

J. W. Lane

Pump Lift,

N^o 33,765,

Patented Nov. 19, 1861.

Fig. 1.

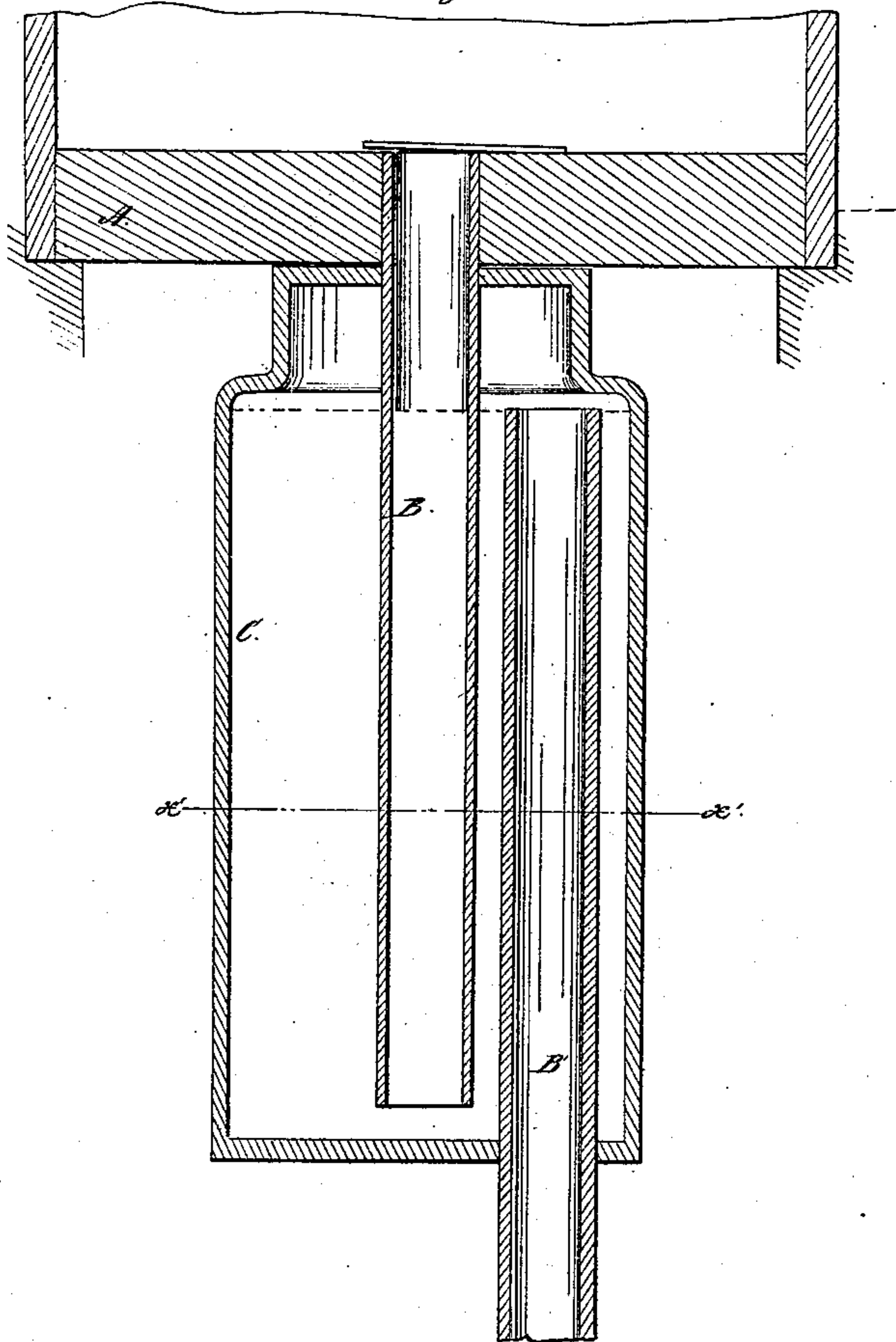
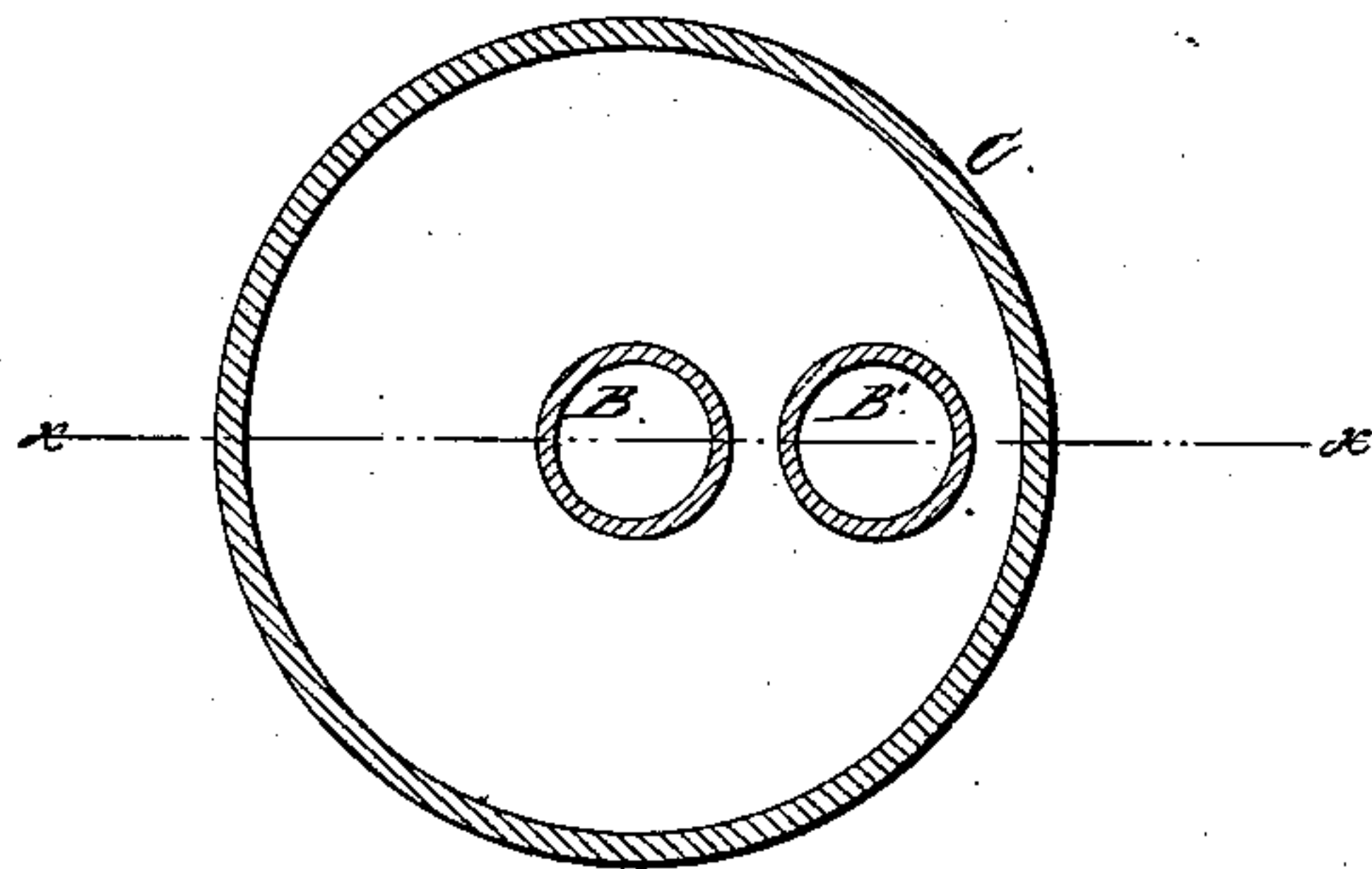


