(No Model.)

C. A. CARLSON.

VENT PLUG FOR DRAWING LIQUORS.

No. 393,418. Patented Nov. 27, 1888.

FIG. 1.

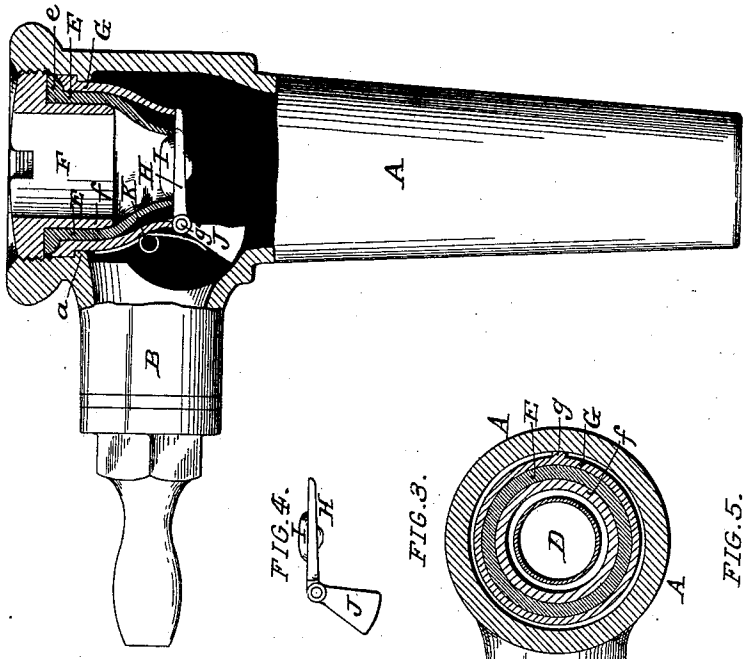


FIG. 4.

FIG. 3.

FIG. 5.

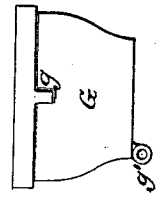
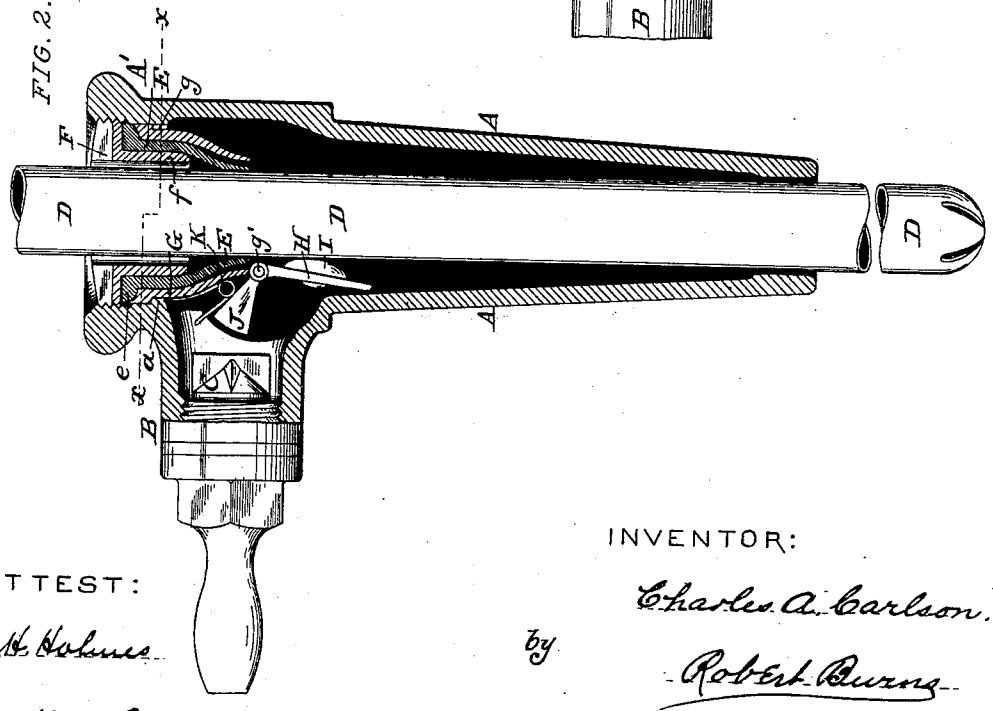


FIG. 2.



ATTEST:

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CHARLES A. CARLSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO FRED F. TEMPLE AND WILLIE A. JOHNSON, OF SAME PLACE.

VENT-PLUG FOR DRAWING LIQUORS.

SPECIFICATION forming part of Letters Patent No. 393,418, dated November 27, 1888.

Application filed February 3, 1888. Serial No. 262,955. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. CARLSON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vent-Plugs for Drawing Liquors; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates to that type of vent-plugs described in Letters Patent No. 376,635, issued January 17, 1888, to the present assignees, for improvement in vent-plugs for kegs and casks; and the present improvement has for its objects, first, to afford a simple, efficient, and perfectly-housed arrangement of check-valve for closing or sealing the bore of the vent-plug during the preliminary steps of driving it into the bushed opening or bung-hole of the barrel or keg and holding such bore sealed until the discharge or eduction tube is introduced; second, to provide an improved arrangement of parts whereby the elastic cup-shaped gland that packs the eduction-tube is also utilized, during the absence of such tube from the vent-plug, to form an elastic seat for the check-valve that closes the bore of said plug; third, to provide an improved construction of the elastic cup-shaped gland adapted to pack or seal the joint between its follower ring or nut and the vent plug, as well as the eduction-tube through which the contents of the barrel or keg are withdrawn.

