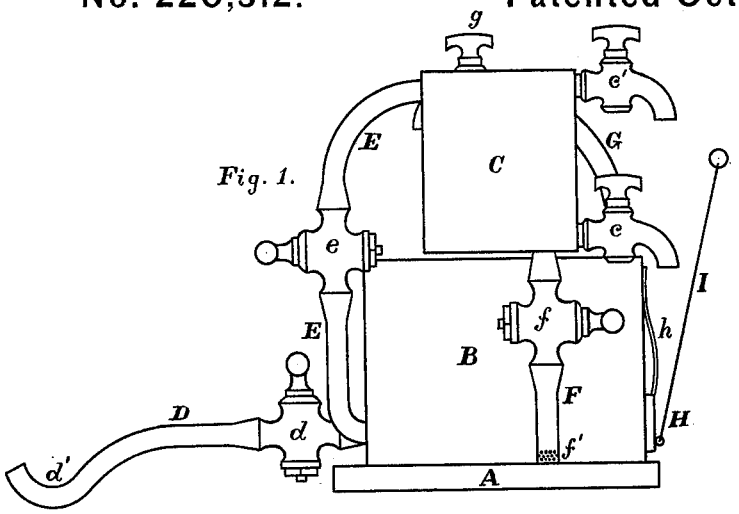
H. G. WHITAKER.

Siphon.

No. 220,512. Patented Oct. 14, 1879.

Fig. 1.



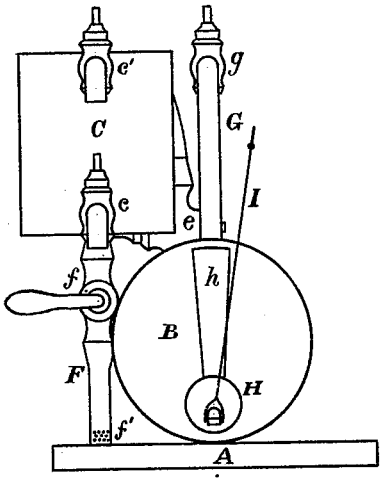


Fig. 2.

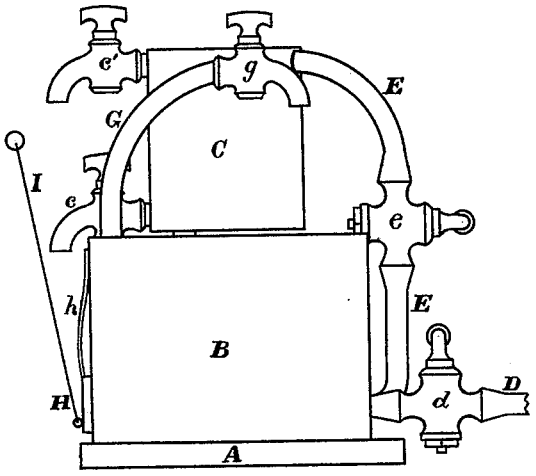
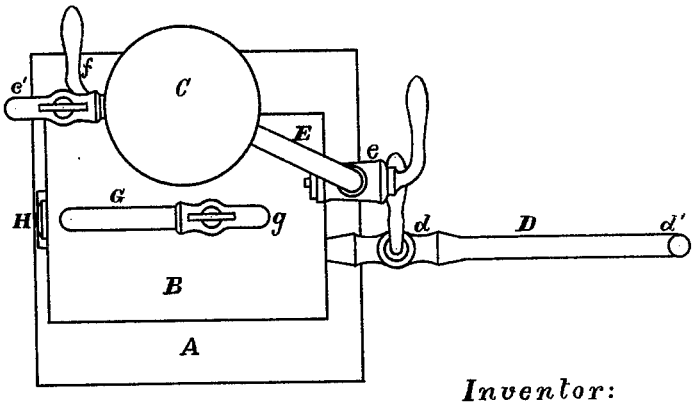


Fig. 3.

Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

HARVEY G. WHITAKER, OF BRATTLEBOROUGH, VERMONT.

IMPROVEMENT IN SIPHONS.

Specification forming part of Letters Patent No. **220,512**, dated October 14, 1879; application filed August 4, 1879.