Fig. 2.



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IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 33,765, dated November 19, 1861.

To all whom it may concern:

Be it known that I, JOHN W. LANE, of Newton, in the county of Sussex and State of New Jersey, have invented a new and useful Attachment for Hydraulic Lift-Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of my invention, taken in the line xx , Fig. 2; Fig. 2, a horizontal section of the same, taken in the line $x'x'$, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

The pistons of atmospheric pumps frequently become dry, especially if used only at intervals, and as only quite an imperfect vacuum can be formed when the piston is dry considerable time is consumed in pumping before the water is raised and the pump rendered capable of operating perfectly. In many cases it is necessary to pour water into the pump in order that the packing of the piston may swell tight before water can be raised.

The object of the herein-described invention is to obviate this difficulty, and to this end I attach a water chamber or reservoir to the induction-pipe of the pump near its junction with the pump-cylinder, said chamber being sufficiently large and in such close proximity to the pump as to supply or fill the latter when the piston is operated and insure the perfect action of the piston almost immediately, even if its packing be quite dry.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents the lower part of the cylinder of a pump, and B is the induction-pipe, or rather the short portion of it, which is secured to the bottom of the cylinder A.

C is a water chamber or reservoir, which may be of any desirable dimensions, and into which the induction-pipe B passes, said pipe extending down nearly to the bottom of C.

B' is the longer portion of the induction-

pipe, and extends upward within the chamber or reservoir C nearly to its top, and extends down nearly to the bottom of the well or reservoir from which the water is to be pumped.

The water chamber or reservoir C should be of such dimensions as to hold nearly, if not quite, as much water as the portion of the cylinder A beneath its piston when the latter is raised. The water chamber or reservoir may be of cast metal.

From the above description it will be seen that in using the pump the chamber or reservoir C will be filled with water, the surface of which being in line with the top of the pipe B', and at the commencement of pumping the pump-cylinder A will almost immediately become charged with water, even if the packing of the piston be dry, owing to the close proximity of the chamber or reservoir C to the pump. Hence it will be seen that the loss of time and trouble attending the raising or pumping of water with the usual atmospheric pump when the packing of the piston is dry is avoided, as there is a reservoir near the piston of sufficient capacity to fill the lower part of the pump-cylinder beneath its piston and moisten the packing thereof without relying upon the raising of the water from the well or reservoir and without the necessity of pouring water into the top of the pump to moisten the packing and cause it to work air-tight in the cylinder.

This invention, it will be seen, may be applied at a small cost—a mere trifle compared with the advantage it possesses.

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

The water chamber or reservoir C, in combination with the induction-pipe formed of two parts B and B', so arranged and applied to the pump to operate as and for the purpose herein set forth.

JOHN W. LANE.

Witnesses:

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