

(No Model.)

O. W. EISENHART.

BUNG.

No. 343,574.

Patented June 15, 1886.

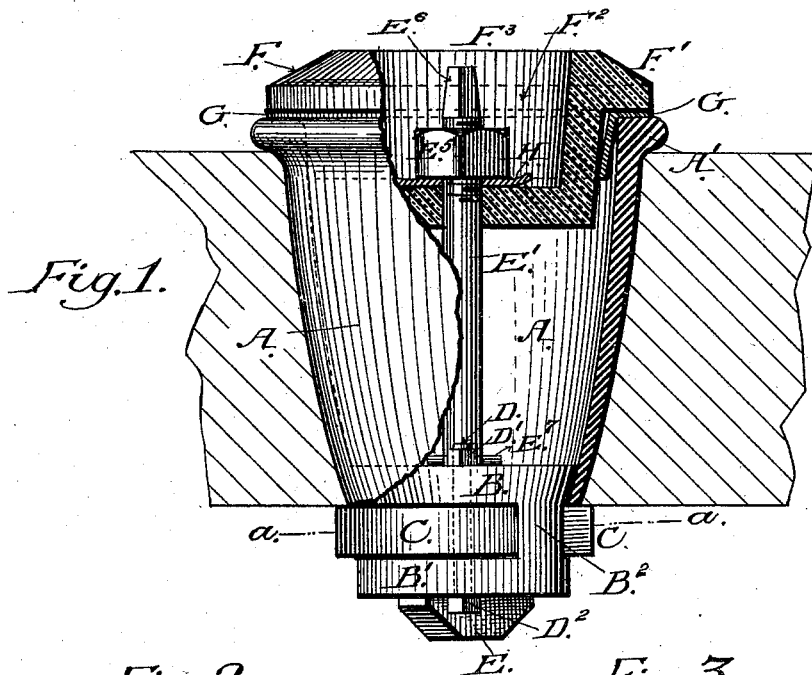


Fig. 2.

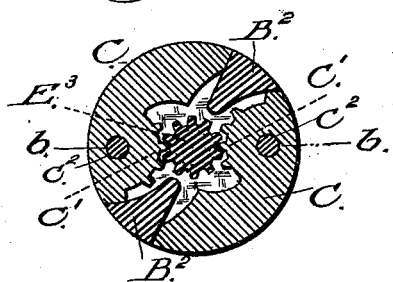
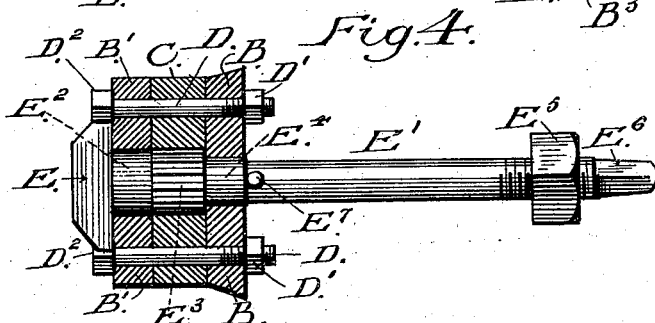
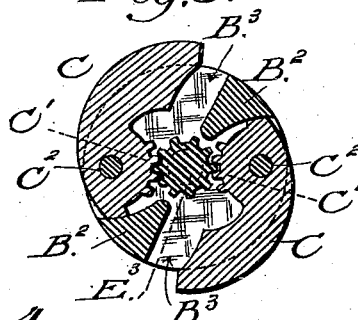


Fig. 3.



Witnesses

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BUNG.

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To all whom it may concern:

Be it known that I, OSCAR W. EISENHART, a citizen of the United States, residing at Ephrata, county of Lancaster, State of Pennsylvania, have invented a new and useful Improvement in Bungs, of which the following is a specification.

This improvement pertains more particularly to the class of bungs designed to be used in combination with a metal re-enforced or bushed hole in the barrel or keg stave.

The object of the invention is to secure a ready-closing bung, positively air-tight when secured in place, and which may be quickly removed and replaced without injury to the re-enforce or bush. The bung is also suitable for direct use without the intervention of a metallic bush, but I give preference to its use with the latter.

My improvement requires no change in the barrels or kegs to adapt it thereto. It simply takes the place of the wooden plug or bung, but provides a sure and positive closure of the barrel or keg, and the higher the tension of the gases therein the tighter the bung, and there can be no tampering with the bung unless one is provided with the proper tools to operate thereon.

My improved bung is constructed of a metal adapted to the nature of the liquid inclosed in the barrel or keg, and the several parts of the same may be given sufficient play so as to admit of the casting of the same, so that very little skilled fitting will be requisite to adapt them for use. The joints, being made by compression upon an elastic packing, will adjust themselves by pressure to such slight inequalities as will exist in good merchantable castings of the present day.

The drawings herewith, forming a part of this specification, and in which similar letters of reference indicate similar parts, show very clearly to an expert the nature of my invention.

Figure 1 represents in elevation, partly in section, a full-size bung as devised for use in a barrel or keg provided with a metallic-bushed bung-hole. Fig. 2 represents the lock, showing the dogs retracted within the periphery of the plug, the upper portion of the plug removed, and the pinion of the stem in gear with the teeth of the dogs. Fig. 3 represents

the lock with the dogs in an expanded position, being a sectional plan on the line *a a* of Fig. 1. Fig. 4 is a full elevation of the locking device, with the plug and dogs in section upon the line *b b* of Fig. 2.

