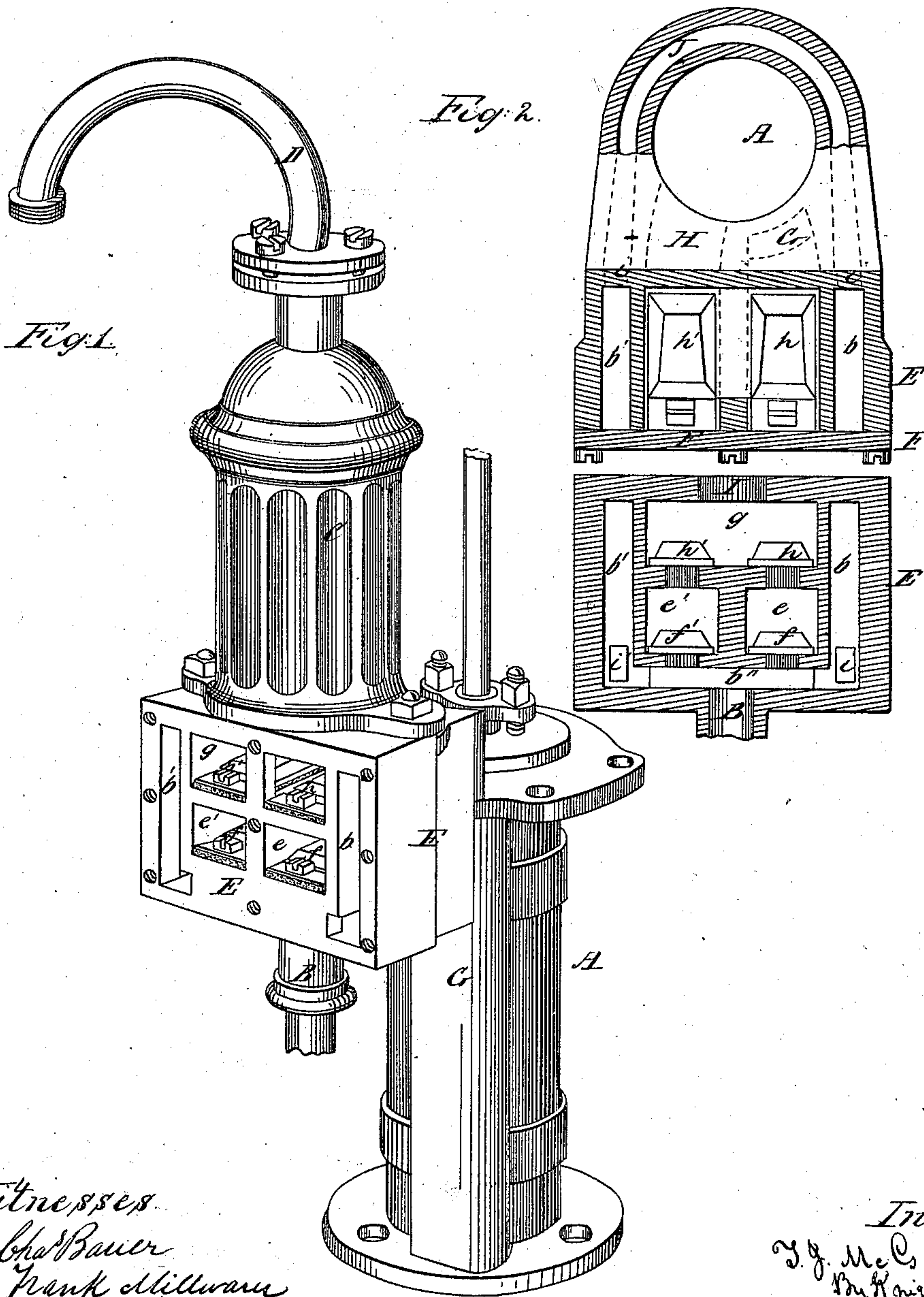


*T. J. McGowan,
Pump Air Chamber.*

N^o 8,806.

Patented, Sep. 1, 1868.



*Witnesses
Chas. Bauer
Frank Millman*

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By Knight Bros. Atty*

United States Patent Office.

THEODORE J. MCGOWAN, OF CINCINNATI, OHIO.

Letters Patent No. 81,806, dated September 1, 1868.

IMPROVEMENT IN PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THEODORE J. MCGOWAN, of Cincinnati, Hamilton county, State of Ohio, have invented a certain new and useful Improvement in Pumps; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My present improvement relates primarily to the pump for which Letters Patent were granted to me on the 26th day of May, 1863, and consists in a novel and superior arrangement of the chambers or pockets, (commonly called "vacuum-chambers,") employed to contain a body of air to regulate the flow of the water.

In the accompanying drawings—

Figure 1 is a perspective view of a double-acting pump embodying my invention.

Figure 2 exhibits the side "vacuum"-chambers in connection with a "vacuum"-jacket on the barrel of the pump,

Figure 2 being a sectional view of the same.

A is the barrel of the pump, B the suction-pipe, C the discharge-air vessel, and D the discharge-pipe. The valve-chest consists preferably of a single casting, E, which connects to the pump-barrel, as shown, and contains the chambers *e e'* for the suction-valves *f f'*, and the chamber *g*, for the discharge-valves *h h'*. The chest E also has formed within or on it, what constitutes my invention, viz, the "vacuum"-pockets or chambers *b b'*, adapted to contain rarefied air, with which to cushion the suction-water in its irregular action.

A single plate, F, closes all the chambers of the chest E in front, and makes the joints complete. The suction-chamber *e* connects with the bottom end of the pump, through a side pipe, G, and the chamber *e'* connects with the upper end through the direct channel H, fig. 2. The discharge-chamber *g* connects through aperture I with the air-vessel C.

Where a jacket, J, around the barrel A is used, the pockets *b b'* communicate with the same through apertures *i i'*.

Suction-pipe B communicates with its valves and with vacuum-pockets *b b'* by the single passage *b''*.

It will be seen that the chambers *b b'*, being cast with or otherwise formed upon the valve-chest, as in my present improvement, the cap may be much lighter and more manageable than where cast in one piece with the chambers or pockets, as in my patent of 26th May, 1863.

I claim as new, and of my invention herein—

The "vacuum"-chambers *b b'*, when cast or otherwise formed upon the valve-chest, substantially as herein described for the purpose specified.

In testimony of which invention I hereunto set hand.

THEODORE J. MCGOWAN.

Witnesses:

W. B. DEMING,

JAMES H. LAYMAN.