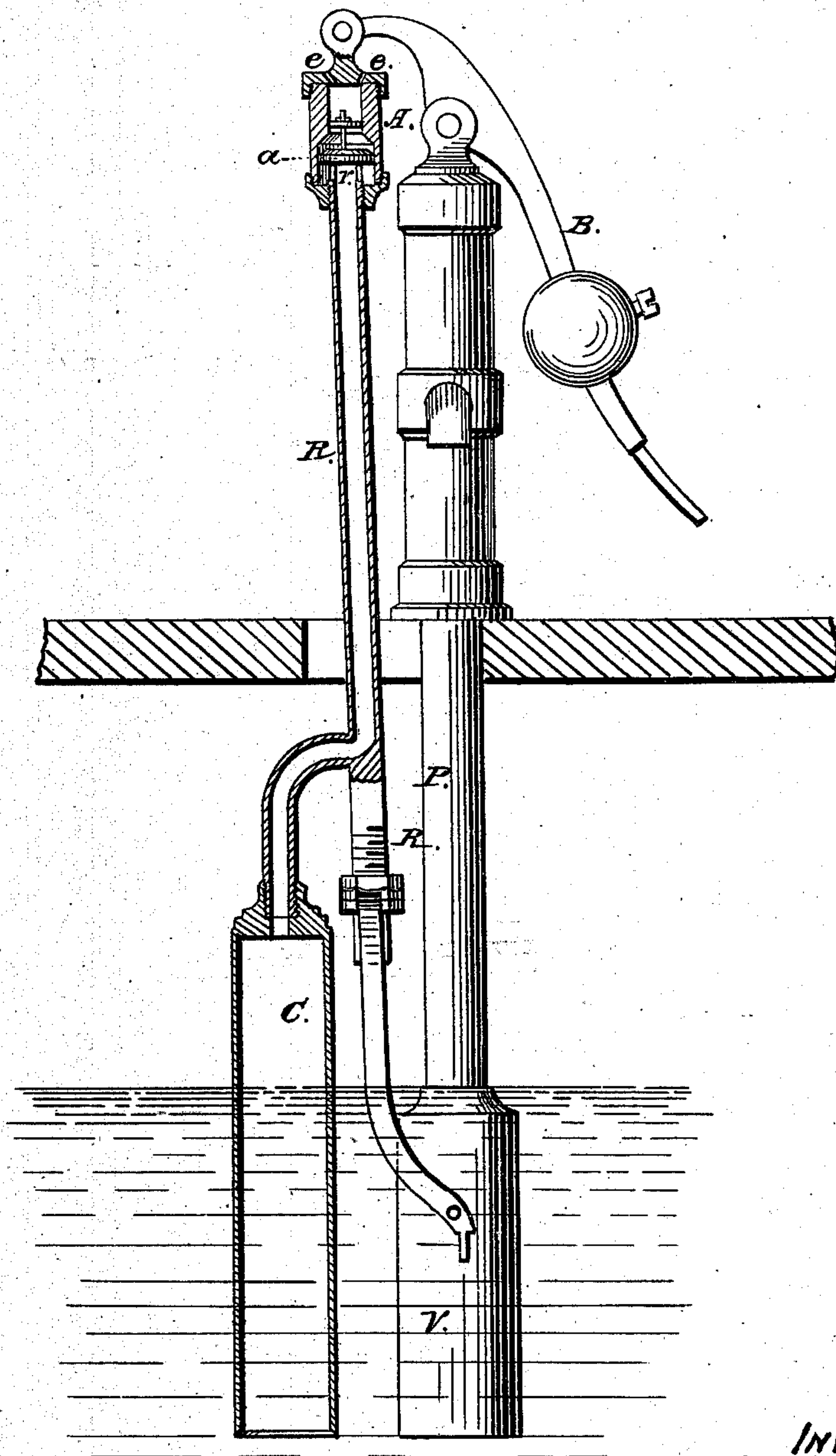


C. L. MERRILL.

Pump.

No. 97,670.

Patented Dec. 7, 1869.



WITNESSES:  
C. A. Pettit  
A. M. Parker

INVENTOR:  
C. L. Merrill  
per Heyn & Co.,  
Attorneys



# United States Patent Office.

CHARLES L. MERRILL, OF WATERTOWN, NEW YORK.

*Letters Patent No. 97,670, dated December 7, 1869.*

## 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, CHARLES L. MERRILL, of Watertown, in the county of Jefferson, and State of New York, have invented a new and improved Pump; 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 accompanying drawings, making a part of this specification, in which—

My invention is represented by a vertical section.

The object of this invention is to provide, for public use, a simple and cheap attachment for pumps, for the purpose of forcing fresh atmospheric air to the bottom of the well during the process of pumping, and thereby to cleanse and purify the water.

In the drawings—

P represents the pump;

B, the pump-brake;

A, a valve-chamber, attached to and supported by the short arm of the pump-lever or brake;

R, a bent hollow rod, extending up into the valve-chamber A, and down into the well near the surface of the water, where it is attached to and supports an open cylinder, C, partly submerged;

R', a solid arm or branch of rod R, supporting and operating the pump-valve Y or valve-box;

r r, slots, notches, or holes in the walls of rod R, inside of the valve-chamber;

a, a valve, seating upward against the annular shoulder m in chamber A, and, when it opens, dropping upon the top of rod R, above the slots or gains r r; and

e e, air-passages into the top of chamber A, always open.

The operation of this pump-attachment is simple, convenient, and effective.

By working the pump-brake in pumping, the parts A R C are forced up and down together. Whenever they are lifted, a partial vacuum is formed in cylinder C and rod R, and the pressure of the atmosphere will open valve a, when the air will rush in around it, and supply the vacuum. On the downward movement of the parts A R C, the water at the lower end of cylinder C, into which the latter is sinking, will force the air upward through rod R, and tend to discharge it from passages e e, but its upward force will at once close valve a, and cut off that avenue of escape. The parts C R are then carried downward still further, when the water of the well, rushing into cylinder C at the bottom, displaces a large quantity of the air therein, which, rising to the surface, cleanses, oxygenates, and gives "life" to the water, making it much more palatable and wholesome than when not thus aerated.

Having thus described my invention,

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

In connection with a pump, P, the employment of an air-pump, C R A a, to force atmospheric air into the water of the well, said air-pump being worked by the ordinary pump-brake B, substantially as and for the purposes herein described.

CHAS. L. MERRILL.

Witnesses:

C. A. PETTIT,  
A. M. TANNER.