Oct. 15, 1929. F. H. HUNTWORTH 1,731,899

SIPHONING DEVICE

Filed March 10, 1928

Fig. 1

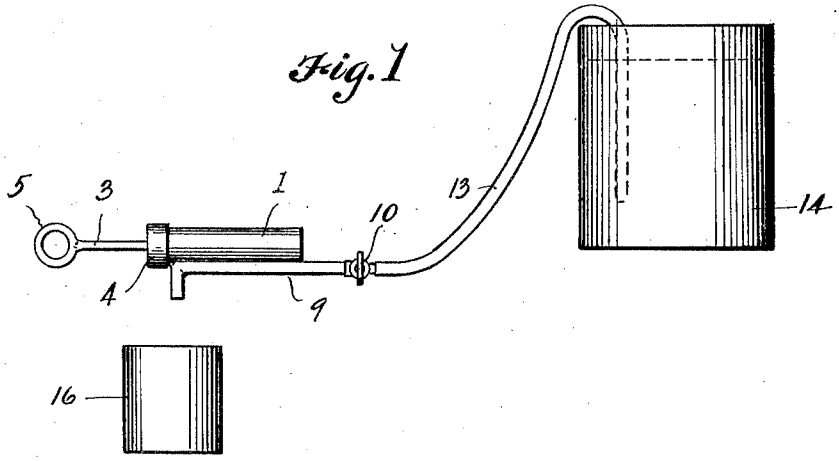
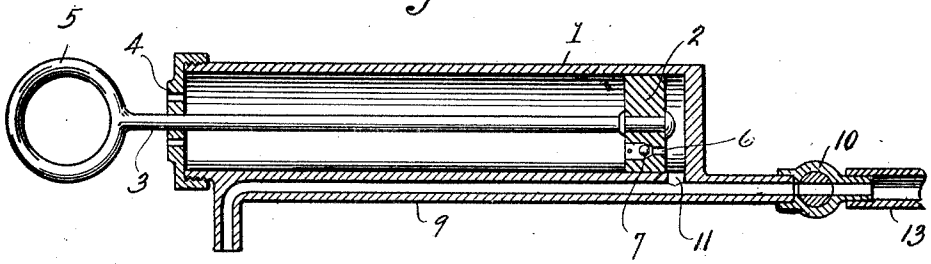



Fig. 2




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# UNITED STATES PATENT OFFICE

FRANK H. HUNTWORTH, OF SEATTLE, WASHINGTON

## SIPHONING DEVICE

Application filed March 10, 1928. Serial No. 260,736.

This invention relates to a siphoning apparatus whereby liquids may be transferred from one vessel to another, and has for its principal object to provide a device of the above character in which there is embodied as a part thereof a suction pump that may be operated to create the necessary suction to start the siphoning action.

Other objects of the invention reside in the provision of a valve in the connection that is operable to control the flow of liquid after the siphoning action has been started.

Still further objects of the invention reside in the various details of construction and in the combination of parts and in their mode of operation, as will be hereinafter described.

In accomplishing these and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein—

Figure 1 is a side view of a siphoning apparatus embodied by the present invention, illustrating its relation, when in use, to receptacles between which liquid is being transferred.

Figure 2 is an enlarged, longitudinal section of the pump and the valve mechanism embodied in the system.

Referring more in detail to the drawings—

1 designates what may be a pump cylinder of the ordinary type of construction, wherein there is contained a pump piston 2 operable by means of a piston rod 3 that extends slidably through a perforated end cap 4 that is threaded onto one end of the cylinder. At its outer end, the rod is equipped with a handle portion, here shown in the form of a ring 5, whereby the rod and piston may be moved reciprocally. The piston 2 is provided with a port 6 within which is a ball check valve 7 that operates automatically when the piston is moved outwardly to close the port and which opens when the piston is moved inwardly.

Extended along the outside of the pump cylinder is a tube 9 having one end bent laterally away from the cylinder and equipped at its outer end with a valve, or stop cock, 10. This tube connects, by means of a passage 11, with the base of the pump cylinder. Fitted onto the valve is a flexible extension tube 13, of rubber or other suitable material, of a desirable length adapted for application into the vessel or receptacle, as indicated at 14 in Figure 1, from which liquid is to be removed.

Assuming the parts to be so constructed, the use of the device would be as follows:

With the pump piston moved inwardly to its limit of travel and with the valve 10 open while the other end of the tube is closed tightly by the finger of the operator, or any other suitable means, the tube 13 is inserted in the liquid to be transferred from the vessel 14 into any other receptacle, such as the vessel 16 shown in Figure 1. The piston 2 is then drawn outwardly by means of the rod 3 thereby creating a suction within the pump that will act to draw the liquid from the vessel 14 through the tube 13. This pumping action, if necessary, could be repeated until the tube is filled with liquid. Then, the outlet of the tube 9, which necessarily must be at a lower horizontal level than the receiving end of the tube 13, is uncovered to permit an outflow of the liquid into the vessel 16. By virtue of the well-known siphoning action thus produced, the flow will continue and its rate may be controlled by adjustment of the valve 10.

It is apparent that such devices could be made in various sizes with tubes of various lengths and that various details of construction could be departed from without departing from the spirit of the invention, and, for this reason, I do not wish to be limited only to the details shown. It is intended, in this particular instance, that the device be cast from hard rubber or the like and thus the cylinder and the tube 9 may be provided in a single, integral piece.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent, is:

A device of the character described comprising a pump cylinder, a piston operable in the cylinder to create suction, a tube formed integral with the cylinder wall lengthwise of the latter and having an open-

ing therefrom into the end of the cylinder, a flexible extension connected with one end of the tube through the intermediacy of a stop cock; the opposite ends of the tube being turned laterally from the cylinder.

Signed at Seattle, Washington, this 30th day of December, 1927.

FRANK H. HUNTWORTH.