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H. P. ROBERTS.
SIPHON.

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NO MODEL.

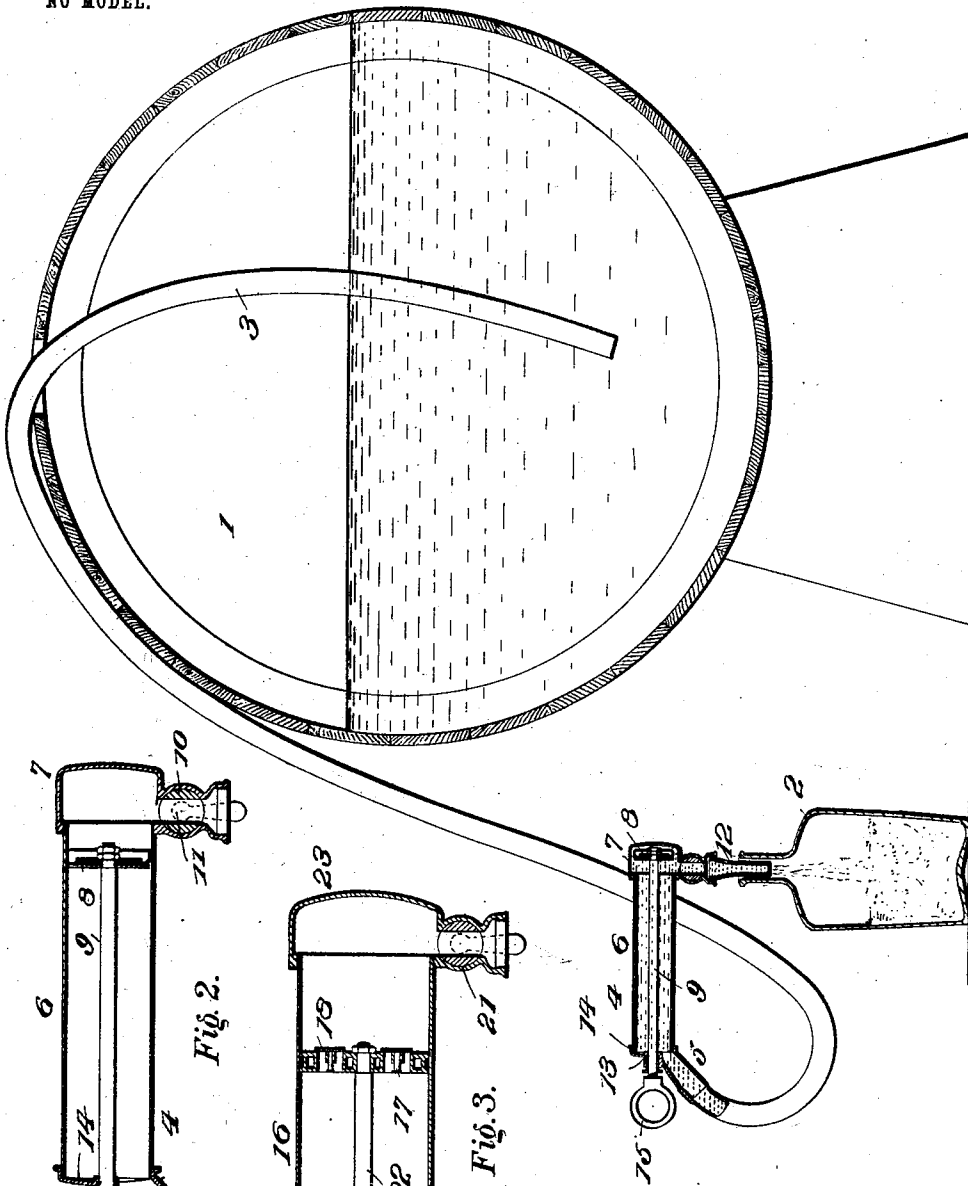


Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES:

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HENRY P. ROBERTS, OF NEW YORK, N. Y.

SIPHON.

SPECIFICATION forming part of Letters Patent No. 755,941, dated March 29, 1904.

Application filed January 7, 1904. Serial No. 188,121. (No model.)

To all whom it may concern:

Be it known that I, HENRY P. ROBERTS, a citizen of the United States of America, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Siphons, of which the following is a specification.

My invention relates to certain new and useful improvements in siphons; and the object of my invention is to produce a device by which the siphon may be started without the necessity of the operator sucking on the siphon, as is the common practice.