A represents the annular shell forming the bung, having a re-enforce, *A'*, at the top. This bung I have shown plain upon its exterior and interior surfaces, as I prefer to use the bung in combination with the usual unthreaded metallic-bushed bung-holes; but, if desired, the exterior surface may be threaded to fit with and conform to bung-hole re-enforces or bushes which are screw-threaded. The bung may also be applied directly to bung-holes formed in the staves of the barrels or kegs. A plug consisting of an upper portion, *B*, and lower portion, *B'*, is connected by two opposite parts, *B²*, cast integral with *B* and *B'*, and thus forming a receptacle, *B³*, between them for the reception of the locking-dogs *C*. The dogs are of the form shown in Figs. 2 and 3, having four or more teeth projected from their hubs *C'*, and are pivoted at *C²* to the plug, being held in removable connection therewith by bolts *D*, nuts *D'*, and heads *D²*, the latter so arranged as to act as stops to the movement of the head *E* of the locking and securing bolt *E'*. Central perforations in the lower and upper portions, *B'* and *B*, of the plug permits the introduction of the stem *E'*, which has an enlarged portion, *E²*, projecting through the portion *B'*, a pinion, *E³*, of ten or more teeth, filling up the height of the receptacle *B³*, a reduced portion, *E⁴*, passing through *B*, a stem or bolt, *E'*, extending upward through the cap *F*, with a nut, *E⁵*, and square or any other desired form of extension, *E⁶*, adapted to be operated by a suitable key. The plug is movably retained upon the stem by a pin, *E⁷*, or its equivalent. The cap *F* is formed with shoulders *F'* and a recess, *F²*, and is of such depth as will permit the nut *E⁵*, with the locking portion *E⁶* of the stem projected above the same, to be concealed within said recess, having no portion extending beyond the face *F³* of the cap. A perforation in the base of the recess permits the passage of the stem through the same. A gum or suitable elastic washer, *G*, preferably of hydraulic-cup form, is placed between the shoulder *F'* and top of the bung, and a washer, *H*, beneath the nut *E⁵*. When

the dogs are projected beneath the lower edge of the bung, as shown in Fig. 1, these washers serve, upon tightening up the nut, to make an air and gas tight joint to the bung. The upper portion, B, of the plug is enlarged upon its face to suit the interior form of the bung, and the enlargement permits the passage of the lower portion, B', and the dogs C through the bung, while the plug is prevented by the enlargement from dropping within the barrel or keg.

The operation of the bung and lock is as follows: The dogs C are placed in the receptacle B' of the plug, and the pivotal bolts D secured in place. The dogs are then placed in the position shown in Fig. 2, with their outer faces coincident with the periphery of the plug. The stem or bolt E' is then inserted and turned until the teeth of the pinion E' will interlock with the teeth of the dogs, as shown, with the head E clear of and intermediate to the heads D' of the pivotal bolts, and the pin E' is inserted, which secures the parts in operative connection with each other. The plug is now dropped within the bung previously driven into the barrel or keg, with the dogs C in line with the lower edge of the same. The stem may now be turned by the key, when the teeth of the pinion E', operating upon the teeth of the dogs C, will throw the same into the position shown in Fig. 3, and lock the plug against withdrawal without a proper key. The dogs are shown as thrown out but half-way, and their protrusion may be considerably increased by a further turning of the stem E'. The washer G is now placed upon the upper end of the bung, and the cap F put in place over the stem. A washer, H, may be placed under the nut E⁵, and the latter being tightened up a positive closure is made against the escape of the liquid or the gases generated therefrom. When it is desired to remove the plug, the nut E⁵ is first loosened by a socket-wrench, the key is then applied, and the motion of the stem being reversed the dogs are retracted and the plug may be lifted out.

The bungs may be supplied with the plugs and washers in place, and subsequently be as a whole driven into the barrel or keg; or, as described, the bungs may be first driven into place and the plugs, with their dogs and caps, be subsequently introduced.

It will be seen that the use of my improved bung facilitates the filling of the barrel or keg, and permits access to the interior of the same for cleansing without pounding upon and bruising the staves to release the bung, an aperture of ample size being secured by the withdrawal of the plug.

Having described the use and advantage of my improved bung, together with the construction of the same, I desire to secure by Letters Patent the following claims thereon:

1. As an improvement in bungs, an annular shell having a re-enforced top and exterior and interior surfaces free from obstructions, in combination with a plug having a receptacle therein, movable dogs pivoted in the receptacle, a stem adapted to said plug having a pinion in gear with said dogs, and having an upper threaded portion, a nut, and a squared or keyed portion, and a cap and washers, substantially as and for the purpose set forth.

2. As an improvement in bungs, a plug having receptacles for movable dogs pivoted therein, having its upper portion enlarged, so as to retain said portion within the bung, while the lower portion, with the dogs, projects below the same, in combination with a stem provided with teeth lying in the plane of the dogs, and interlocking with the teeth of said dogs, a head, E, nut E⁵, and squared portion E⁶, pin E', cap F, washers G H, and shell A, substantially as and for the purpose declared.

3. As an improvement in bungs provided with a locking device, the dogs C, having an outer periphery corresponding with that of their inclosing-receptacle in the plug, with four or more teeth upon the hub concentric with their pivotal points C', said teeth interlocking with teeth E³, integral with the stem E', and adapted to be partially rotated thereby, and pivotal bolts D, in combination with the plug B B' B², its stem E', pinion E³, cap F, washers G H, nut E⁵, squared portion E⁶, pin E', and shell A, substantially as shown, and for the purpose described.

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Witnesses:

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