W. T. ANDERSON.

SIPHON.

APPLICATION FILED APR. 28, 1916.

1,211,523. Patented Jan. 9, 1917.

Fig. 1.

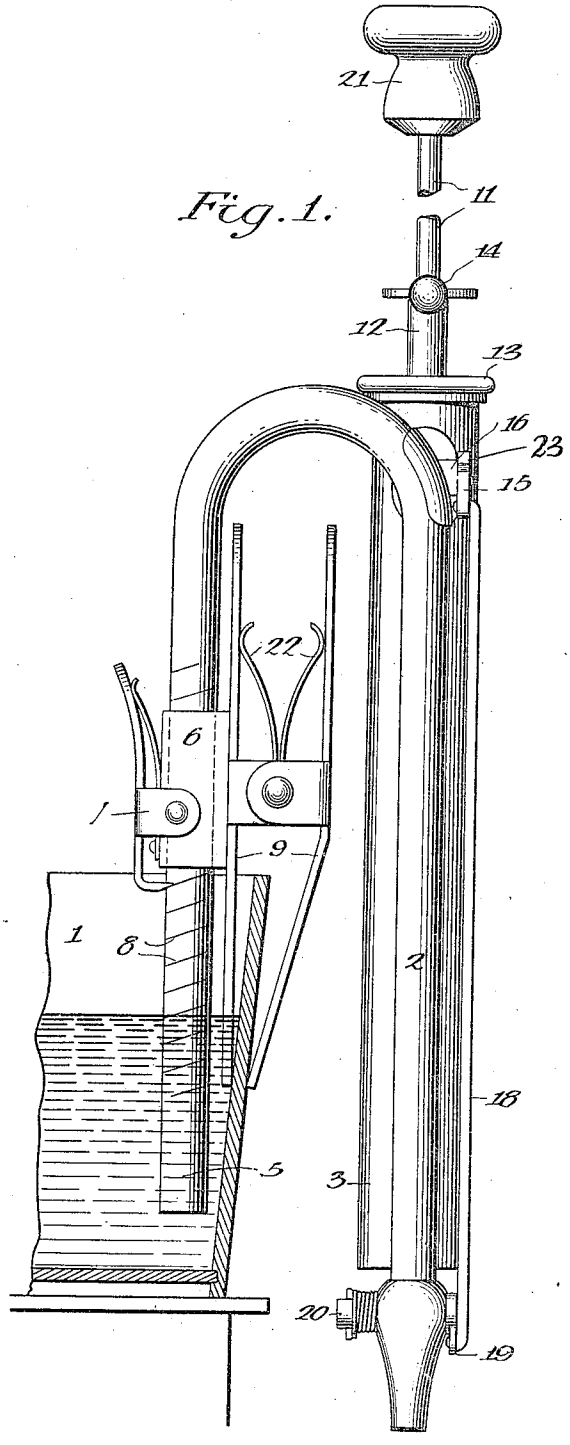
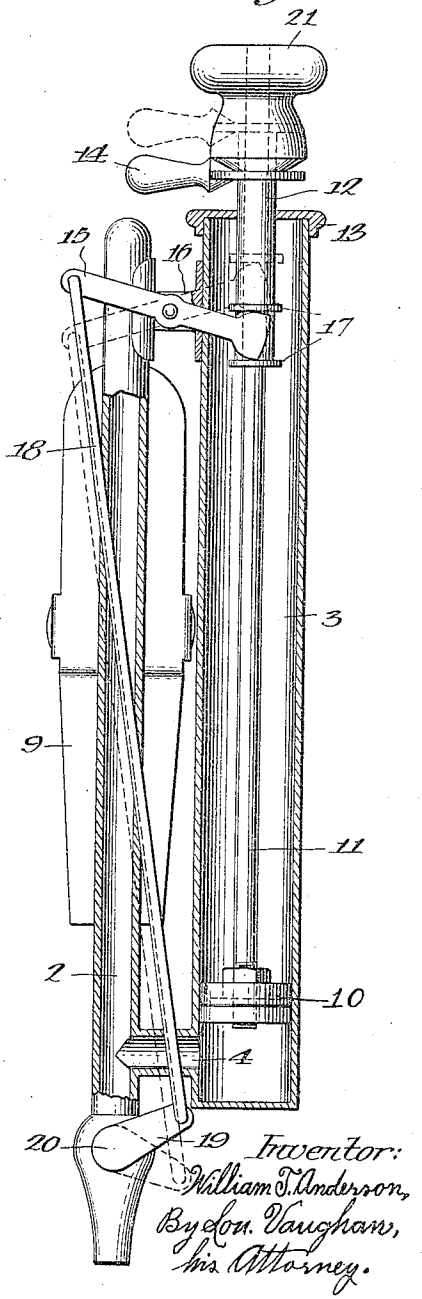


Fig. 2.



Inventor:
William T. Anderson,
By Lon. Vaughan,
His Attorney.

THE NORR'S PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM T. ANDERSON, OF ATLANTIC, IOWA.

SIPHON.

1,211,523. Specification of Letters Patent. Patented Jan. 9, 1917.

Application filed April 28, 1916. Serial No. 94,227.

To all whom it may concern:

Be it known that I, WILLIAM T. ANDERSON, a citizen of the United States of America, residing at Atlantic, in the county of Cass and State of Iowa, have invented certain new and useful Improvements in Adjustable Controllable Siphons, of which the following is a specification.

