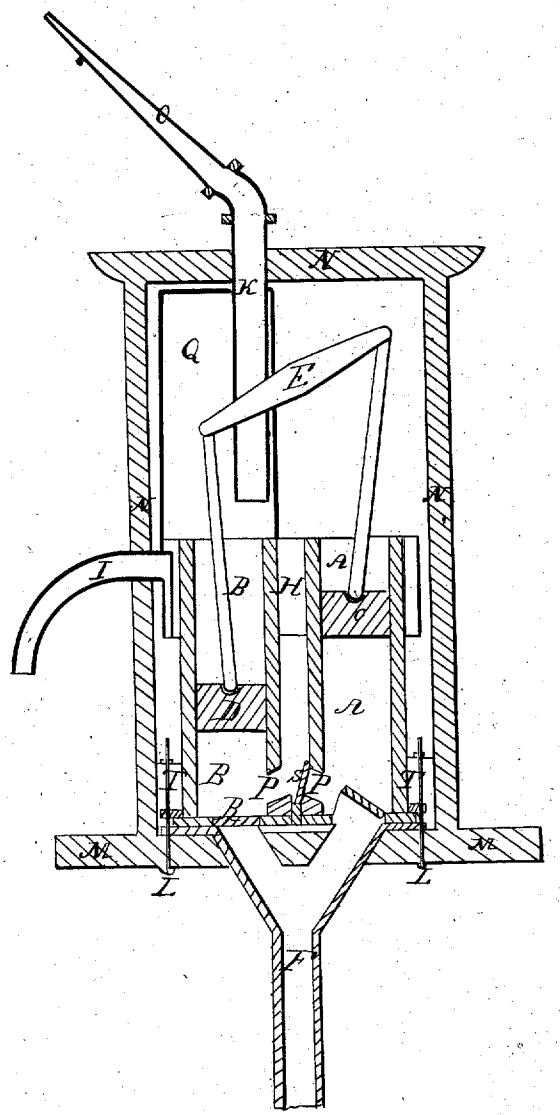
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N. Chapin.

Double-Acting Pump.

Patented Mar. 30, 1836



N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

Mar. 30. 1836

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Nathan Chapin, of Pompey State of New York.

Letters Patent.

The Schedule referred to in these Letters Patent and making part of the same, containing a description in the words of the said Nathan Chapin himself of his improvement in the forcing pump.

To all to whom these presents shall come

Be it known that I Nathan Chapin of Pompey in the County of Onondaga State of New York, have invented an new and useful improvement in the manufacturing and use of forcing pumps, for drawing water for the purpose of a fire engine and for domestic use; and that the following is a full and exact description of the construction and operation of the said machine or improvement, reference being had to the figure upon which the same is delineated, and to the letters of reference marked thereon, this specification containing a description of the improvement of the double forcing pump designed for the purpose of a fire engine and for domestic use, and in that particularly to set forth the figure representing the barrel A. and B. with the pistons C and D. in them, which are moved by the lever E directly above where it is connected at E. and they are both in motion at the same time C upwardly and D downwardly, and by the tendency to form a vacuum beneath the ascending piston the valve i draws in through the suction pipe F. and opens the valve R, to supply the vacancy in the barrel A. formed by the ascension of the piston C, By the simple motion of the pump it may be seen that the descent of the descending piston D, has closed the valve R. in the bottom of the barrel B. to prevent the return of the water which is drawn and opened the valve S. which is in an aperture in the form of a V. between the barrels descending to close each of their discharging orifices L. L. one

at a time, it being necessary to close upon one at the instant it rises from the other to prevent a current between the barrels and prevent the descending water escaping through the communication pipe Q into the receiver H which surrounds the tops of both barrels. It serves to regulate the current of water by the accumulation and escape of air through the spring pipe K or it is discharged through the syphon I. This irregularity would be prevented by discharging the barrels at a time. Q. Describing an air vessel which is connected with the receiver H, and air only admitted when the syphon I is employed for the purpose of drawing water through the pipe K, into the receiver round it by the alternation of the directions pipe C for the fire engine and. This acts upon the water when passing through the pipe K and keeps it in regular and uniform motion. The shaking or fretting upon the brass M by means of the lever L, L, passing through an aperture I. I. which leaves only the bottom of the barrel which rests upon a flange at the division of the barrels from their base etc. etc. etc. represents the case which includes the machinery and is fastened to the base by screws.

The easy and precise manner of working it is believed is sufficiently explained in the foregoing description and it may be applied to double barrels for drawing water from a well or bottom, or liquid from any vessel, and by altering slightly the syphon I may answer to draw water into the upper room or any figure by means of the direction pipe O. It is thought sufficiently simple and so constructed that any person of ordinary understanding may take it apart and put it together or remove obstructions if happened without applying to a professed mechanick.

The construction and improvement on the above forcing pump was the subject which obtained a claim consisting in the introduction of the valve B, which has a double elevation in forming & stop the orifice P P, one at the top and the other the bottom D, in the barrel B in descending, it

stop the orifice P in the barrel A. and vice versa, in the pump as constructed the two valves are required to stop the orifice P. In fitting the valve R. R, without wasting, leaving a part of the leather in the division, and in fitting the pump together with bolts and fastening it down with an Iron collar so that any one may take it apart and put it together again with ease as the old pump it was all fastened together so that it required a maker of pumps to take it apart, repair it and put it together again. 3. In surrounding the tops of the barrels A. B with the reservoir H. In the old pump as was the reservoir was placed between the bottoms of the barrels and always left water stand so that it was never dry, but always wet & uncomfortable. By this improvement the reservoir is always emptied when the requisite quantity of water has been drawn off. In constructing the case of N. so that it may be taken off, whole by any one for the purpose of repairing or cleaning the pump machinery. 5. The suction pipe F having divided like a V. so as to supply through a different orifice each barrel and thus suppressing from the old pump which had but one orifice to supply both barrels b. In adding the crossing pipe G which comes to a point at the base. In the former pump the two barrels were placed some distance apart and had no pipe like G. This is so constructed as to join and both barrels, and may be cast at the same time. 6. The improvement in adapting an old principle to a new purpose. The principle of the forcing pipe K, and direction pipe Q, acting as an engine apart by means of the machinery of a forcing pump, is not claimed to be an invention but an improvement in applying that principle to a pump for domestic purposes which it is believed has never before been done, and also in adding to the pump the air vessel Q. which regulates the stream or jet of water and makes it while the operation is performed steady and constant. The double forcing pumps in common use have neither the pipes K.

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or O. nor the air vessel C. but is simply as to the purpose of drawing water through a syphon like I. The Engine pump may be made on a small scale and from the nature of its construction of the most durable materials and will occupy a very small place in a kitchen

In testimony that the within is a true specification of my said improvement as within described I have hereunto set my hand the forth day of March in the year of our Lord One thousand eight hundred and thirty six

Witnesses

Henry A Minor

John L. Lewis Junr.

Nathan Chapin

(Drawing in Portfolio)

[1320 words