(No Model.)

W. B. MANWARING.

Siphon Pump.

No. 238,136. **Patented Feb. 22, 1881.**

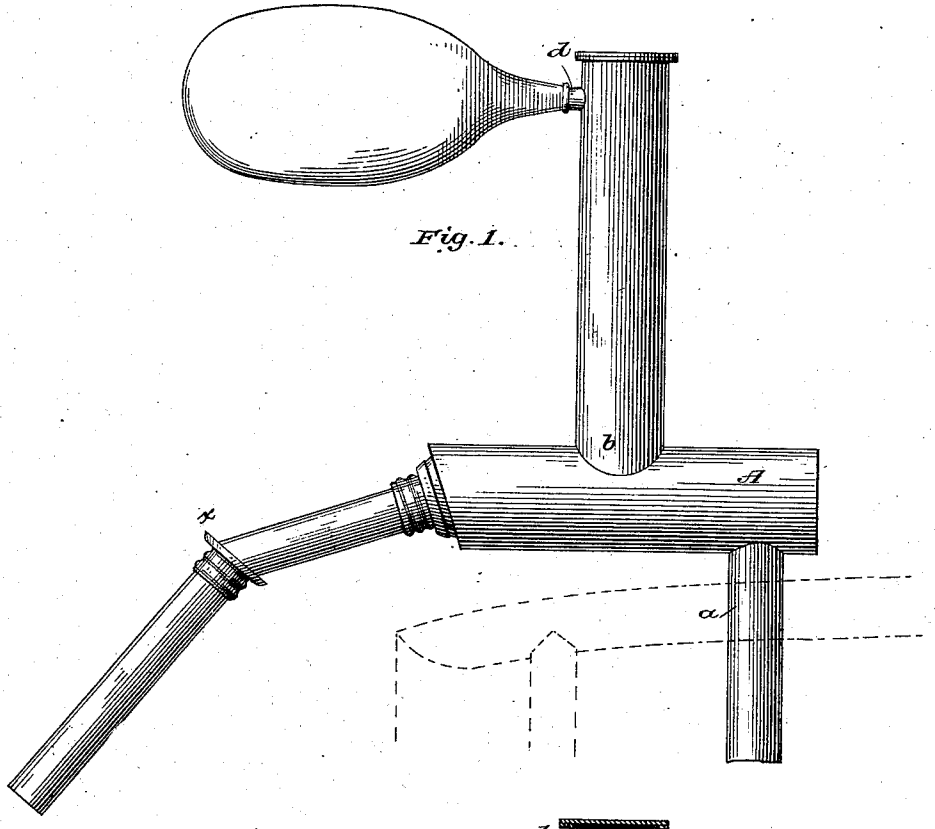

Fig. 1.

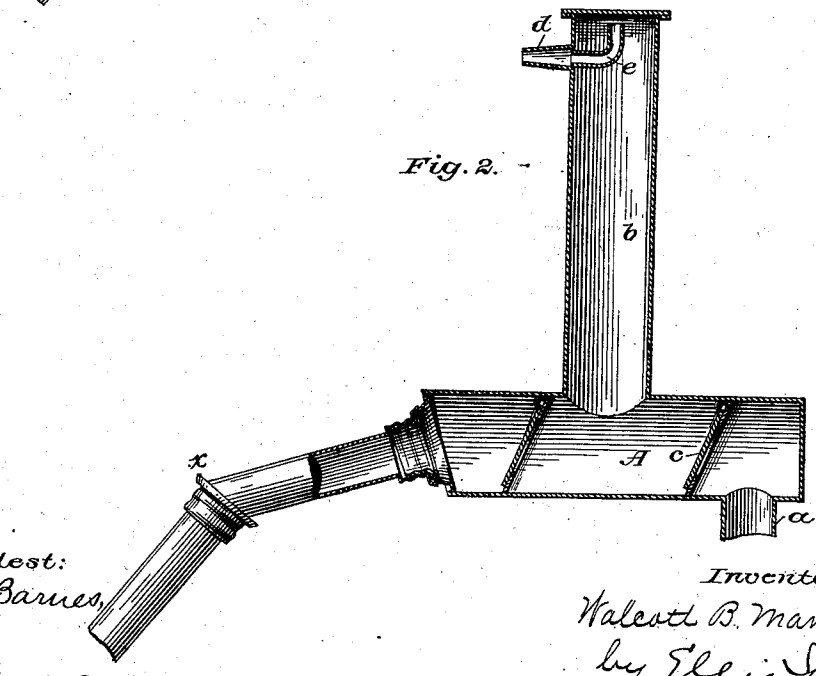

Fig. 2.

