

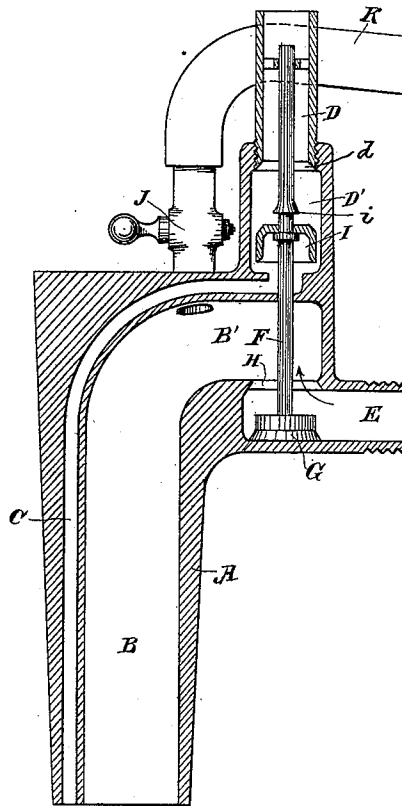
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C. L. SCHALITZ.
NON-OVERFLOW FILLING ATTACHMENT FOR CLOSED VESSELS.

(Application filed Aug. 12, 1898.)

(No Model.)



Witnesses,
J. F. Clack
J. F. Clack

Inventor
Carl L. Schalitz
By Dewey Strong & Co

UNITED STATES PATENT OFFICE.

CARL L. SCHALITZ, OF SAN FRANCISCO, CALIFORNIA.

NON-OVERFLOW FILLING ATTACHMENT FOR CLOSED VESSELS.

SPECIFICATION forming part of Letters Patent No. 621,149, dated March 14, 1899.

Application filed August 12, 1898. Serial No. 688,428. (No model.)

To all whom it may concern:

Be it known that I, CARL L. SCHALITZ, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Non-Overflow Filling Attachments for Closed Vessels; and I hereby declare the following to be a full, clear, and exact description of the same.

10 My invention relates to a device which is especially designed for the filling of casks, tanks, and similar closed vessels and a means whereby the supply of liquid is automatically cut off when the receptacle is full and any
15 overflow of the liquid is prevented, the operator being notified when the filling is completed. It is especially designed for use in connection with the transfer of wines and liquors from one tank or cask to another,
20 either by gravitation when the receptacle to be emptied is above the wine to be filled or by pumping when these conditions are reversed.

It consists in the parts and the constructions and combinations of parts hereinafter described and claimed.

Referring to the accompanying drawing, the figure is a vertical section through my device.

30 A is a chamber, made of metal or other suitable material, having the lower end adapted to fit into the bung-hole of a cask or receptacle which is to be filled, either by being screw-threaded or driven, so as to make a tight fit
35 and prevent leakage around it. This chamber has an interior passage B, the portion which enters the cask being approximately vertical and the upper portion bending at right angles therewith, as shown at B'. Exterior to this passage is a small passage C, following the curvature of the main passage and opening at the end of the horizontal portion into an upwardly-extending tube or passage
40 D. In line below this passage and below the horizontal passage B' is a chamber or passage E, which is fitted to connect with a hose or other filling-pipe having a suitable cock or faucet by which the supply may be admitted or cut off.

50 Within the pipe D and extending down through the passage B' and into the chamber E is a valve-stem F. Upon the lower end of

this stem is fixed a valve G, which is adapted to close upwardly against a seat H made between the chamber E and the passage B'. 55

The lower part of the air-passage D is enlarged or counterbored so as to form a chamber D' of larger diameter than the pipe D, and within this chamber is a piston-valve I, which is mounted upon the valve-stem F and
60 movable when the liquid rises up into the chamber, so as to lift the valve-stem and close the valve G.

In the normal position the weight of the valves and the stem will cause the valve G to
65 drop and rest upon the lower part of the chamber E, and this leaves a free passage above from the chamber E into the passage B', through which liquid will flow into the cask, the air escaping through the passage C
70 into the chamber D', and as the diameter of the chamber is greater than that of the valve I the air will freely escape up the pipe D until the cask is filled up to the bottom of the following chamber A. Liquid will then rise
75 the passage C, and when this is filled will rise into the chamber D' and, acting upon the piston I, will raise it until it fits against the seat *d* in the lower end of the pipe D. At the same time the valve G is raised and closes against
80 the seat H and prevents any further admission of liquid into the cask, the greater the pressure of the liquid the stronger the lifting power of the piston I, and consequently the valve G will be forced against its seat with a
85 resulting greater pressure.

