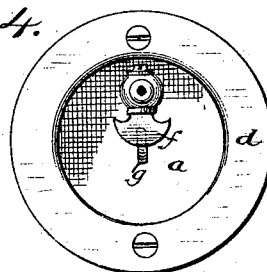
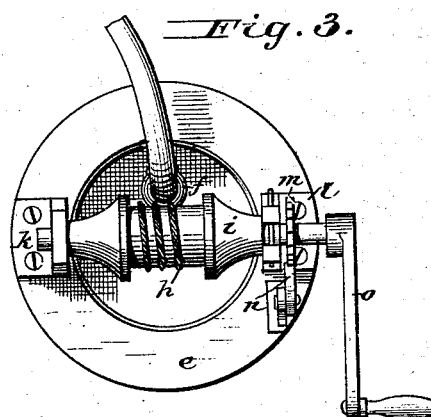
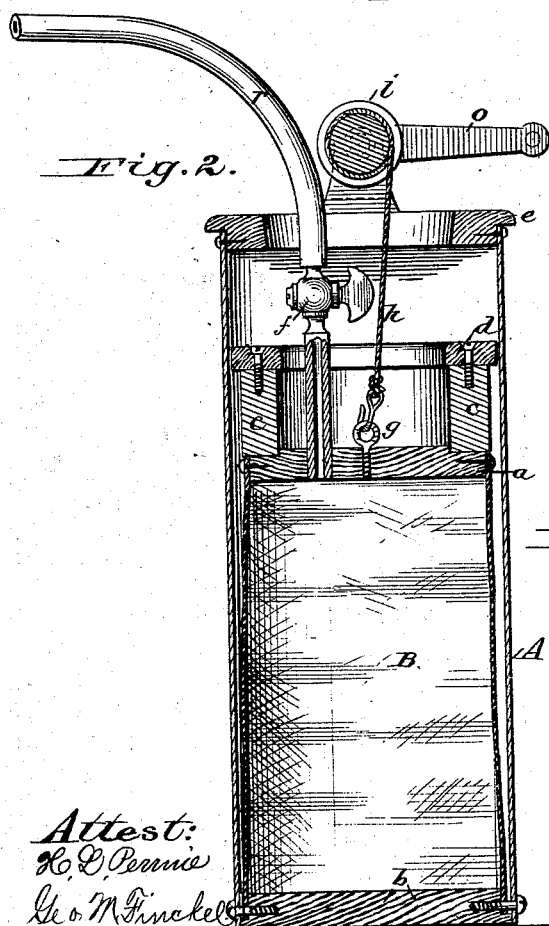
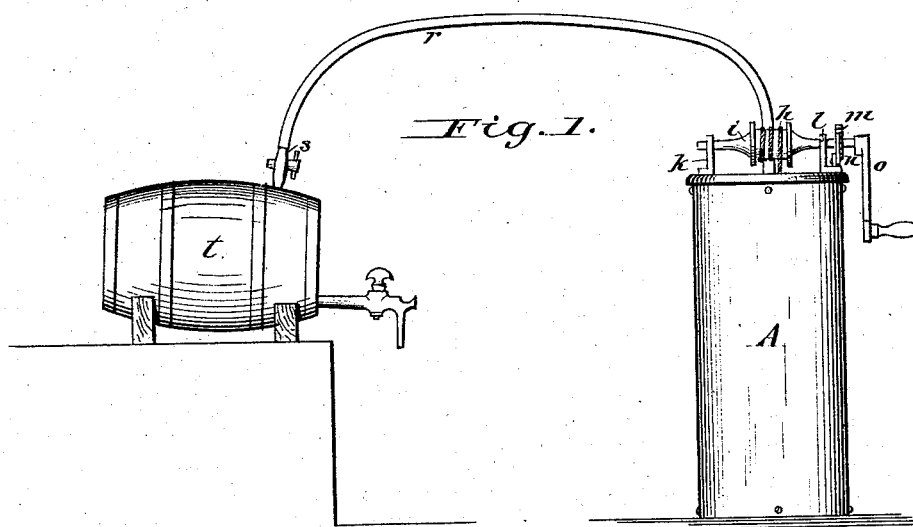


Patented Sept. 9, 1879.



Attest:
H. D. Pernie
Geo. M. Fincke

Twentors.
Warren H. Boles,
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by Wm. H. Finckel. Atty.

UNITED STATES PATENT OFFICE.

WARREN H. BOLES AND GEORGE B. HALL, OF FORT PLAIN, NEW YORK;
SAID HALL ASSIGNOR OF HIS RIGHT TO JAMES H. PETTIT AND WILLIAM
C. REID, OF SAME PLACE.

IMPROVEMENT IN AUTOMATIC PRESSURE-VENTS FOR BEER-BARRELS.

Specification forming part of Letters Patent No. **219,440**, dated September 9, 1879; application filed
May 27, 1879.

To all whom it may concern:

Be it known that we, WARREN H. BOLES and GEORGE B. HALL, both of Fort Plain, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Automatic Pressure-Vents for Beer-Barrels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part hereof.

