

J. Farnam,

Double-Acting Pump,

N^o 2,345.

Patented Nov. 10, 1841.

Fig: 3.

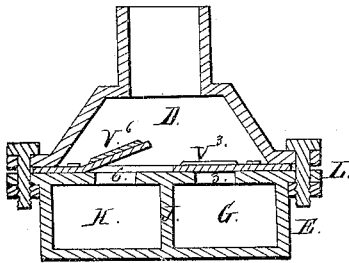


Fig: 1.

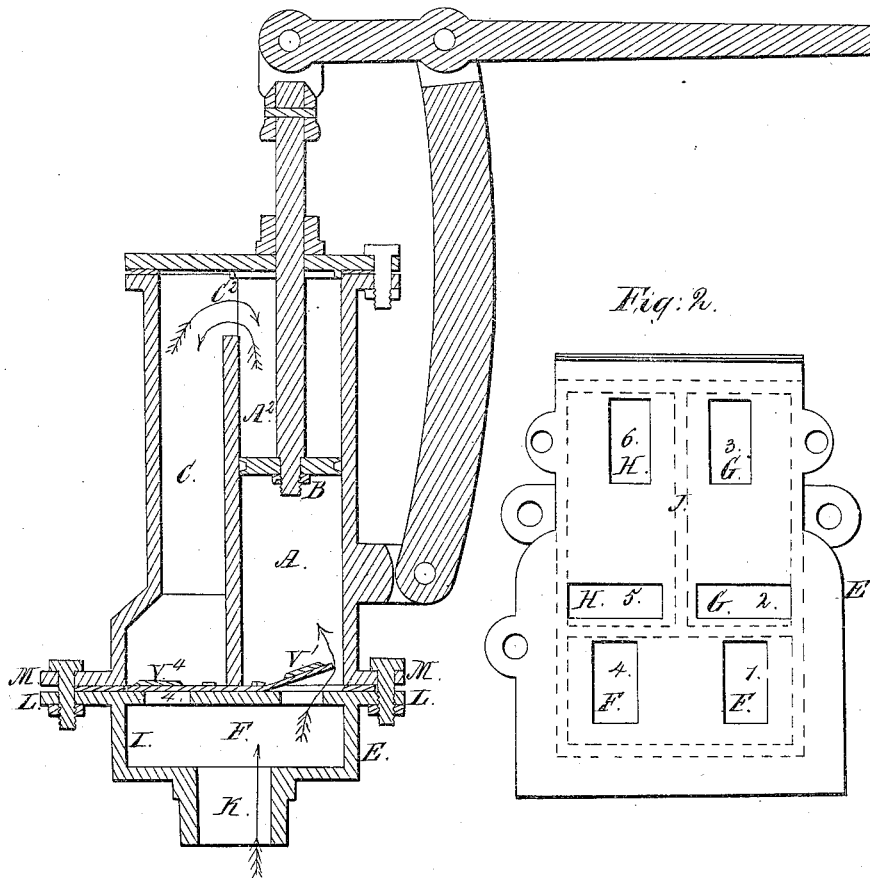
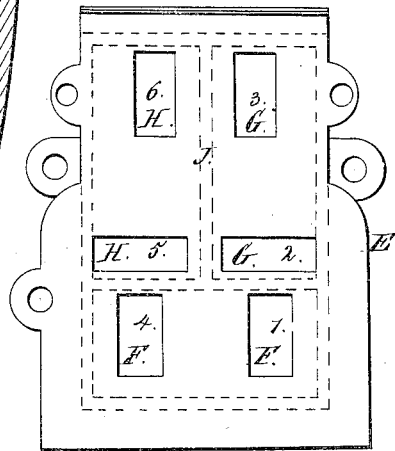


Fig: 2.



UNITED STATES PATENT OFFICE.

JOEL FARNAM, OF STILLWATER, NEW YORK.

CONSTRUCTION OF DOUBLE-ACTING PUMPS FOR RAISING AND FORCING WATER.

Specification of Letters Patent No. 2,345, dated November 10, 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 Pumps for Raising Water, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a vertical section showing the interior of the cylinder, side trunk, receiving chamber and conducting tube. Fig. 2 is a top view of the improved receiving and discharging chambers showing the six apertures in the top of the same when the cylinder, side trunk and valves are removed therefrom, the position of the partitions being shown by dotted lines I J. Fig. 3 is a vertical transverse section of the receiving chambers and valve cup.

Similar letters refer to corresponding parts.

The cylinder A, piston B, side trunk C, and valve cap D being made like others in use need not therefore be particularly described.

The improvement consists principally in the construction of a cast iron box E partitioned off into three chambers F G H by vertical partitions I J, one of which chambers F being designated to receive the water as raised from the cistern or well and the two chambers G H into which it is discharged from said receiving chamber F from whence it is forced to any place desired, the top plate of said box (upon which the cylinder, trunk, and cap are secured) being perforated with six apertures numbered 1, 2, 3, 4, 5, 6 through which the water passes—first through the apertures 1, 4, covered by valves opening upward then down through the openings 2, 5, into the receiving chambers, then upward through the openings 3, 6, covered by valves opening upward, into the cup D and air vessel by the action of the piston, the bottom plate of said box being perforated for the water pipe K leading into the receiving chamber F and the top plate having flanges L by which it is bolted to the flanges M of cylinder, trunk and cap, the cylinder A covering the two apertures 1, 2, and the valve cap corresponding with cylinder covering the aperture 3, and the side

trunk C covering the apertures 4, 5, and the cap the aperture 6 so that when the piston B rises as represented in the drawing the air is exhausted in the cylinder and its place supplied by the water rising from the well through the pipe K into the receiving chamber F and the aperture 1, whose valve V' it raises, into the cylinder A. On the return of the piston the valve V' over the aperture closes and thus causing it to be forced down through the aperture 2 having no valve, into the receiving chamber G and up through the aperture 3 lifting its valve V into the cap D from where it is forced through a pipe to any place desired. While the piston B is thus descending a vacuum is formed in the cylinder above the piston at A² into which the water rises through the aperture 4, whose valve V⁴ it then raises, passing through the side trunk C into the upper part of the cylinder A² with which it communicates at C² and as the piston raises the water is forced back into the trunk and down closing the valve V⁴ over the aperture 4 through which it entered causing it to pass through the aperture 5 having no valve into the chamber H and up through the aperture 6 whose valve V⁶ it raises, into the cap D thus producing an alternate double stroke and by means of an air vessel a constant stream of water, and thus doing away with the usual lower set of caps, packing, bolts, &c., reducing the number of joints and lessening thereby the liability of leakage, complexity, and expense, the said single cast box being very simple, cheap, durable, and easily managed and kept in order.

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

The before described construction of the box E bolted to the bottom of the cylinder A and side trunk C and cap D for simplifying and reducing the expense of the pump and its liability to get out of order as herein set forth, that is to say making a single solid cast iron box divided into three chambers by a transverse partition I forming a receiving chamber and a longitudinal partition J extending from said transverse partition to one end of the box forming the two discharging chambers having the top perforated with six apertures two over the first

mentioned chamber and two over each of the
other chambers and having the bottom per-
forated with a single aperture leading to the
receiving chamber for the admission of the
5 water to the said chamber—doing away
with the lower or under caps and valve
plates and valves and the necessary packing

and bolts for securing the same in the man-
ner and for the purpose hereinbefore set
forth.

JOEL FARNAM.

Witnesses:

EDWIN MAHER,

CLEMT. T. COOTE.