J. Farnam,

Force Pump,

No. 2,387. Patented Dec. 14, 1841.

Fig. 1.

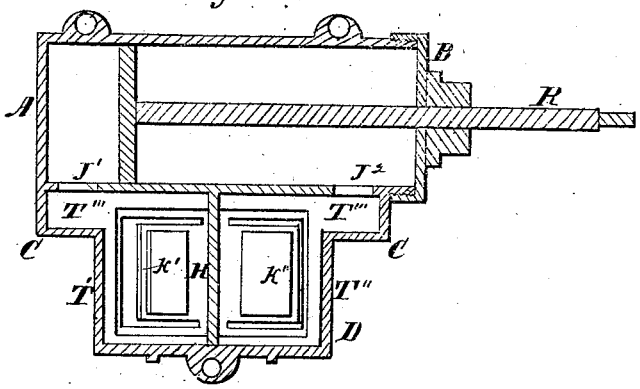
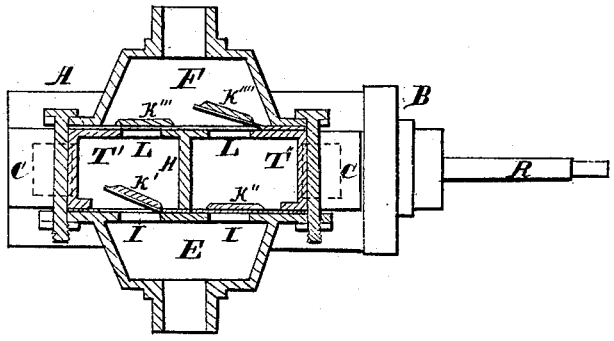


Fig. 2.



UNITED STATES PATENT OFFICE.

JOEL FARNAM, OF STILLWATER, NEW YORK.

PUMP.

Specification of Letters Patent No. 2,387, dated December 14, 1841.

To all whom it may concern:

Be it known that I, JOEL FARNAM, of Stillwater, in the county of Saratoga and State of New York, have invented a new and useful Improvement in the Construction of Pumps, Being a Horizontal Cylindrical Double-Acting Suction and Force Pump, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a horizontal section through the trunk and cylinder. Fig. 2 is a vertical longitudinal section through the upper and lower cups and enlarged part of the trunks and the valves showing the exterior of the cylinder. Fig. 3 perspective view.

Similar letters refer to corresponding parts.

The cylinder A—cup B—piston P piston rod R—lower or receiving cup E—upper or discharging cup F—valves K^1 K^2 K^3 K^4 being all molded like others in use need not therefore be particularly described. It is operated in the following manner: The piston is moved backward and forward in the cylinder A by any convenient power applied to the piston rod R; which movement of the piston in the cylinder creates a partial vacuum therein, at either end, alternately; into which the water to be raised is forced by atmospheric pressure, passing from the well or other place from whence it is to be drawn, into the receiving cup E—thence through the valves K^1 K^2 into the trunks T^1 T^2, alternately to the right and left—and thence through the apertures J^1 J^2 into the cylinder, from whence it is forced back again into the trunks T^1 T^2 by the return of the piston P, closing the valves K^1 K^2 over the lower cup and opening valves K^3 K^4 and passing into the discharging cup P, from whence it is conducted by suitable pipe or hose to any place desired—the lower valves of the receiving cup opening into the trunks and the upper valves opening upward into the discharging cup—the latter being opened or raised simultaneously with the closing of the former.

The improvement that I have made is constructing two large rectangular trunks T^1 T^2 over the receiving cup E—one over each lower valve, from each of which trunks a small lateral conducting trunk T^3 T^4 leads to the interior of the cylinder forming a communication therewith, one next the solid end of the cylinder and the other next the capped end of it—said trunks being formed in parts of the casting C, D, of the cylinder A projected therefrom, at one side, of the shape corresponding with the shape of the required trunks—the portions of the casting in which the lateral or conducting trunks T^3 T^4 are formed being projected less than the portions in which the large receiving trunks T^1 T^2 are formed—the partition dividing the trunks standing vertically over the center of the receiving cup and between the valves—the receiving cup communicating with both trunks by means of the openings I I in the lower or horizontal plate of said trunk—and the latter communicating with the upper or discharging cup by means of the openings L, L, in the upper plate of said trunks over which the upper valves K^3 K^4 are placed.

I am aware that pumps have been made and patented, with two pipes or channels placed at the side of the cylinder and extending from top to bottom, separated by a partition extending from end to end and provided with valve seats and cups at top and bottom, or at bottom alone, and therefore I wish it to be understood that I do not claim these modes of arrangement in this application. But

What I do claim as my invention and which I desire to secure by Letters Patent is—

The arrangement of the trunks, as above described—on each side of a partition, placed equi-distant between the two ends of the cylinder, each one communicating with that end of the cylinder, nearest which it is placed, and provided with cups and valves above and below the two trunks, substantially as herein set forth.

JOEL FARNAM.

Witnesses:

WM. P. ELLIOT,

EDM. MAHER.