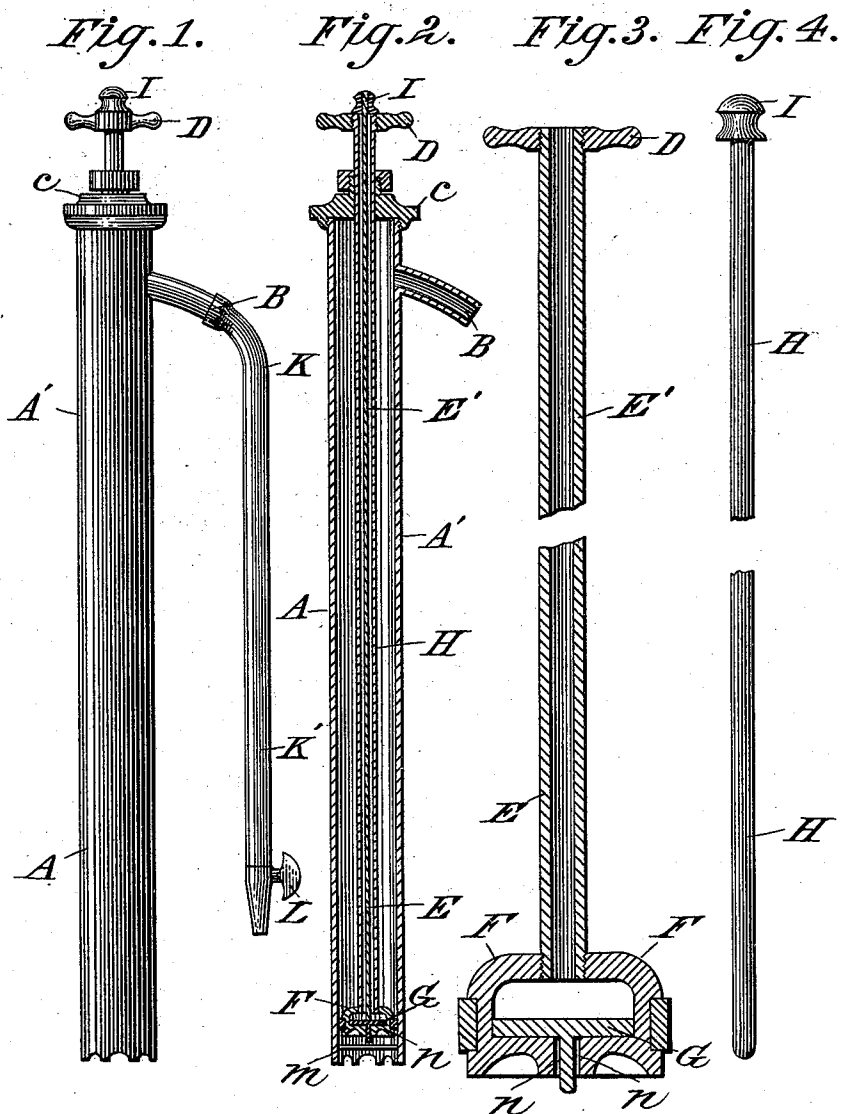


(No Model.)

J. G. BREWER.
PUMP AND SIPHON.

No. 408,648.

Patented Aug. 6, 1889.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN G. BREWER, OF ALBANY, NEW YORK.

PUMP AND SIPHON.

SPECIFICATION forming part of Letters Patent No. 408,648, dated August 6, 1889.

Application filed September 21, 1888. Serial No. 286,055. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. BREWER, of Albany city and county, New York, have invented a new and useful Machine for Transferring all Kinds of Fluids and Liquids from One Vessel to Another, of which the following is a specification.

My invention relates to a combined siphon and pump so arranged that the pump operates either in conjunction with or independently of the siphon.

The objects of my invention are, first, to provide a machine which may be operated either as a pump or siphon, according to the will of the operator; second, to provide a machine by which a siphon may be started and stopped instantly without change of condition, whether the vessel to be emptied contains little or much liquid; third, to provide a machine in which the valve of the plunger may be locked or set free, according to the operator's will. I attain these objects by the mechanism illustrated in the accompanying drawings.

The same letters represent similar parts in the different drawings.

