BUNG-HOLE FITTING.


To all whom it may concern:

Be it known that I, WILLY HOMANN, manufacturer, a subject of the King of Prussia, German Emperor, residing at No. 14 Adenstrasse, Dusseldorf, Germany, have invented new and useful Improvements in Bung-Hole Fittings for Casks or Barrels, of which the following is a specification.

The present invention relates to improvements in bung-hole fittings for casks or barrels which, obviating the usual cork plug, consist almost entirely of metal and can easily and effectively be cleaned and conveniently handled. It provides an inexpensive but efficient device capable of ready removal whenever desired.

The invention more particularly refers to certain improvements in the construction of bung-hole fittings, as will be more fully set forth hereinafter, and the essential elements of which are recited in the appended claims.

The invention consists of a fitting to be inserted in the bung-hole, the opening being closed by a valve inside the cask. On screwing in the tap sufficiently the valve will open, as hereinafter described.

By way of example the accompanying drawings illustrate various ways of carrying out the invention.

Figure 1 is a front elevation of the bung; Fig. 2, a sectional view of the same, the screwed end of a tap being shown inserted in the bung. Figs. 3 and 4 are rear elevations of the bung closed and opened, respectively. Fig. 4 shows a front elevation of the plug inserted in the bushing. Fig. 4 is a side elevation of the plug as seen from the right-hand side of Fig. 4.

In the bung-hole of the cask or barrel a bushing α, preferably of metal, is firmly secured by means of screw-threaded and a special screw β. The bushing α possesses an eccentric bore c, the inner portion of which is provided with a screw-thread, into which is screwed from inside the cask a plug e, fitted with a square hole d. The inner end of this plug is provided with a flange-like projection and rests tightly against the edge around the bore c. The inner and narrower end of the hole d is constructed so as to form a valve-seating. A cone or semicircular shaped valve f fits on this seating. The valve f is fast to an arm h, rotatably mounted on a pin g. A spiral spring i surrounds the pin g. It bears against a flange fast to the inner end of the pin g and the arm h. This spiral spring has one extremity secured in the pin g, the other extremity being secured to the arm h. The spiral spring is so arranged that it not only constantly tends to press the valve f against its seating, but also, by being tensioned in view of torsion, to press the arm constantly against a stud k on the inner face of the bushing a. The plug e is provided on its inner face with a projection l forming a three-quarter circle. This projection l assumes the shape of a hook, extending from l to p of Figs. 3, 4, 4a, and 4b, with preferably an inclined surface to press the valve f on the arm h, over which latter the hook may pass down on its seating. The other end of the projection gradually inclines toward the face of the plug e, this incline extending from p to q of Figs. 3, 4, 4a, and 4b. A packing m, of suitable material, is placed at the bottom of the wider part of the bore e. The tap for emptying the cask is for the purposes of this invention fitted with an internal screw-thread in its end n to correspond with the screw-thread on the plug e instead of possessing the usual conical screw-threaded end.

The invention operates as follows: Supposing the cask to be fitted and the various organs of my improved bung-hole fitting to be in the position indicated in Figs. 2 and 3, in which position the valve f is locked on its seating by the hook of the projection l gripping over the arm h, it will be necessary for opening the bung to screw the tap, which may in connection with a pipe to "tapp" at a distance from the cask, onto the plug e. The internal screw-thread of the tap or cock does not permit it to be screwed onto the plug e so as to reach the packing-ring m, (see Fig. 2;) but on further screwing the tap the plug e will be turned with it for about three-quarters of a revolution, whereupon the tap will press against the packing-ring m, thus insuring the tight connection. During the turning of the plug e the hook-shaped part of the projection i releases the arm h, the projection being in connection with the plug e, and consequently turned with it, and the inclined part of the projection i passes underneath the
arm \( h \), gradually lifting it until the valve \( f \) is off its seating, whereupon the arm \( h \) is turned aside by the incline of the projection, the resistance of the spiral spring \( i \) not being sufficient to prevent it, until it bears against a second stud \( k' \) on the inner face of the bushing \( a \). (See Figs. 3 and 4.) The hole \( d \) will now be completely uncovered. In unscrewing the tap the plug \( e \) will partake of the turning until it has returned to its original position. The arm \( h \), with valve \( f \), will be returned to its former position by the tension of the spiral spring \( i \), which also presses the valve \( f \) on its seating in addition to the inclined hook of the projection \( i \), which finally locks the arm \( h \) with valve \( f \), as in turning the plug \( e \) this hook will grip over the arm \( h \).

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

1. In a bung-hole fitting having the exit-opening uncovered by the cooperation of an internally-screw-threaded tap, a hollow plug inserted in the bung-hole, and an internal valve mounted on a spring-influenced swinging arm, substantially as set forth.

2. In a bung-hole fitting having the exit-opening uncovered by the cooperation of the tap, bung-hole plug and internal valve; a bushing provided with an eccentric bore for the reception of the hollow plug at the inner end and for the internally-screw-threaded part of the tap at the outer end, said tap fitting onto the outer end of the hollow plug and a pin secured to the inner face of the bushing, said pin carrying a spring-influenced arm with valve for covering the bore in the plug, substantially as set forth.

3. In a bung-hole fitting having the exit-opening uncovered by the cooperation of the tap, bung-hole plug and internal valve, a hollow plug screwed into the inner narrower end of the eccentric bore in the bushing, said plug receiving the internally-screw-threaded tap and adapted to be turned thereby, a flange at the inner end of the plug projecting beyond the eccentric bore in the bushing, a valve-seat formed at the inner end of the bore in the plug, said valve-seat adapted to receive a valve mounted on a spring-influenced swinging arm, and a circular projection on the inner face of the plug around the valve-seat, said projection assuming the shape of a hook, adapted to grip over the swinging arm of the valve, at one end, and the shape of an inclined, adapted to lift the valve off its seating by pressing under the swinging arm of the valve when the plug is turned, at the other end, substantially as set forth.

4. In a bung-hole fitting having the exit-opening uncovered by the cooperation of the tap, bung-hole plug and internal valve, a pin firmly secured to the inner face of the bushing, said pin movably carrying a swinging arm to which the valve for closing the exit-opening is secured, and a tensioned and torsioned spiral spring coiled around said pin and situate between the swinging arm and a flange at the end of the pin, said spiral spring having one extremity secured to the pin, the other pressing against the swinging arm so as to rest against a stud on the bushing and to insure a tight fitting of the valve on its seating, substantially as set forth.

5. A bung-hole fitting having the exit-opening uncovered by the cooperation of the tap, bung-hole plug and internal valve, comprising in combination a bushing provided with an eccentric bore, a valve-seat in connection with the inner end of the bore in the plug, a hook-shaped and inclined circular projection around the valve-seat on the inner face of the plug, a valve for closing the exit-opening, a swinging arm under the influence of the tension and torsion of a spiral spring carrying the valve, a pin with spiral spring carrying the swinging arm firmly secured to the inner face of the bushing, and an internally-screw-threaded tap adapted to fit and turn the outer end of the plug thereby causing the cooperation of the various parts, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLY HOMANN.

Witnesses:

WILLIAM ESSENWEIN,
HERMANN STOHL.