

(No Model.)

J. BAEUMLE.
BUNG.

No. 525,833.

Patented Sept. 11, 1894.

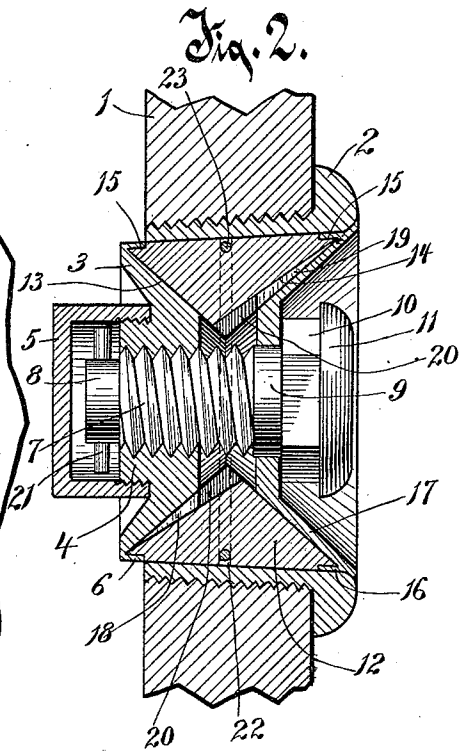
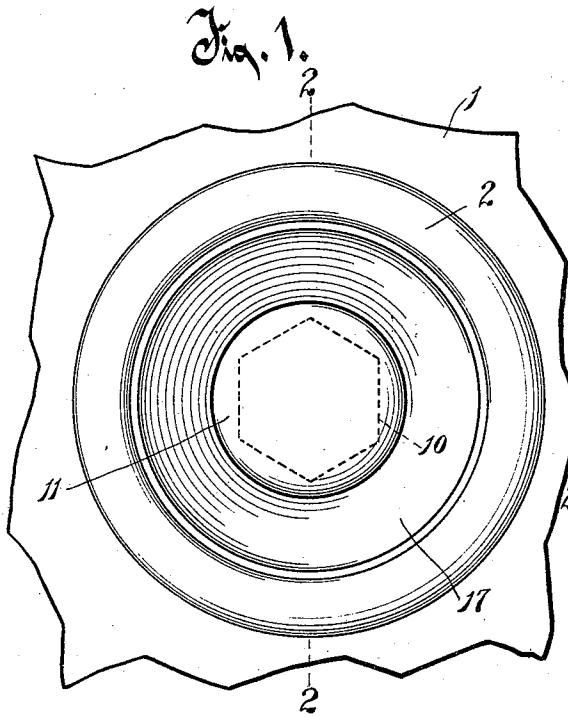


Fig. 3.

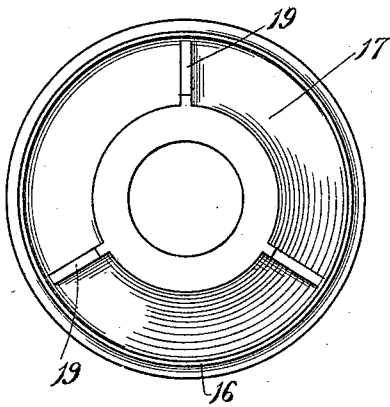
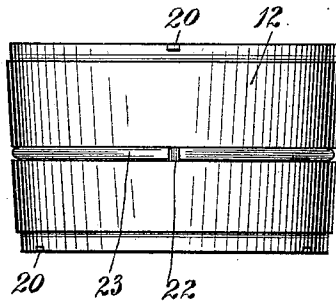


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

JOHN BAEUMLE, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-FOURTH TO MICHAEL POETZEL, OF SAME PLACE.

BUNG.

SPECIFICATION forming part of Letters Patent No. 525,833, dated September 11, 1894.

Application filed November 21, 1893. Serial No. 491,539. (No model.)

To all whom it may concern:

Be it known that I, JOHN BAEUMLE, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful
5 Improvement in Bungs, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements
10 in bungs.

The invention consists of the devices and parts as hereinafter described and claimed, or their equivalents, constituting more especially certain improvements upon the Letters
15 Patent of the United States issued to me under date of September 20, 1892, and numbered 482,714.

