

(No Model.)

F. S. HILLHOUSE.
SIPHON.

No. 545,503.

Patented Sept. 3, 1895.

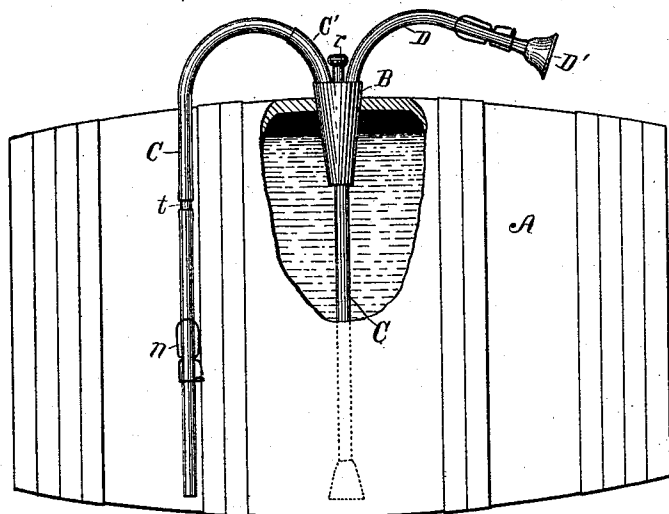


Fig. 1

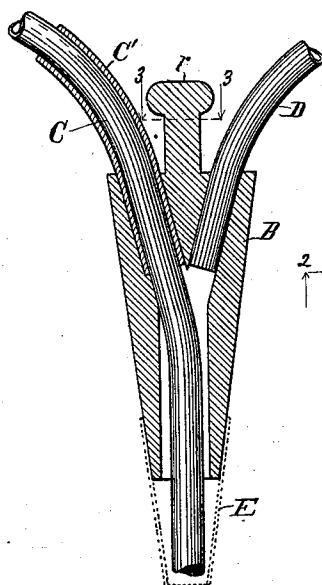


Fig. 2

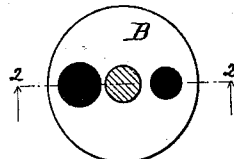


Fig. 3

Witnesses:

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Att'y.

UNITED STATES PATENT OFFICE.

FRANK S. HILLHOUSE, OF KALAMAZOO, ASSIGNOR OF ONE-HALF TO HAZEL-TINE & PERKINS DRUG COMPANY, OF GRAND RAPIDS, MICHIGAN.

SIPHON.

SPECIFICATION forming part of Letters Patent No. 545,503, dated September 3, 1895.

Application filed September 17, 1894. Serial No. 523,189. (No model.)

To all whom it may concern:

Be it known that I, FRANK S. HILLHOUSE, a citizen of the United States, residing at the city of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Siphons, of which the following is a specification.

My invention relates to improvements in siphons, and more particularly to improvements in siphons for drawing liquids from kegs or casks.

The objects of my invention are, first, to provide a siphon and attachments which can readily be adapted to any sized keg or cask or other vessel having any sized bung-hole; second, that shall be convenient to use; third, that shall be inexpensive and be rapid and clean in its operation; fourth, to provide in a siphon convenient means of operating the same in which the siphon-tube will approximate very nearly the size of the bung of the barrel; fifth, to provide a rubber-tube siphon which shall be rapid in its taking up and delivery of the liquid drawn from a cask; sixth, to provide in a rubber-tube siphon means of preventing a folding of the tube to prevent a free flow of liquid, yet at the same time leaving the tube flexible; seventh, to provide in a rubber-tube siphon for drawing liquids from barrels means of adjusting the same to secure the best results from the delivery-pipe, and, eighth, to provide a siphon adapted for use in very large as well as very small bung-holes. I accomplish these objects of my invention by the devices shown in the accompanying drawings, in which—

Figure 1 shows a view in perspective of my improved device as applied to an ordinary barrel, part of the barrel being broken away to show the interior of the same. Fig. 2 is a sectional view through the bung and main parts of the device on lines 2 2 of Fig. 3. Fig. 3 is a sectional view of the bung on line 3 3 of Fig. 2, the tubes being removed.

Similar letters of reference refer to similar parts throughout the several views.

In the drawings, A represents the cask.

B represents my improved bung, made of wood or some solid rigid material, through which my improved siphon is inserted into the barrel. This bung is provided with a

single aperture at the bottom, branching into two at the top, so that there are two separate openings out at the top. Down through the bung is inserted the siphon-pipe C, which passes down through the bung to the bottom of the cask from which it is desired to draw liquid. The lower end of this pipe is made heavy and enlarged into a bell-shaped mouth *z*, which greatly facilitates the flow. These pipes are made of india-rubber. An auxiliary supporting-pipe C' extends a short distance out from the top of the bung to prevent the pipe collapsing under its own weight where it bends. In the other side of the bung is a small pipe D, bearing a mouthpiece D', bell-shaped, so that only the exterior of the lips need to be placed in contact with the same. The opening up from the bottom of the bung is slightly larger than the main siphon-pipe and leaves an air-space around the same up to the point of branching. From the top of the bung projects a little stem, supporting the knob *r*. Suitable clamps, as *n*, are placed on the rubber pipes, so that they can be readily opened and closed. A joint *t* is made in the main siphon-pipe, so that it can be lengthened or shortened, as desired, by the addition or removal of an extra piece of pipe.

