

E. M. CRANDAL.
Bungs and Vents.

No. 155,425.

Patented Sept. 29, 1874.

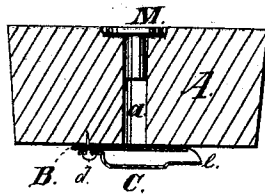


Fig. 1.

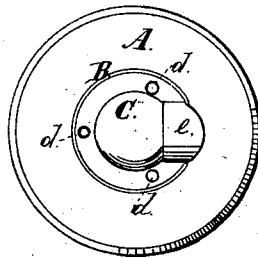


Fig. 2.

Witnesses:

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Inventor:

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by Coburn & Huntley
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UNITED STATES PATENT OFFICE.

EDWARD M. CRANDAL, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT, BY MESNE ASSIGNMENTS, TO CHARLES H. KIRKHAM, OF SAME PLACE.

IMPROVEMENT IN BUNGS AND VENTS.

Specification forming part of Letters Patent No. 155,425, dated September 29, 1874; application filed July 14, 1874.

To all whom it may concern:

Be it known that I, EDWARD M. CRANDAL, of Chicago, Illinois, have invented certain Improvements in Bungs and Vents, of which the following is a specification:

This invention relates to a ventilated bung for beer, wine, and other casks. I take an ordinary wooden bung and bore a hole through it upon the side or end which is to enter the barrel. I cover said hole with a thin sheet of pure india-rubber, or an equivalent material, which is held in place by a sheet-metal cap or hood, which clamps the sheet to the bung at all sides, except at a space left purposely loose, over which the hood is arched. In the other end of the hole I insert an iron rivet-headed plug, which prevents the hole from being closed by the battering of the wood when the bung is driven into the barrel; also to prevent air from being forced into the keg or barrel; and also to assist the valve to withstand the pressure occasioned by the gases arising from the beer while standing in the keg. This plug is to be removed when the vent is to be brought into action in drawing off the contents. The air will pass freely through this vent into the barrel; but the rubber sheet will be pressed against the aperture by the gas in the barrel or cask, and prevent its escape if the current tends the other way. The sheet of rubber or similar material lying flat against the aperture forms a perfect valve, through which a current can be forced only in one direction, viz., into the barrel.

In the accompanying drawing, which forms a part of this specification, Figure 1 represents a vertical central section of my improved ventilated bung. Fig. 2 is an under-side or bottom view of the same.

In said drawing, A represents a common wooden bung with an aperture, *a*, bored through it from top to bottom. B is a thin sheet of rubber lying flat against the under surface of the bung, covering the aperture *a*, and extending some little distance upon each side thereof. C is a sheet-metal cap or hood, fastened to the bung by the three tacks *d*, and resting upon and securing the rubber sheet. At one side this hood is arched to form an

aperture or port, *e*, which does not rest upon the rubber. There may be one or more of these ports. Air from outside enters the aperture *a*, and, pressing down the rubber, escapes under the edge thereof at the port *e* into the barrel. If the pressure inside of the barrel is more than that of the air outside, the gas will press the rubber sheet close against the surface of the bung, and the valve will remain closed, while, if there is a partial vacuum in the barrel, the pressure of the air outside will easily force a current through the valve or vent.

The rivet-headed iron plug M is inserted by the brewer, or by the manufacturer of the bung, and should remain in its place until after a part of the beer is drawn from the cask, thus guarding against the liability of battering the aperture and closing it by the blows in driving in the bung, and preventing the air from being forced into the cask through the vent as the bung is driven into the bung-hole. This rivet also acts in conjunction with the valve in overcoming the pressure of the beer in the cask. Beer frequently, while standing confined in the cask, makes a pressure outward so great as to be liable to burst the thin rubber valve when left entirely unsupported. This rivet-headed plug remaining in the vent-hole assists the valve in sustaining this outward pressure, and keeps it from bursting. There is always such a pressure in the beer-cask full of beer that a portion of the beer can be drawn from the cask before the admission of air becomes necessary. This plug should not be removed until after a part of the beer is drawn from the cask, thus relieving the pressure from within outward. When a vent is desired to the cask this plug can be easily removed with any kind of a sharp-pointed pry, as, for example, with an ice-pick, by inserting the point of the pick under the head of the plug.

This ventilated bung is very cheaply made, and works remarkably well, the valve contrivance being so simple that it cannot get out of order very easily. The iron rivet-headed plug is easy to insert and to remove, and preserves the vent from injury at all times when

not in operation. The plug M also serves to keep the aperture free from dirt, which might interfere with the operation of the valve.

The metal cap is a sufficient protection for the rubber in shipping the bungs from the factory, as said cap guards the rubber from contact with anything perfectly.

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

1. The oval cap C, made with a port, *e*, on one side, the thin sheet of rubber B, held firmly

to the bung about its entire circumference by the cap C, except beneath the port *e*, and the bung A, provided with the aperture *a*, as described.

2. The rivet-headed metal plug M, in combination with the vented bung A, provided with the valve B, as and for the purpose specified.

EDWARD M. CRANDAL.

Witnesses:

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