(No Model.)

D. E. ROWLAND.

SIPHON.

No. 554,798. Patented Feb. 18, 1896.

Fig. 3.

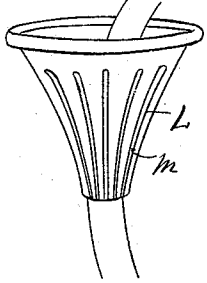


Fig. 1.

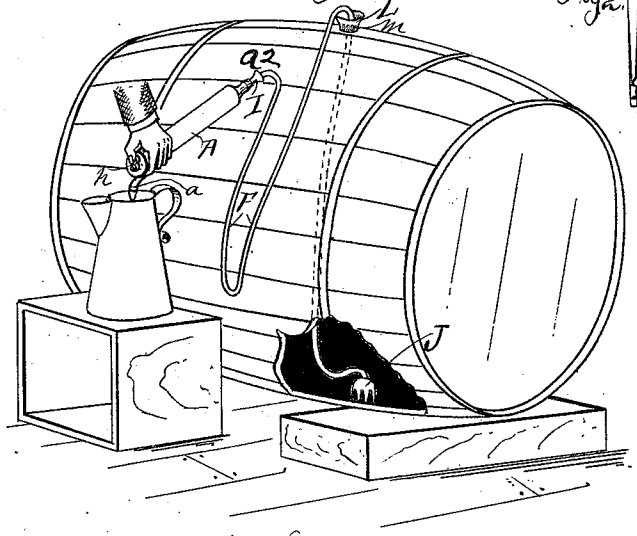


Fig. 2.

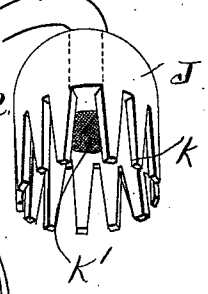


Fig. 4.

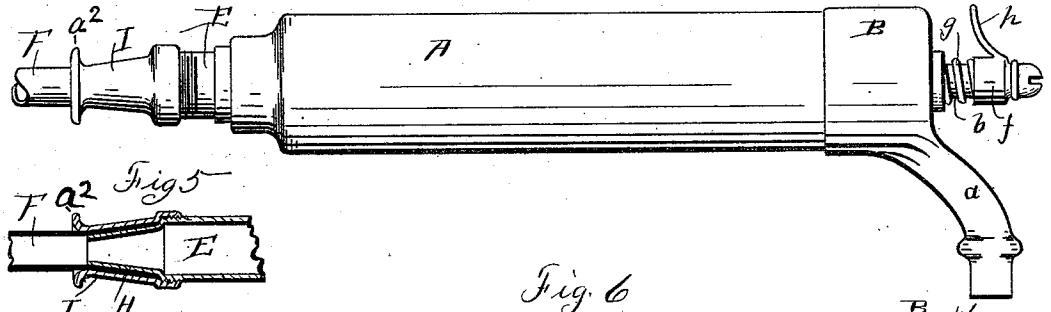


Fig. 5.

Fig. 6.

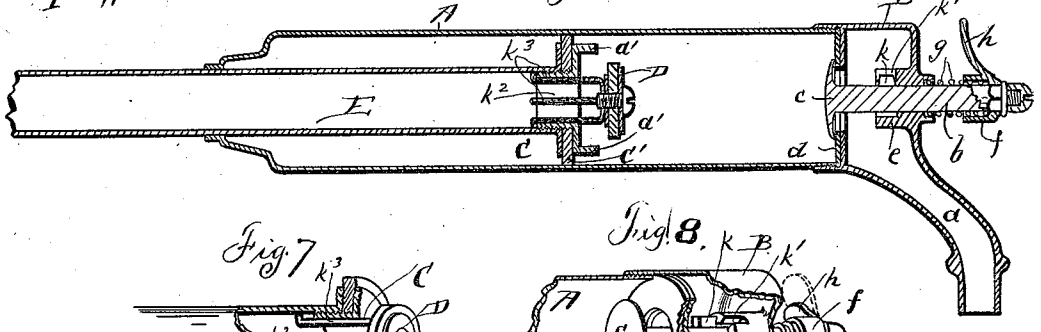


Fig. 7.

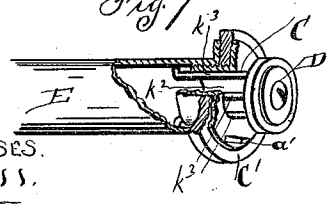
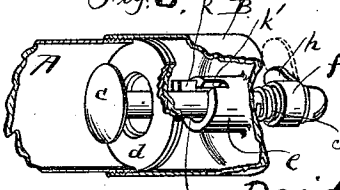


Fig. 8.



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UNITED STATES PATENT OFFICE.

DAVID E. ROWLAND, OF CANTON, OHIO.

SIPHON.

SPECIFICATION forming part of Letters Patent No. 554,798, dated February 18, 1896.

Application filed May 1, 1895. Serial No. 547,823. (No model.)

To all whom it may concern:

Be it known that I, DAVID E. ROWLAND, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Siphons; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a view showing the siphon and the different parts belonging thereto properly applied for use. Fig. 2 is a view showing a portion of the hose and the combined anchor and strainer properly attached thereto. Fig. 3 is a view showing a portion of the hose and illustrating its retaining-disk properly located thereon. Fig. 4 is a side elevation of the siphon. Fig. 5 is a view showing the manner of attaching the hose to the plunger. Fig. 6 is a longitudinal section of the siphon, showing the different parts belonging thereto properly arranged. Fig. 7 is a view showing the piston and its valve. Fig. 8 is a view showing the cut-off valve and its different parts.

