

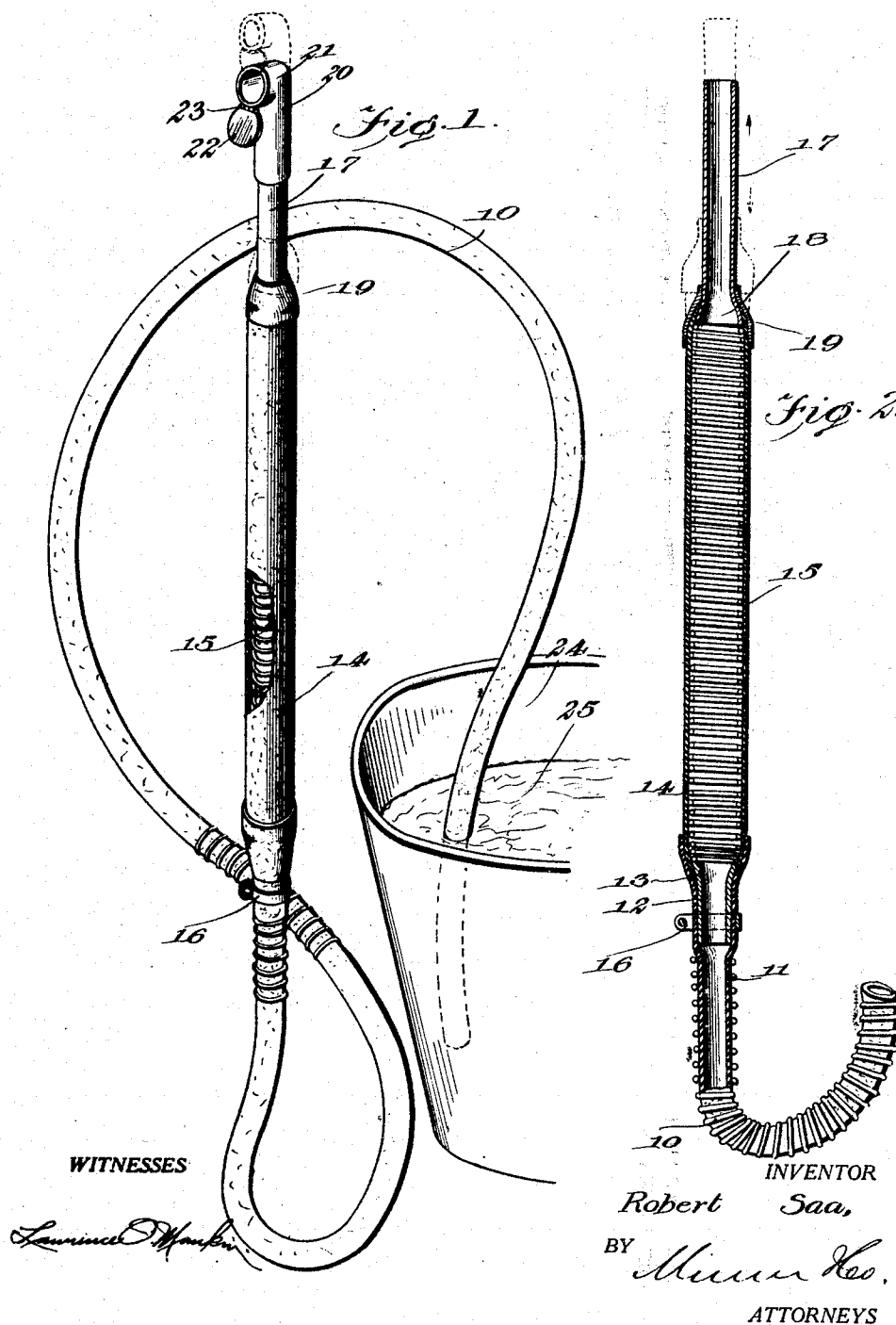
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R. SAA

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SIPHON

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UNITED STATES PATENT OFFICE.

ROBERT SAA, OF VALLEJO, CALIFORNIA.

SIPHON.

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To all whom it may concern:

Be it known that I, ROBERT SAA, a citizen of the United States, and a resident of Vallejo, in the county of Solano and State of California, have invented certain new and useful Improvements in Siphons, of which the following is a specification.

This invention relates to a siphon construction.

The object of the invention is to provide a siphon tube with means associated therewith whereby to establish a flow of liquid therethrough in a quick positive manner.

A further object of the invention is that the siphon tube be extremely simple in construction and inexpensive to manufacture.

Other objects, and objects relating to details of construction will hereinafter appear.

The invention is illustrated by way of example in the accompanying drawings, in which:—

Figure 1 is a perspective view illustrating a siphon tube of the present invention and also showing the manner in which the same may be manipulated for establishing a flow of liquid therethrough.

Figure 2 is a longitudinal sectional view of a siphon tube similar to that shown in Figure 1 but omitting the valve for the discharge nozzle of the siphon tube.

Like reference numerals refer to like parts in the different views of the drawings.