Our invention relates to that class of apparatus which is designed to take the place of ordinary vents and prevent the escape of gas from beer or like malt liquors, and to provide a static pressure, or pressure of the same air and gas rather than of fresh air, at each draft, acting automatically to keep the gas of the liquor within the barrel or keg to force the liquor out of the keg when it is desired, whereby such liquors may be kept on draft any length of time without becoming stale or flat, so that dealers not having constant demand for such liquors may keep them on draft.

Our invention, like those of the class upon which it is an improvement, differs from ordinary beer-pumps in that it does not, like them, force fresh air into the barrel to cause a flow every time the liquor is drawn; and thereby so dilute the gas as to quickly rob the liquor of its life; but, on the contrary, it maintains a static pressure of the gas and the same air upon the liquor. Unlike ordinary vents, it retains the gas instead of allowing it to escape, and adds air-pressure to it to cause the liquor to flow.

Our invention, then, consists in an air-receptacle adapted to be valvularly connected with a beer or other gaseous liquor cask, keg, or barrel, to take the place of an ordinary vent, and operating to receive and retain air and the gas that may escape from the keg, and adapted to automatically force such gas mingled with air with static pressure upon the beer or liquor, and cause it to flow when the spigot is opened, the said air receptacle or sack being arranged within a shell and having a cord and windlass to raise it, so as to permit it to fill with air, and a weighted top to give pressure to the contained air, the whole

forming a portable apparatus which may be readily and easily transported independently of the barrel.

In the drawings above referred to, Figure 1 is a side elevation of devices embodying our invention. Fig. 2 is a central vertical section of the pressure apparatus. Fig. 3 is a top-plan view of the same, and Fig. 4 a top-plan view of the air receptacle or sack.

The letter A designates a metal or other shell having a removable solid bottom, *b*, and an annular head, *c*. Within this shell is arranged a distensible sack, B, of rubber or other air and gas tight material. The solid bottom *b* may also form the bottom of the sack B, in which case it will be secured in the shell by screws, as indicated.

The top of the sack B is provided with a head, *a*, an annular weight, *e*, and an annular cap, *d*, this last being of such diameter as to fit snugly within the shell and serve as a guide to keep the sack from wobbling as it moves up and down in the shell, as hereinafter described. A stop-cock or other valve, *f*, is arranged in the head of the sack. Said head is also provided with a staple or eye, *g*, into which is hooked a cord, *h*, that is attached to and wound about a drum, *i*. This drum has bearings in brackets *kl*, secured to the head *e*, and one end of its shaft is provided with a ratchet-wheel, *m*, with which engages a pawl, *n*, and on which end is the crank *o*.

A tube, *r*, extends from the valve *f*, and may have a cock, *s*, at its other end, by which it may be secured to the barrel or keg *t*. Said tube may be connected with the barrel at the bung-hole, but is preferably attached at the vent-hole, and its attachment is made airtight.

The apparatus being constructed as described, its operation is as follows: The valve *f* being open, the crank is turned, so as to wind the cord *h* about the drum, and thus draw the head of the sack up. By so doing the air will be drawn into the sack B and fill it. The pawl is then thrown into the ratchet, to prevent the unwinding of the cord and descent of the sack, and the valve is shut off or closed, whereby the escape of the air in the

sack is prevented. The cord may now be disengaged from the eye of the sack. The cock *s*, being closed, is driven into the barrel, or the tube *n* otherwise connected with said barrel. In driving the cock *s* into the barrel it is closed to prevent the escape of the gas from the barrel. When the liquor is to be drawn the cocks *f* and *s* are opened, allowing the air and gas to mingle, and establishing communication of the pressure in the sack with the liquor in the barrel. As the liquor is withdrawn from the barrel the air takes its place, the weight on the head of the sack serving to force out the air with constant pressure, so that the barrel is kept constantly filled with the same air at uniform pressure.

It will be noticed that this sack is in no sense a bellows, taking fresh air fitfully into itself with one valve, and forcing it in like manner into the liquor-barrel through another, as each draft is drawn, but is an air-receptacle, receiving its air through one cock and expelling it through the same with static pressure, the same air being used until the barrel of liquor is emptied. In this way, it will be no-

ticed, the same air is constantly used and, as no gas escapes from the barrel, the liquor is preserved from becoming stale or flat. By taking out the screws connecting the shell and bottom *b* the sack may be removed from the shell.

This apparatus will be found specially useful to small dealers in malt liquors, who are obliged to keep them on draft, as by it they can be kept sweet for a long time.

What we claim is—

The combination of the air-sack *B*, weighted top *a*, annulus *d*, valve *f*, a cord and windlass, and an inclosing-shell, *A*, the whole constituting a portable automatic pressure vent or apparatus for beer-barrels, substantially as shown and described.

To the above specification of our invention we have signed our names this 26th day of May, A. D. 1879.

WARREN H. BOLES.
GEORGE B. HALL.

Witnesses:

F. F. WENDELL,
WILLIAM H. SEUTZ.