In the accompanying drawings, Figure 1, represents a fragment of a stave in which my
20 improved bung is inserted. Fig. 2, is a transverse section on the line 2—2 of Fig. 1. Fig. 3, is a view of the inner face of the frusto-conical collar, and Fig. 4, is an elevation of the expansible ring.

25 Like numerals of reference denote like parts throughout the several views.

Referring to the drawings, the numeral 1 indicates a stave of a barrel in which an ordinary bushing 2 is inserted in the screw-
30 threaded bung aperture thereof.

The numeral 3 indicates a disk, forming part of my improved bung, provided with a central screw-threaded aperture, and having its outer face of substantially truncated conical form, and its inner face provided with a central inward-projecting screw-threaded boss 4, which is adapted to receive an interiorly threaded cap 5. The edge of the disk is formed with an outward-extending peripheral flange 6. Adapted to pass through the
40 central screw-threaded opening of the disk is a bolt 7, said bolt being threaded between the plane portions 8 and 9, as clearly shown in the drawings. The bolt is further formed,
45 next to the part 9, into a hexagonal enlargement 10, and finally terminates in the usual headed portion 11.

Bearing against the disk 3, and surrounding the bolt, is a ring 12, of rubber or other
50 suitable elastic material, of a form substan-

tially cylindrical upon its outer face, and its inner surface beveled from the ends inward, forming tapering portions 13 and 14, the former registering with the disk 3. The periphery of this ring, at opposite edges, is recessed,
55 as indicated at 15, 15, the inner recess receiving the peripheral flange 6 of the disk 3, and the outer recess receiving a similar flange 16 formed annularly around the periphery or rim of a frusto-conical collar 17, whereby said
60 flanges are brought flush with the main portion of the ring. The truncated apex of this collar is provided with a central aperture through which the bolt 7 passes, the plane
65 portion 9 of said bolt, when in the position illustrated in Fig. 2, registering therewith.

The outer face of disk 3, and the inner face of collar 17, are provided with a series of radial ribs 18 and 19, respectively, which are adapted to take into corresponding grooves 20 formed
70 in the respective contiguous surfaces of the ring 12, when the parts are adjusted together, and thereby hold the disk and collar rigid with the rubber ring. A transverse pin 21 intersects the plane portion 8 of the bolt,
75 and is adapted to act against the inner face of the disk 3, as will hereinafter more fully appear. It will be noticed that the cap 5 protects the central opening of the disk 3, and prevents the entrance of any pitch, or the contents
80 of the barrel, into the bolt opening, by reason of which said opening is always kept free of extraneous matter, and therefore prevented from being clogged. The flanges 6 and 16 of the disk and collar, respectively,
85 also prevent the entrance of any pitch, or other matter, between the contacting faces of the disk and collar and the ring, which matter would otherwise enter said space and prevent a nice adjustment of the parts together,
90 and also fill up the grooves 20, and thereby prevent the ribs 18 and 19 from interlocking therewith. The flanges also have a further important function in preventing the outer edges of the ring 12 pressing or spreading out
95 against the metallic bushing, and they also assist in holding the disk and collar more firmly to the rubber ring, so that the turning of said ring past the radial ribs is rendered more difficult.

Prior to applying my improved bung, it will be understood that the inner disk 3 is not screwed up against the face of the rubber ring close enough to expand the latter. In view of this, no trouble is experienced in inserting the bung in place. After adjustment, however, the bolt is turned, preferably by means of a tool or spanner engaging the hexagonal enlargement. As the bolt is thus turned, the disk 3 is forced outward against the face of the rubber ring. When the bolt has been screwed inward far enough to allow the hexagonal enlargement to bear against the collar, the latter also is made to exert a pressure against the rubber ring. The result of these two pressures against opposite faces of the ring is of course to spread said ring outward against the bushing, thus making a perfect liquid and air tight closure of the bung hole.