Attest:
R. G. Barnes,
Frank Middleton.

Inventor:
Walcott B. Manwaring
by Ellis Spear,
Attorney

UNITED STATES PATENT OFFICE.

WOLCOTT B. MANWARING, OF NEW LONDON, CONNECTICUT.

SIPHON-PUMP.

SPECIFICATION forming part of Letters Patent No. 238,136, dated February 22, 1881.

Application filed March 15, 1880. (No model.)

To all whom it may concern:

Be it known that I, WOLCOTT B. MANWARING, of New London, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Siphon-Pumps; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to pumps of that class in which the flow of the liquid is started by the pumping action of a collapsible bulb, and, after such initial flow, continuous by the siphon action of the tube which forms the pump.

The invention relates to details, and has for its object the simplification of the apparatus, increase of the fluid by lessening necessary obstructions, and to prevent the liquid from rising into the collapsible bulb. These details are fully illustrated in the drawings and hereinafter described, and are particularly indicated in the claims.

Figure 1 of the drawings shows a side elevation of the pump, and Fig. 2 a longitudinal central section.

In these figures, *a* represents the pipe or tube, which is inserted into the barrel or other vessel from which the liquid is to be drawn. It is joined to the horizontal tubular chamber A at preferably right angles thereto. Between the point of junction of this pipe and the vertical tube *b* is a clack-valve, *c*, inclined, as shown, sufficiently to allow it to be closed by gravity. It is seated against a narrow flange fixed in an inclined position in the tubular chamber A, and is hinged by hook and link to the upper part of said flange, so as to rise and fall freely. On the other end of the chamber A is another similar valve, similarly inclined, and on the same level. Between these two valves is fixed a vertical tube, *b*, on the upper end of which is placed a nipple, *d*, for the collapsible bulb. This nipple is connected to a tube, *e*, which extends inward and upward, opening toward the top or crown of the air-tube *b*. The effect of this arrangement of the pipe is, that when the liquid has been drawn by the rarefaction of the air up into the tube *b*, and the air is again expelled from the bulb, it is directed and impinges against the inner surface of the crown of the table, and from thence deflected equally and uniformly downward against the fluid in the tube without disturbance. As ordinarily arranged, the expelled air from the bulb is directed downward, and strikes the surface of the liquid in the tube forcibly and unequally, thereby causing agitation of the liquid, and often throwing some of it into the bulb; but in the described improvements the force of the air driven by the compression of the bulb is greatly lessened, and the current is then equally distributed without disturbing the exposed surface of the liquid.

It will be observed that what may be called the "valve-chamber" is practically a continuation or part (slightly enlarged) of the whole siphon-tube. The valves are on the same plane or level, and when the flow is once established it continues with only the trifling obstruction arising from the slight weight of the inclined valves. Further, as the air-chamber to which the collapsible bulb is attached is an independent and separate tube, with only a narrow opening into the siphon-tube, the air-space is economized, and the air is prevented from occupying other portions of the pump, and is confined to the air-tube itself, whereby the liquid is more certainly prevented from reaching the bulb.

It will be observed in the drawings that the horizontal tubular chamber A is formed with an inclined end, and provided with a threaded extension, to which the longer or discharge leg of the siphon is attached.

The discharge-leg may also be made in two parts, joined at the bend, as shown at *x*. The parts are thereby made separable, both for convenience in packing, or for cleansing, as well as to avoid liability of breakage in handling.

The valve next to the suction-pipe is located sufficiently in rear of the air-pipe, so that this pipe will not be covered by the valve when it is floated by the flow of the liquid.

Having thus described my invention, what I claim as my invention is—

1. The air-pipe *e*, connected to the nipple of

the collapsible bulb, and extending upward toward the top or crown of the air-tube, as set forth.

2. In a siphon-pump, the combination of a horizontal valve-chamber, a vertical pipe, *b*, connected to the horizontal chamber between the valves, and a collapsible bulb connected to the upper end of said pipe *b*, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WOLCOTT BARBER MANWARING.

Witnesses:
B. A. COPP,
ANNE BATTLE.