The present invention has relation to siphons; and it consists in the different parts and combination of parts hereinafter described, and particularly pointed out in the claims.

Similar letters of reference indicate corresponding parts in all of the figures of the drawings.

In the accompanying drawings, A represents the cylinder, which is formed of a convenient size, and the delivery end of said cylinder is preferably provided with screw-threads for the purpose of providing a means for removably attaching the cut-off-valve chamber and valve together with its different parts. The valve-chamber B is substantially of the form shown in Figs. 4 and 6, and, as shown, it is provided with the integral nozzle *a*. The valve-stem *b* is located substantially as illustrated in Figs. 4, 6 and 8, and as shown its inner end is provided with the valve *c*, which valve when closed, as illustrated in Fig. 6, is seated upon the disk *d*, said disk being provided with suitable packing of any flexible material, or rather yielding material, so as to provide a better and more complete cut-off. The valve-stem *b* is extended through the valve-chamber casing, which casing is provided with the hollow extension *e*, said extension being substantially of the form shown in Fig. 8.

Between the outer end of the chamber B and the head *f* is located the spring *g*, which spring is for the purpose of normally holding the valve *c* against the disk *d*, thereby cutting off the flow of liquid.

When it is desired to open the valve *c* the head *f* is pushed inward by means of the thumb-piece *h*, and when it is desired to hold the valve *c* in an open position the valve-stem *b* is rotated sufficiently to carry the projection *k* to one side of the recess *k'*, thereby preventing the spring *g* from automatically closing the valve.

Within the cylinder A is located the piston C, which piston is provided with the packing C'. The piston C is provided with the central opening k^2, within which central opening are located the sliding bars k^3, said sliding bars being so located and arranged that they will be held in proper position with reference to the plunger and at the same time move longitudinally back and forth in the opening k^2. To the sliding bars k^3 or their equivalents is attached in any convenient and well-known manner the valve D, which valve is for the purpose hereinafter described.

To the plunger C is attached the hollow plunger-rod E, to the outer end of which is attached the hose F. For the purpose of providing a means for making proper connection of the hose to the plunger-rod E the outer end of said plunger-rod is provided with the tapered portion H, over which tapered portion the end of the hose F is placed and the tapered collar I placed over the hose and tapered portion, substantially as illustrated in Fig. 5, said collar I being preferably attached to the hollow plunger E by suitable screw-threads.

To the inner end of the hose E is attached the anchor J, which anchor is preferably of the form shown in Fig. 2, and as shown it is provided with the tangs K. For the purpose of straining the liquid as it enters the hose

E the anchor J is provided with the gauze strainer K′, which strainer is attached to the anchor J in any convenient manner.

For the purpose of holding the hose F in proper position with reference to the barrel the tapered bung L is provided, which tapered bung is provided with an aperture of such a size that it will clamp the hose sufficiently to prevent it from moving through the bung.

For the purpose of providing proper atmospheric pressure upon the liquid contained in the barrel or other vessel the bung L is provided with the grooves *m*.

In use the hollow plunger E is drawn away from the head B, thereby forming a vacuum between the seated valve *c* and the piston C, by which arrangement liquid will fill the hollow plunger E, after which the valve *c* is opened and the liquid flows through the nozzle *a*.

In the event one backward stroke of the piston C does not start the flow of liquid the valve *c* should be opened and the piston C given a forward stroke, after which the valve *c* is closed and a backward stroke given to said piston C. For the purpose of atmospherically closing the piston C the valve D is provided, said valve being so located that it will be seated during the time of the forward stroke of the piston.

The object and purpose of closing the piston C during its forward stroke is to prevent air from entering the hollow plunger E and the hose F, thereby allowing the liquid to flow through the hose and hollow plunger and come in contact with the valve D and open said valve, as illustrated in Fig. 6.

For the purpose of providing a means for properly attaching the piston C by means of suitable screw-threads said piston is provided with the extensions or arms *a′*, thereby providing a means for rotating said piston to screw it home.

It will be understood that in use the nozzle *a* should be placed below the liquid-line.

The collar I is provided with the flange a^2, which is for the purpose of providing a convenient means for operating the plunger-rod E.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the cylinder A, provided with the chamber B, secured to the outer end of the cylinder, the nozzle *a* secured to the casing or chamber, the valve-stem *b* located in the chamber and extended beyond said chamber, and having attached thereto the thumb-piece *h*, the projection *k* located upon the valve-stem, the recess *k′*, located in the hollow extension *e*, said extension formed upon the casing, the spring *g*, located around the stem *b*, the hollow piston-rod E provided with the plunger C, the valve *c*, located in the cylinder A, and a hose, connected to the hollow piston-rod, substantially as and for the purpose specified.

2. The combination of the cylinder A, provided with a chamber upon its outer end and a nozzle connected to the cylinder, the valve *c* located within the chamber, the hollow piston-rod E, located within the cylinder, and provided with a piston, the hose F secured to the piston-rod at its opposite end, and provided with the anchor J, the strainer K′, secured to the anchor and a bung L, located around the hose, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

DAVID E. ROWLAND.

Witnesses:
F. W. BOND,
E. A. C. SMITH.