I attain such objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is an axial section of a vent-plug embodying my improvements, the eduction-tube being removed and the check-valve represented in its closed position; Fig. 2, a similar view representing the eduction-tube in position in the plug and the check-valve in its open position; Fig. 3, a horizontal section at line *x x*, Fig. 2; Fig. 4, a detail side elevation of the check-valve and its weighted arm, and Fig. 5 a detail side elevation of the valve-supporting thimble.

Similar letters of reference indicate like parts in the several views.

Referring to the drawings, A represents the vent-plug, of the usual hollow externally-tapering construction, its head A′ being beaded or re-enforced, as shown, to receive the impact of the blows employed in driving it to a tight fit in the bung-hole of the barrel or keg.

B is the usual laterally-arranged pressure-inlet, having an inwardly-opening check-valve, C, of any usual construction. This inlet is adapted to receive the flexible connection from an air pump, compressor, or other source of pressure, so as to introduce through the hollow vent-plug a supply of air or gas under pressure, to be used in forcing the liquor from the keg or barrel through the discharge or eduction tube D, which passes axially through the plug A and is tightly packed at a point above the laterally-arranged pressure-inlet B by means of a cup shaped packing, E, of rubber or other elastic material, the free or lower end of which is contracted so as to tightly embrace the tube E, so as to prevent the escape of air up around the same, as indicated in Fig. 2.

The thimble G is arranged wholly within the interior of the head A′, as shown, so as to avoid liability to injury by the blows of the mallet used in driving the vent-plug into the barrel or keg.

The packing E is secured in the upper end of the plug A by being provided with an external rim or re-enforce, *e*, which clamps between the lower face of its follower nut or ring F and the top of the valve-supporting thimble G. With this construction, when the follower-nut F is screwed up, the re-enforced rim *e* will be expanded to form a tight joint between such nut and the bore of the vent-plug.

In addition to the above-described means for securing the packing E in place, it may be stretched over a downwardly-extending sleeve, *f*, forming an integral part of the follower nut or ring F, as described in Letters Patent No. 376,635, before referred to, and as clearly illustrated in Figs. 1 and 2.

The valve-supporting thimble G is of a pendent cup form, resting by means of an annular rim upon an annular inwardly-projecting flange or shoulder, *a*, of the vent-plug, and provided with a spline, *g*, on its side, that engages in a notch in the rim *a*, to prevent any accidental

turning movement out of its proper arrangement after it has been introduced into position.

At its lower end the valve-support G is formed with pivot lug or lugs g' for the check-valve H, which is adapted to swing downward and inward, and is preferably formed with a projecting button or head, I, adapted to enter the contracted mouth of the annular elastic packing E, to attain a better and more effective seating than in cases where the top of the valve is made plain or flat.

To prevent any undue pressure in the barrel or keg from forcing the valve up too far, I extend it so that when properly seated in or on the elastic packing E it will also bear upon the margin of its annular support G, to prevent any further upward movement.

This valve is adapted to remain seated during the preliminary operation of driving the vent-plug into the bung-hole of the barrel, and also until the discharge or eduction tube D is introduced, the object being to prevent the escape of the gases under pressure usually found in fermented liquors, as well as the frothing up and escape of the liquor.

In order to render this valve self acting or closing, I provide it with a weighted arm, J, as shown, the action of which is to keep the valve to its seat at all times other than when it is held away therefrom by the discharge-tube D, as illustrated in Fig. 2. In addition to the weighted arm J, a suitable spring, K, may be employed to assist in closing the valve, if desired.

With the above-described construction the annular elastic packing E is made to subserve the threefold purpose of packing the gland-follower F, effecting a seal around the eduction-tube D, and forming a seat for the check-valve H, that closes the bore of the vent-plug.

In the practical use of my improved vent-plug the tubular wrench (not illustrated) described in the before-mentioned Letters Patent No. 376,635 may be used in manipulating the parts in the different operations to which the plug is submitted, as fully set forth in said patent.

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

1. The combination of the hollow vent-plug A, having a re enforced head, A′, to receive the blows given in driving the plug into place, thimble G, supported within the interior of the head A′ by an annular rim resting upon the flange a of the head A, valve H, pivoted to the lower end of said thimble, and follower nut or ring F, essentially as described, and for the purpose set forth.

2. The combination of the hollow vent-plug A, having a re enforced head, A′, thimble G, supported within the interior of the head A′, follower-nut F, and valve H, pivoted to the lower end of said thimble and provided with a weighted arm, J, essentially as described, and for the purpose set forth.

3. The combination of the hollow vent plug A, having a re-enforced head, A′, thimble G, supported within the interior of the head A′, follower-nut F, and valve H, pivoted to the lower end of the said thimble and provided with a weighted arm, J, and spring K, essentially as described, and for the purpose set forth.

4. The combination, with the hollow vent-plug A, of a removable thimble, G, attached valve H, and annular pendent packing E, adapted to form a seat for the valve, essentially as herein set forth.

5. The combination, with the hollow vent-plug A, of a removable thimble, G, attached valve H, having a projecting head or button, I, and annular pendent packing E, adapted to form a seat for the valve, essentially as herein set forth.

6. The combination of the hollow vent-plug A, pendent cup-shaped packing E, having at its upper end a marginal re-enforced rim, e, and the follower-nut F, the parts being arranged and operating in the manner and for the purpose set forth.

7. The combination, with the hollow vent-plug A, provided with flange a, having a recess, of the removable thimble G, having a spline, g, fitting the recess in the rim a, and the attached valve H, essentially as set forth.

In testimony whereof witness my hand this 30th day of January, 1888.

CHAS. A. CARLSON.

In presence of—

ROBERT BURNS,

M. H. HOLMES.