Now, in the operation of my improved device the bung part is inserted in the bung-hole of the cask from which the liquid is to be drawn. The pipe or tube C, which fits only loosely, is pushed through the supporting-tube C' till it reaches well down toward the bottom of the cask, and the end of the pipe is spliced until it reaches below the upper surface of the fluid in the cask. Then pressure is applied by placing the lips on the mouthpiece D', blowing through the same into the barrel. The air will pass in through the bung, out through the annular air-space around the main siphon, out into the vacant space in the cask, and the pressure will cause the fluid to rise in the tube C and pass out as through an ordinary siphon to the outside, when the lips can be removed and the siphon-pipe C will act as a siphon in the ordinary way. The flow can be stopped by the clamp *n*, or by simply raising the outer end of the pipe above the level of the liquid in the cask. My invention is designed, as will be seen

on inspection, to make it possible to use a large outlet-pipe in the bungs of comparatively small casks, allowing only one pipe C to pass down out at the bottom of the bung, the pipe D, at which air is forced in, only joining the passage where it is enlarged larger than the pipe C, the air readily passing down around the outside of said pipe to create pressure in the cask. For ordinary purposes the bung can be constructed of a single piece of wood or very firm inelastic material. Where, however, it is desired to reduce the size still smaller a thin sheet-metal thimble E (indicated by dotted lines in Fig. 2) can be added, so the same can be inserted into a cask, bottle, or jug having a mouth only slightly larger than the outside tube. Thus the thimble E and the upper part of the bung prevent the tube wedging into the place and leaves enough space for the air to pass in that creates pressure to cause the siphon to operate. This improved siphon will operate very readily if the bung is only inserted by the force of the hand. To provide a convenient means of inserting it stronger, where it is desired, a knob *r* is provided, which projects up from the top of the bung to a convenient place to receive a blow from a hammer or small mallet. This knob also serves the very useful purpose of assisting in removing the bung.

Where it is desired to use the device to operate under pressure, instead of depending on siphonic action, only the bung B should be inserted tightly in the barrel; and when strong pressure has been introduced through the tube D the tube should be clamped. Then the liquid will escape under strong pressure as soon as the clamp *n* in the siphon C is opened. For ordinary purposes such pressure will be entirely unnecessary.

Having thus described my improved siphon, I desire to say that it is capable of considerable variation without departing from my invention, as pointed out in the claims hereinafter.

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

1. The combination of the tapered bung, B, of rigid, inelastic material with a passage therethrough branched into two at the top; a knob, *r*, on a stem above said bung for convenience in handling and inserting the same; a rubber tube, C, passing through one branch of said passage through the main part at the bottom which is slightly larger than the tube;

a taper thimble, E, to be placed on the lower end of said bung to reduce the size thereof approximately the size of the siphon pipe; an air pipe, D, leading through the other branch of said opening from the top of the bung to the single passage at the bottom to introduce air through the annular space around the siphon pipe, substantially as described for the purpose specified.

2. The combination of the tapered bung, B, of rigid, inelastic material with a passage therethrough branched into two at the top; a knob, *r*, on a stem above said bung for convenience in handling and inserting the same; a rubber tube, C', inserted into one of the branches of said passageway securely; a rubber tube, C, inserted adjustably through said tube, C', down through the single part of the passageway into the barrel; a pipe, D, inserted in the other branch of said passage, for the purpose of introducing air pressure from the lungs, for the purpose specified.

3. The combination of a tapered bung of rigid, inelastic material with a passage therethrough approximating the size of the lower end of the bung and branching in two openings out at the top of the bung; a rubber tube, C', secured in one branch of said passage; a siphon tube adapted to be inserted through the said tube C' and adapted to pass down through the single passage at the bottom of the bung leaving an annular space around the pipe at the bottom of the bung; a rubber pipe inserted in the other branch of said passage for the purpose of introducing air pressure from the lungs of the operative to start the siphon, as specified.

4. The combination of a tapered bung of rigid material with a passage extending upwardly from the bottom thereof and approximating the size of the lower end of the bung and branching obliquely into two passages out at the top of the bung; a siphon pipe inserted adjustably through one of said branch passages and the main passage, the said pipe being slightly smaller than the main passage; and a pipe to deliver air pressure to the barrel, inserted in the opposite branch opening at the top of the bung, for the purpose specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

FRANK S. HILLHOUSE. [L. S.]

Witnesses:

WALTER S. WOOD,
MARIAN LOUGHEAR.