My invention relates to improvements in siphons having a connected air exhausting cylinder and piston for depleting the air in the bent siphon tube, to start the flow of a liquid therethrough; and the objects of my improvement are, first, to dispose the air exhausting cylinder entirely outside of the siphon duct; second, to provide convenient means remote from the end of the discharging leg to stop and start the siphon and control the quantitative rate of flow; and third, to afford facilities for attaching the siphon vertically adjustably over the rim and side wall of any open-topped liquid receptacle. These, and other minor objects and advantages, I attain by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 is a side elevation showing the siphon applied to partly empty a liquid from a container 1, shown fragmentally in the view; and Fig. 2, an elevation, partly in vertical section, taken at right angles to the view in Fig. 1.

In all of which views similar numerals refer to similar parts.

The discharging leg 2 of an inverted U-shaped siphon has a suction cylinder 3 juxtaposed parallelly therewith. The open connecting duct 4, disposed across between the bases of the leg and cylinder, serves also as a rigid connecting bridge. A bridge 16 disposed across between the top end of the cylinder and the bend in the top of the siphon pipe completes means to retain this leg of the siphon and the cylinder in rigid parallel relation best disposed in a plane at right angles to the plane of the bend of the siphon. The opposite or intake leg 5 is disposed telescopically through the clamp-base-sleeve 6, to slide endwise therethrough or revolve therein. The spring-actuated setting pawl 7 is pivoted at one side of said sleeve and is adapted to normally engage in the spiral groove 8 cut around in the outer surface of the leg. To the opposite side of the clamp-base-sleeve is attached a strong clamp consisting of the downwardly disposed jointed jaws 9 actuated by the spring 22 to engage and close on the wall of any open-topped receptacle, to support thereon the whole siphon contrivance. For greatest adjustment of height of the intake leg in the receptacle it is released from the spring pawl and slid endwise in the supporting sleeve. For closer adjustment, to get a particular part or strata of the content of the receptacle, the leg is revolved in the sleeve while the pawl is in engagement with the spiral groove.

The piston 10, in the suction cylinder 3, is carried by the piston rod 11 disposed to slide through the valve-controlling-sleeve 12, and has at its top end the handle 21 for manual manipulation. The valve-controlling-sleeve is disposed through the removable cylinder cap 13 to slide vertically and revolve therein and around the piston-rod to allow its manipulating handle 14, at the top, to be turned to any convenient position. A lever 15 is centrally pivoted on the bridge 16. One end of this lever is loosely inserted through a suitable opening 23 in the wall of the cylinder and into engagement between the spaced collars 17 around the inner or lower end of the valve-controlling-sleeve. The opposite end of this lever is jointed to the top end of the connecting-rod 18. The lower end of the connecting-rod is jointed to the rocking lever 19 of the cock-valve 20 disposed in the lower end of the discharging leg of the siphon. These connections are so made and constructed that when the controlling sleeve is slid downwardly to the limit,—as shown in Fig. 2,—either by independent manipulation through the handle 14 or by engagement on top of the sleeve by the downwardly forced handle 21 of the piston-rod, the valve is closed. But, when the controlling-sleeve is raised to its limit of upward movement, bringing these connected parts into the positions shown in Fig. 1, and as indicated by the dotted lines in Fig. 2, the valve stands open for flow of the siphon. This latter position may be attained, either by the upwardly moving piston engaging the lower end of the controlling-sleeve, or manually by the handle 14.

In operation, the device is first attached and adjusted for height on a receptacle 1, as shown in Fig. 1, and the siphon-starting parts positioned, as shown in Fig. 2. The cock-valve stands closed while the piston

is drawn upwardly to deplete the air in the siphon duct, which duct thereby is filled with the liquid. The capacity of the cylinder is such, that after the siphon is filled with the liquid the piston engages the controlling-sleeve to open the valve. By reverse movement of the piston, taking the piston-head out of the range of movement of the sleeve, or by stopping the upper movement just before the piston-head engages the sleeve, the controlling-sleeve is left free for manipulation by the handle 14, to set the valve-cock in any partially opened position for different desired rates of flow.

I claim:

1. In a siphon the combination of an inverted U-shaped duct, a cock disposed in the discharging leg of the duct, a pump cylinder communicably connected with the discharging leg above said cock, a revoluble longitudinally-slidable sleeve disposed through the head of the pump cylinder, a piston consisting of a piston-rod disposed through said sleeve, a piston-head disposed in the cylinder to engage the inner end of said sleeve and a handle on the outer end of the piston-rod to engage the outer end of said sleeve, means to connect the sleeve to open and close said cock, and a handle on the outer end of the sleeve to manually revolve or slide the sleeve independently of the piston.

2. A siphon, comprising communicably-connected receiving and discharging legs, a cock in the discharging leg to open and close the siphon duct, a suction cylinder having one end communicably connected with the discharging leg above said cock, a longitudinally-slidable-sleeve disposed centrally through the opposite head of said cylinder, a centrally pivoted lever having one end connected to said sleeve and the opposite end connected to open and close said cock, and a handled piston having a rod disposed slidingly through said sleeve, the head of the piston disposed in said cylinder and adapted to engage the inner end of the sleeve to slide it outwardly, and the handle on the outer end of the piston-rod adapted to engage the outer end of said sleeve to slide it inwardly.

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

WILLIAM T. ANDERSON.

Witnesses:
JOHN E. HOVENDICK,
ORA SMALLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."