Referring to the drawings in detail, the device may comprise a tubular member 10 which is flexible and may be of any length desired. Also this tubular member is preferably wrapped with wire as at 11 in order to reinforce the same. Within one end of the tube 10 there is positioned a nipple 12 which is flared outwardly at its outer end as at 13. The tubular member 10 is preferably of rubber and extends beyond the outer end of the nipple 13 as shown in Figure 2. Within this extended end of the tube 10 there is positioned the one end of a tubular section 14, said section 14 being made of rubber which is distensible, that is, this section is elastic and adapted to be stretched. The last named end of the tubular member 14 also encircles the flared portion 13 of nipple 12, as shown, and within the tubular section 14 there is positioned an expansible spring 15. The spring 15 should extend substantially the entire length of the tubular

section 14. The nipple 12 and tube 10 are secured together by a hose clamp 16 and this clamp also serves to hold the tubular section 14 upon the nipple 12 and within the one end of the tube 10. The spring 15 should be tightly fitted within the tubular section 14 and its one end preferably abutting the nipple 12.

Within the other end of the tubular section 14 there is positioned a nozzle 17, said nozzle having an inner end portion flared outwardly as at 18 and this end portion of the nipple 17 is encircled by the associated end of the tubular section 14. About the inner end of the nipple 17 and also the associated end of the tubular member 14 there is positioned a sleeve 19 which is adapted to clamp the tubular section 14 to the nipple 17.

As shown in Figure 1 there may also be provided a nipple 20 which is adapted to fit upon the nozzle 17 and which has its outer end provided with a laterally extending portion 21. The nipple 20 is in fact L-shaped and upon its outer end there is carried a flap valve 22 which is hinged as at 23 and may be utilized to form a closure for this end of the nipple 20.

In operating the siphon shown in Figure 1, the one end of the tube 10 should be submerged in a liquid. As shown in this figure 24 represents a pail or container and 25 the liquid within which one end of the tube 10 is submerged. The liquid 25 forms a closure for this end of the tube, that is, a closure against the entrance of air into said tube. The flap valve 22 may now be closed and the nozzle 17 may be rotated or arranged so that the portion 21 of nipple 20 extends upwardly. The tubular section 14 may now be grasped with one hand by the operator and with the other hand the operator should grasp the device at a point forward to his first named hand and then exert force for distending or stretching the tubular section 14. With this occurring the capacity of the interior of the different tubular sections together with the nipple constituting the siphon will be increased. This for the reason that in stretching or distending the tubular section 14 the interior diameter is maintained constant by the spring 15 and since the tubular section 14 is lengthened the interior capacity thereof will be in-

creased. Upon the operator releasing the tubular section 14, that is, permitting the same to retract to its original length, the flap valve 22 will be lifted and air within the siphon will be discharged from the nipple 20. The operator may repeat this operation until a partial vacuum will be established within the interior of the siphon tube and the liquid within the container 24 will be drawn so that the same is discharged from the nipple 20 in a continuous manner, that is, the liquid will pass over a raised intermediate portion of the tube 10 and from thence will continue to discharge through the nipple 20.

The device may also be operated without employing the nipple 20 and associated valve 22. The device without this nipple is shown in Figure 2 and in this case the free end of the tube 10 is submerged in a liquid and then the operator would grasp the tubular section 14 with his hand and with his other hand grasp the nipple 17 and close the outer end of the nipple 17 with the thumb of his last named hand. Now the operator may distend the section 14 and then permit the same to retract and when this section is retracted, he should remove his thumb from the nipple 17 and permit air to discharge from within the siphon tube. This operation can be repeated until the liquid is drawn through the tube and the discharge thereof from the nipple 17 established.

While I have shown and described the preferred embodiment of my invention, I wish it to be understood, that I am aware of the fact that the construction, combination and arrangement of parts may be changed by those skilled in the art without

departing from the spirit of the invention, as indicated by the appended claims.

I claim:—

1. A siphon comprising a flexible tubular member having an inlet end portion, an intermediate longitudinally distensible section, and means within said section adapted to maintain constant its interior diameter, and an outlet end discharge nozzle having a one-way flap valve adapted to form a closure for said discharge nozzle, for the purpose set forth.

2. A siphon comprising a flexible tubular member having a longitudinally distensible section, longitudinally distensible means fitting within the distensible section to maintain constant the interior diameter thereof, a discharge nozzle extending from said distensible section, an angular nipple at the outer end of said nozzle, the outer end of said nipple provided with a one-way flap valve for the purposes set forth.

3. In a siphon of the class described, an elastic tube adapted to be secured between a nipple and another tube, and a coiled spring within said elastic tube to substantially maintain the diameter of said elastic tube when the latter is longitudinally stretched to start a flow of liquid through the siphon.

4. In a siphon of the class described, a substantially smooth elastic tube adapted to be secured between a nipple and another tube, and a coiled spring within said elastic tube to substantially maintain the diameter of said elastic tube when the latter is longitudinally stretched to start a flow of liquid through the siphon.

ROBERT SAA.