The piston-valve I may preferably be made hollow, so that when the liquid commences to rise around it it will exercise a lifting force in addition to the momentum of the moving
90 liquid, which will insure the raising of the piston and the connected valve G and the closure of the latter. The piston I is preferably slidable upon the stem F, so that it will be moved instantly and easily by the rising
95 liquid until it enters the seat *d* in the lower end of the pipe D, in which it fits closely. Shortly after the piston commences to rise it engages a lug or stop *i* on the valve-stem and thereafter acts to raise and close the valve
100 G. This construction allows the piston to be raised easily by the first contact of the liquid, and after it enters the pipe D the pressure will raise the valve G.

If desired, the pipe D may be made partially of glass or other transparent medium or may have a transparent section fitted into it so that the interior can be seen.

5 The closure of the valve G will be sufficient by reason of the pressure from the source of supply to maintain a tight joint, and the filling device A can be removed from one cask to another without otherwise cutting off the
10 supply, if desired; but a supplemental cock may be used in the connecting-pipe, if preferred.

When the filling device A is lifted from the cask or receptacle, the surplus liquid which
15 remains within the passages B, B', and C will flow out into the cask, there always being sufficient space above the bottom of the device A which is not filled in the first instance to receive this surplus liquid when the device
20 is lifted out of the cask, so as to allow air to enter around it and displace the liquid in the passages.

In some cases it may be desirable to have a connection between this device and the tank
25 from which the filling is being done when the filling-tank is below the level of the one which is being filled and when a pump is used to force the liquid into the receptacle. In this case I make a connection with the passage
30 B B' and with a cock, (shown at J,) and a flexible hose or pipe K connects therewith and leads back to the supply-tank, so that the operator is notified when the cask is full and to cease pumping. In this instance the pipe K
35 may be used, so that if the valve G should not act properly the pipe would act as an overflow, and consequently as an indicator to the operator at the pump.

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

1. A device for filling closed receptacles having a passage through which the liquid is introduced, a supplemental passage through
45 which air escapes, a tube above the air-passage having its lower portion enlarged and communicating with said air-passage, a stem, an upwardly-closing piston mounted in the enlarged passage and adapted to close the
50 air-passage, and a valve on said stem adapted to close the liquid-passage.

2. A device adapted to be fitted directly to the cask or receptacle, and provided with a liquid-passage and a passage below the first-
55 named passage and adapted to connect with

a filling-tube, a valve-seat between said passages and an upwardly-closing valve to engage said seat; an air-passage, a vertical air-escape tube having a seat at its lower end and an enlarged chamber below said seat and
60 communicating directly with the air-passage, a stem passing through the air-pipe, enlarged chamber and supply-passages and having the upwardly-closing valve secured to its lower end, and a piston on said stem and located
65 in said enlarged chamber, and adapted to close the lower end of the air-pipe and raise the valve to cut off the liquid-supply.

3. In a device of the character described, a liquid-inlet passage curved as shown, a supplemental air-passage following the curvature of the inlet-passage and the vertical tube into which the air-passage discharges, said tube having the lower portion chambered or enlarged, a piston upon a stem which extends
75 downwardly through the horizontal portion of the filling-passage, said piston remaining normally in the enlarged portion of the tube so that air can freely escape around it, a valve-chamber situated in line below the air-
80 escape pipe and the horizontal portion of the filling-passage, a valve fixed to the lower end of the stem within said chamber and adapted to close upwardly against the seat between the chamber and the filling-passage whereby
85 the liquid rising into the air-passage after the receptacle is full, will lift the piston until it closes the inlet end of the tube and the valve closes the filling-passage.

4. In an apparatus of the character described, a filling-chamber with liquid-inlet and air-escape passages, a valve controlling the inlet-passage, the stem of which extends up into the air-escape passage, a piston loosely fitting the valve-stem and remaining
95 normally in the enlarged lower part of the air-passage so that air passes it freely, and a lug or collar upon the valve-stem above the piston, whereby the piston only is raised by the first contact of liquid rising into the
100 chamber until it contacts with the collar so that a further movement raises the valve and its stem.

In witness whereof I have hereunto set my hand.

CARL L. SCHALITZ.

Witnesses:

S. H. NOURSE,
JESSIE C. BRODIE.