When it is desired to remove the bung, the bolt is turned in the opposite direction to that before described, whereby pressure against the rubber ring is relieved. After this, the bung may be readily pulled out by applying lateral force thereto. It sometimes happens that the bore of the bushing becomes coated with pitch, resulting in the rubber ring adhering closely thereto. In such case, it is quite difficult to remove the bungs by a direct pull thereon, without first turning the rubber ring, and loosening the same. To provide for the removal of the bung under such circumstances, I employ the transverse intersecting pin 21, so that after the bolt has been screwed outward a certain distance this pin will come in frictional contact with the end of the boss 4. Before such engagement the bolt of course turns independently of the other parts—that is to say turns in the aperture of the disk without imparting a corresponding rotation thereto. The moment the pin makes contact with the end of the boss, however, the disk is made to rotate, and as the rubber ring is locked thereto by the engagement of the ribs upon the outer face of the disk with the corresponding grooves of the ring, said ring is also rotated, and in addition thereto the frusto-conical collar. Of course, the moment the ring is rotated, if any pitch upon the bushing has caused an adherence between the latter and the ring, said ring is loosened in this way, and the bung removed without difficulty.

In addition to the above means for loosening the rubber ring from the bushing in case the latter adheres to said bushing by reason of an interposed coating of pitch, I provide in the present improvement other means for obtaining the same result, which means may be either used in connection with the other mechanism above described, and which is covered in my former patent hereinbefore referred to, or may be used entirely separate therefrom. This means consists in forming in the rubber ring 12 an annular groove 22, which receives therein an expansible split ring 23. As the rubber ring is expanded by drawing together of the disk and collar

through the action of the bolt the split ring is also necessarily expanded. Now, without the employment of the expansible split ring, in case the rubber ring should stick to the bushing through the cause above mentioned, after the disk and collar are made to recede from each other, for the purpose of withdrawing the bung, it will perhaps be found that the rubber ring does not possess sufficient contractile power to release itself from the pitch. By the provision of the expansible ring, however, this ring will by its own inherent contractile power resume its normal condition, after the pressure of the disk and collar is discontinued, and in resuming this normal state will necessarily carry with it and contract the rubber ring, and thus release the latter from the adhering pitch.

The present invention differs from that described and claimed in my former patent, No. 482,714, dated September 20, 1892, not only in the provision of the feature just described, but also in providing the peripheral flanges for the disk and collar, and the protecting cap secured to the projecting boss of the disk.

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

1. In a bung, the combination, of an elastic ring, provided with a peripheral groove, a split spring ring fitting in the groove of the recess, and means for expanding the elastic ring against the bushing of the bung-hole, substantially as set forth.

2. In a bung, the combination, of an elastic ring, a split ring encircling the same, disks acting against opposite faces of the elastic ring, and a screw-bolt passing through said disks and drawing the same together to expand said elastic ring, substantially as set forth.

3. In a bung, the combination, of an elastic ring, a split ring encircling the same, disks acting against opposite faces of the elastic ring, and a screw-bolt passing through said disks and drawing the same together to expand the ring, said bolt provided at its inner end with a contacting surface constructed to act against the inner face of the inner disk upon the unscrewing thereof, and to rotate the bung therewith, substantially as set forth.

4. In a bung, the combination, with an elastic ring, of disks fitting against opposite faces of the ring, said disks provided with peripheral flanges surrounding the cylindrical outer surface of the ring at opposite edges thereof, substantially as set forth.

5. In a bung, the combination, of an elastic ring, disks acting against opposite faces thereof, said disks provided with peripheral flanges surrounding the cylindrical outer surface of the ring at opposite edges, and a screw-bolt passing through said disks and through the ring, and adapted to draw the disks together to expand said ring, substantially as set forth.

6. In a bung, the combination, of an elastic ring provided with radial grooves, disks act-

ing against opposite faces of the ring, the con-
tacting faces of the disks provided with radial
ribs fitting the grooves of the ring, and the
rims of said disks provided with flanges sur-
rounding the outer cylindrical surface of the
ring at opposite edges, substantially as set
forth.

7. In a bung, the combination, of an elastic
ring provided with a central bolt-hole, disks
acting against opposing faces of the ring, said
disks provided with holes registering with the
bolt-hole of the ring, and the inner of said
disks provided with a projecting boss sur-
rounding the bolt-hole thereof, a bolt passing
through the registering bolt-holes, and a cap

fitting the projecting boss, substantially as
set forth.

8. The combination, of a bung provided
with a central aperture, a bolt passing through
the central aperture, and a cap fitting around
the inner end of the aperture to prevent the
entrance of pitch or the contents of the barrel
into the aperture, substantially as set forth.

In testimony whereof I affix my signature in
presence of two witnesses.

JOHN BAEUMLE.

Witnesses:

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