Figure 1 is a view in elevation of my device. Fig. 2 represents a vertical section of the entire machine. Fig. 3 shows a vertical section of the plunger, valve, and hollow plunger-rod. Fig. 4 shows the valve-lock.

A A' is a hollow cylinder having openings at its lower end permitting the ingress of liquids when resting on an even surface and closed by a wire screen to prevent the ingress of solid matter, and having a bar *m* across its diameter at its lower end to keep the valve free from its seat when the plunger is pressed down and also to facilitate the emptying of the pump when desired, and having a discharge-orifice B near its upper end, terminating in a pipe K K' with petcock L, to permit the egress of liquids, and having its upper end closed, save an orifice *c*, through which the plunger-rod E E' passes, with suitable packing around said plunger-rod at upper end of cylinder above said orifice B.

D is the handle of a hollow plunger-rod E E', which rod passes down through the orifice *c* and packing at the upper end of cylinder, and having its lower end firmly attached to

a plunger F, with valve G closely fitting the inside of the cylinder, the plunger being raised or depressed by means of the plunger-rod and handle D.

G is a valve with a protuberance *n* extending downward from the center of its lower surface to keep the valve in position and aid in discharging the pump, and also to permit a free flow of liquid by raising the valve from its seat from contact with cross-bar *m* when the plunger is depressed in order to establish the flow of siphon.

H is a small rod, having a knob I at its upper end to elevate or depress it, passing down through the hollow plunger-rod through the cage of the plunger until it comes in contact with the valve G, with suitable packing inside the plunger-rod, by means of which rod H the valve may be locked or set free.

K K' is a flexible tube of the desired length, attached at its upper end to the orifice or discharge B and having a petcock L at its lower end to arrest the flow of liquids when desired.

The mode of operating my machine and the ends attained are as follows: Place the cylinder A A' in the vessel to be emptied, with the valve G locked; raise the knob I a little distance and liberate the valve G; raise and depress the handle D and, the valve being free, the liquid rises in the cylinder and escapes through the discharge-orifice B regardless of the amount of liquid contained in the vessel being emptied; elevate the plunger above the discharge-orifice B, and the siphon is set in motion and continues running until arrested, as follows: Lock the valve G by depressing the knob I; then, by depressing the plunger below the discharge-orifice, the flow of the siphon will be arrested and the fluid drawn back into the cylinder and all drip prevented; or, while the plunger remains elevated, by closing the petcock L the siphon will be arrested; but the liquid being held in suspense the siphon may once be re-established by opening the petcock. To discharge the machine depress the plunger F until the protuberance *n* of the valve comes in contact with the bar *m*, forcing the valve up and permitting the fluid to escape; or, the valve of the plunger being free, raise and depress the plunger until the

liquid flows from the discharge-orifice B; then depress the plunger until the protuberance *n* of the valve coming in contact with the bar *m* raises the valve G from its seat and establishes the uninterrupted flow of the siphon, in which case the flow may be stopped by means of the petcock L.

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

1. In a combination with the cylinder of a pump having at its lower end openings, and a bar across its diameter, as described, a discharge-orifice near its upper end, terminating with a pipe and petcock, and a plunger with valve, as described, closely fitting said cylinder, and a hollow plunger-rod passing through upper end of cylinder, with handle adapted to raise or depress plunger, and surrounded by suitable packing at upper end of cylinder above discharge-orifice, with a small rod or valve-lock with knob at upper end passing down through hollow plunger-rod, as described, with suitable packing at lower end

of said rod or valve-lock H, within said hollow plunger-rod E E', adapted to lock said valve, as and for the purposes set forth.

2. The combination, in a siphon, of a cylinder A A', having at its lower end openings and a bar *m* across its diameter, as described, a discharge-orifice B near its upper end, terminating in a pipe K K' with petcock L and plunger F with valve G, as described, closely-fitting cylinder A A', a hollow plunger-rod E E', passing through upper end of cylinder, with handle at upper end suitable to raise or depress plunger, surrounded by suitable packing at upper end of cylinder above discharge-orifice B, and a small rod or valve-lock H H', with knob I at its upper end passing down through hollow piston-rod, surrounded by suitable packing adapted to lock said valve, all substantially as set forth.

JOHN G. BREWER.

Witnesses:

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