

(No Model.)

J. HARRIS.
PUMP.

No. 273,985.

Patented Mar. 13, 1883.

Fig. 1.

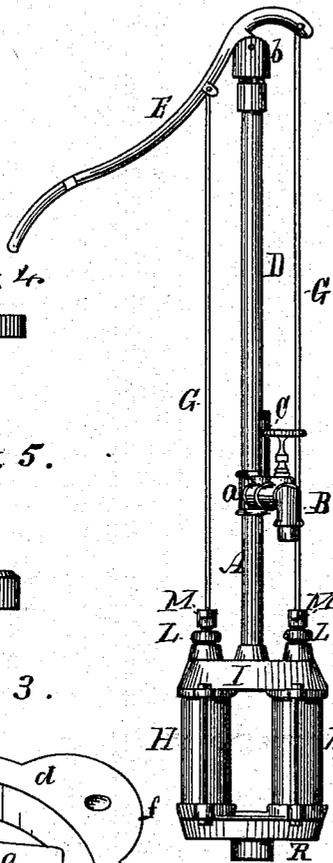


Fig. 5.

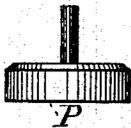


Fig. 3.

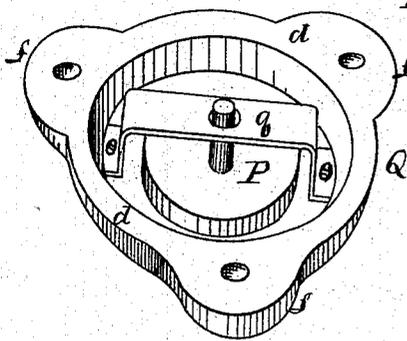
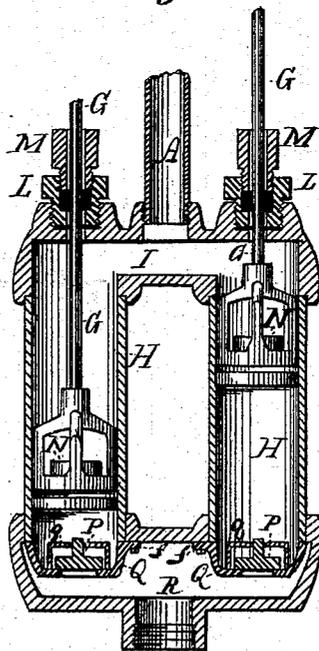


Fig. 2.



Attest:
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UNITED STATES PATENT OFFICE.

JOHN HARRIS, OF CANISTEO, NEW YORK.

PUMP.

SPECIFICATION forming part of Letters Patent No. 273,985, dated March 13, 1883.

Application filed July 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN HARRIS, a citizen of the United States, residing at Canisteo, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Pumps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification—

Figure 1 being a side elevation of the pump; Fig. 2, a central vertical section of the body of the pump; Figs. 3, 4, and 5, views of parts detached.

My invention consists in the combination of an elevating-pipe, formed of gas-pipe, an air-chamber and lever-standard, also formed of gas-pipe, and in line with the elevating-pipe, and a spout formed on the coupling between the said pipes; also, in a pump constructed with gas-pipe lever-standard and air-chamber and elevating-pipe, arranged in a straight line, an upper water-way connected centrally with the elevating-pipe, a lower water-way separately formed and removable, valve-boxes secured in the lower water-way, pump-barrels secured between the two water-ways, pistons, and piston-rods hung to the handle-lever, which is mounted on the lever-standard, all substantially as hereinafter set forth.

Referring to the drawings, the main elevating-pipe A extends upward to a proper position to attach the discharge-spout B, which is secured to a pipe-coupling, *a*, on the upper end of the pipe A. This spout B may have a pipe, C, attached for forcing the water to a greater height than the spout. To the coupling *a* another piece of pipe, D, is secured in line with the main pipe A, to form the air-chamber and the supporting-standard for the pump lever or handle E, which is pivoted to a suitable cap, *b*, screwed or otherwise fitted air-tight upon the upper end of the standard.

The above construction of the elevating-pipe, standard, and air-chamber requires the piston-rod of the pump to be outside thereof;

and I prefer to employ two piston-rods, G G, with pistons working in two pump-barrels, H H, to make a double-acting pump, as shown in the drawings, by which, with a little additional expense over a single-acting pump, a continuous stream of water is raised, and more water is raised with the same power and in the same time than with a single-acting pump.

The main elevating-pipe A is secured on, supported by, and connected with the interior water-passages from the two pump-barrels in the upper water way or cap, I, of the pump-body. Each piston-rod G passes through a packing-box that is composed of the shell or box proper, L, screwed down into a hollow seat, *c*, on the cap I, and of a perforated nut, M, through which the piston-rod passes, screwed down into the box L to compress the packing. This method of constructing the packing-box is strong, compact, and does away with projecting flanges and bolts.

The piston-valve N is formed as a simple disk with two perfectly plane surfaces, so that either side may be used to fit on the valve-seat, and when one side fails to fit its seat tightly it can be turned the other side down. It is held so as to play freely in its cage.

Each lower or check valve, P, of the pump is constructed with a plane face to fit the valve-seat, and a central stem on top to play in a guide. Its seat Q is a box cast separately, as shown in Fig. 5, with a plane surface, *d*, to fit tightly against the upper interior surface of the lower water-box, R, of the pump-body, and having flanges *f f*, by which to bolt or screw it to its attaching part. A guide-yoke, *g*, is secured to the seat on the inside, in which the stem of the valve plays.

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

1. In a pump, the combination of the elevating-pipe A, formed of gas-pipe, the air-chamber and lever-standard D, also formed of gas-pipe, and in line with the elevating-pipe, and the spout B, formed on the coupling *a*, between the said pipes, substantially as and for the purpose herein specified.

2. A pump constructed with the gas-pipe lever-standard and air-chamber D and ele-

vating-pipe A, arranged in a straight line, the upper water-way, I, connected centrally with the elevating-pipe, the lower water-way, R, separately formed, and removable valve-boxes
5 Q Q, secured in the lower water-way, the pump-barrels H H, secured between the two water-ways, the pistons N N, and the piston-rods G G, hung to the handle-lever E, mounted on the lever-standard, all substantially as and for the purpose herein specified. 10

In testimony whereof I affix my signature in presence of two witnesses.

JOHN HARRIS.

Witnesses:

JAMES S. HALL,
FRANK H. ROBINSON.