With this object in view my invention consists in providing the siphon-tube with a pump of a particular construction, which will be hereinafter fully described, and then specifically pointed out in the claim.

Referring to the drawings, in which the same reference-numeral is used to designate the same part wherever it occurs, Figure 1 is a sectional-view showing a siphon provided with my invention in operation. Fig. 2 is a detail sectional view of the siphon-pump. Fig. 3 is a similar view of a modified form of construction.

1 designates a barrel or other device containing the liquid to be drawn off by the siphon, and 2 the receptacle or container to be filled, these parts being shown merely for the purpose of illustrating my invention.

3 designates a hose which extends into the liquid to be drawn off, the hose being connected at one end to the pump 4 by means of the inlet-pipe 5 projecting from the pump, which forms the inlet-opening of the pump. In the form of pump shown in Figs 1 and 2 the inlet-pipe 5 is connected to one end of a cylinder 6, which cylinder at the end opposite the inlet is slightly enlarged, as at 7.

8 is a piston which fits the smaller portion of the cylinder 6, and 9 is a rod for moving the piston in the cylinder.

10 is the outlet-pipe, which is located at the opposite end of the cylinder from the pipe and, as a matter of fact, is preferably located in the enlarged portion of the cylinder. The opening of the pipe 10 is located at a distance from the head of the cylinder at least equal to the thickness of the piston, so that when the

piston is in the position shown in Fig. 1 it will be entirely clear of the opening, so that the opening will not be obstructed by the piston.

11 is a suitable valve in the pipe 10, and 12 is a nipple projecting from the pipe which may be inserted in the bottle or other container which is to be filled.

The piston-rod passes through a stuffing-box 13 in the head 14 of the cylinder, and said piston-rod is preferably provided with a handle 15, by which the piston may be reciprocated.

The operation of this form of device is as follows: After the hose 3 has been inserted into the liquid to be drawn off and the nipple 12 into the container to be filled and the hose 3 attached to the pipe 5, the piston 8 being at the end of the cylinder opposite the delivery-port 5, the piston is now moved the length of the cylinder into the enlarged portion 7 of the cylinder, thus drawing the liquid from the tank or barrel 1 into the siphon-pipe, thereby starting the siphon as soon as the piston 8 has passed the port 10.

The object in providing the cylinder with the enlarged portion 7 is to provide a space in which the piston can normally stand without being in any way compressed. By this construction when the pump is not used and the packing of the piston consequently becomes dry it will not be smaller than the cylinder, as would be the case if the enlarged section were not provided.

I desire to call attention to the fact that by having the handle 15 at the end of the cylinder opposite the outlet-pipe 10 the handle stands in a position out of the way when the piston is in its normal position, which is in the enlarged portion 7.

In Fig. 3 I show a form of pump which I use when the distance which the liquid has to be raised to start the siphon is so great that one stroke of the piston is insufficient. In this form of construction I provide the cylinder 16 with a piston 17, having valves 18 opening away from the inlet-pipe 19. The inlet-pipe 19 is provided inside the cylinder 16 with valves 20. 21 is the outlet-opening of the cylinder. The siphon-hose is connected to the inlet-pipe 19 in the manner above described,

and the outlet-pipe 21 is connected to the container to be filled. Upon the reciprocation of the piston 17 by the piston-rod 22 the liquid will be sucked into the pump and forced 5 by the same and through the outlet 21 until the siphon is started. The valves, it will be noted, allow the liquid to flow through the piston even while the pump is being actuated. 10 After the siphon has been started the piston is moved into the enlarged portion 23 of the cylinder.

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

15 In a pump adapted to be used in connection with siphons, the combination with a cylinder closed at each end by a head, a piston in the cylinder, the cylinder being provided at one end with an enlarged portion, the length of 20 the enlarged portion being greater than the

thickness of the piston, an outlet-opening located in the enlarged portion of the cylinder a distance away from the adjacent head of the cylinder as great as the thickness of the piston, an inlet-opening near the other end of the cylinder, an operating-rod for the piston passing 25 through the head of the cylinder adjacent to the inlet-opening, the construction being such that when the piston is operated to start the siphon, it will move from the inlet-opening 30 past the outlet-opening and into the enlarged portion of the cylinder.

Signed by me at New York city, county and State of New York, this 30th day of December, 1903.

HENRY P. ROBERTS.

Witnesses:

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