To all whom it may concern:

Be it known that I, HARVEY G. WHITAKER, of Brattleborough, in the county of Windham and State of Vermont, have invented a new and Improved Siphon, of which the following is a specification.

My invention relates to a combination, with a common siphon, of two chambers arranged with suitable cocks, valves, and ventages, such that a portion of the water or other fluid in a spring, well, or reservoir may be raised to any desired point within the natural limits of the siphon and retained at that point to be drawn forth, and utilized in such manner as may be desired.

In the accompanying drawings, Figure 1 is a side elevation of a model embodying my invention. Fig. 2 is an elevation of the same, showing end. Fig. 3 is a side elevation reverse from Fig. 1. Fig. 4 is a plan.

A is a stand or bed-piece. B is a chamber resting on and supported by A, this chamber usually to be submerged in a spring, well, or reservoir. D is a discharge-pipe from interior of chamber B; *d*, a stop-cock in pipe D; *d'*, a curve at end of discharge-pipe D to act as a trap.

H is a valve on chamber B, allowing, when open, free communication between interior of chamber B and the spring, well, or reservoir in which B is submerged. *h* is a spring for keeping valve H closed; I, a rod for opening valve H when desired. C is a chamber, somewhat smaller than B, located at such point and at such height within the natural limits of the siphon as may be desired, for the utilization of the water or fluid to be raised. E E is a pipe, which connects interior of chamber B with interior of chamber C. *e* is a stop-cock for pipe E E.

F is a pipe attached to and opening into chamber C, and extending downward into the spring, well, or reservoir in which B is submerged. *f* is a stop-cock for pipe F. *f'* is a screen on the bottom end of pipe F.

G is a vent-pipe to chamber B, extending upward to such point and height as may be desired. *g* is a stop-cock to vent-pipe G. *c* is a cock for drawing the water or other fluid to be utilized from chamber C. *c'* is a vent-cock to chamber C.

The pipe D, chamber B, and pipe E E are to be considered as the long arm of the siphon, the chamber C and pipe F the short arm.

The operation is as follows: The cock *d* being shut and the vent-cock *g* open, the valve H is opened. The fluid from the spring, well, or reservoir in which B is submerged rushes in and fills B. The valve H is then closed. The flowing-cock *e* and vent-cock *c'* of chamber C are now closed, and the cock *f* of pipe F and the cock *e* of pipe E E are opened. The cock *d* in discharge-pipe D is now opened, and the fluid begins to flow from chamber B. The air in chamber C begins to be transferred into chamber B, and the fluid in the spring, well, or reservoir by the well-known law of atmospheric pressure begins to ascend in pipe F to take its place. When the chamber C is filled, the cocks *f* of pipe F and *e* of pipe E E are closed simultaneously. By opening vent-cock *c'*, the fluid in chamber C can now be drawn through the flowing-cock *c* and used for such purpose as may be desired. At this stage of proceeding there is in chamber B the air drawn from chamber C, and in order to repeat the operation it becomes necessary to replace this air by fluid, which is done by opening vent-cock *g* and valve H. When this is done it is obvious that some of the fluid, depending in quantity upon the size of the valve H, will be wasted because cock *d* is still open.

If it is necessary to be economical, cock *d* should be closed during the last-described operation.

It is not necessary that the pipe F should extend into the same fluid in which chamber B is submerged, for the latter fluid, in connection with the apparatus under description, can be used as a motor to raise some other fluid into the chamber C, always meaning within the limits of the siphon and under the proper conditions governing this invention. Nor is it necessary, absolutely, that the chamber B should be submerged, as it can be filled by a supply-pipe from a distant source.

I do not claim any particular construction

for the valve H, as it can be made and put on in various well-known ways; neither do I claim any peculiar method of operating said valve; nor anything in the construction of the cocks mentioned in this description, as they may be any of the various manufactures suitable for the purpose.

What I do claim as my invention, and what I wish to secure by Letters Patent, is as follows, viz:

The chamber B, having a valve, H, for controlling the inflowing fluid, vent-pipe G, with cock *g*, in combination with chamber C, having cocks *c* and *c'*, and the pipes D, E E, and F, having the cocks *d*, *e*, and *f*, all arranged substantially as and for the purpose hereinbefore set forth.

HARVEY G. WHITAKER.

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