(No Model.)

J. BAEUMLE.

BUNG.

No. 482,714. Patented Sept. 20, 1892.

Fig. 1.

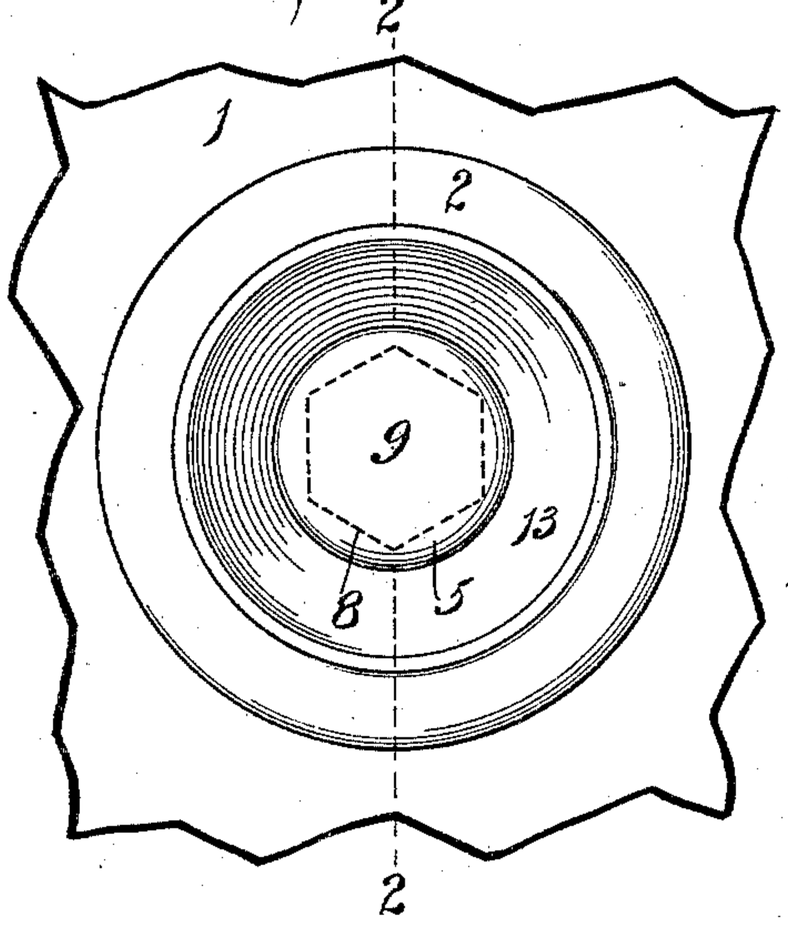


Fig. 2.

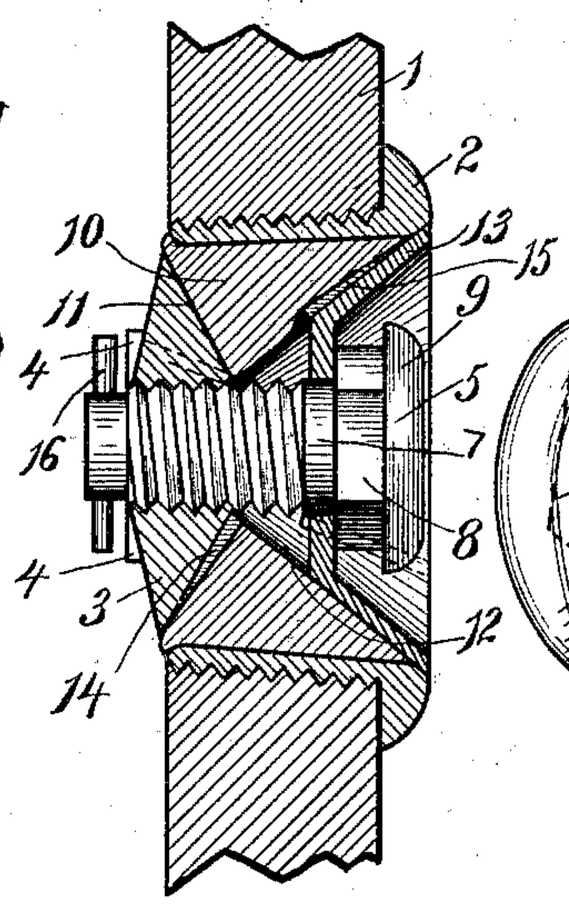


Fig. 5.

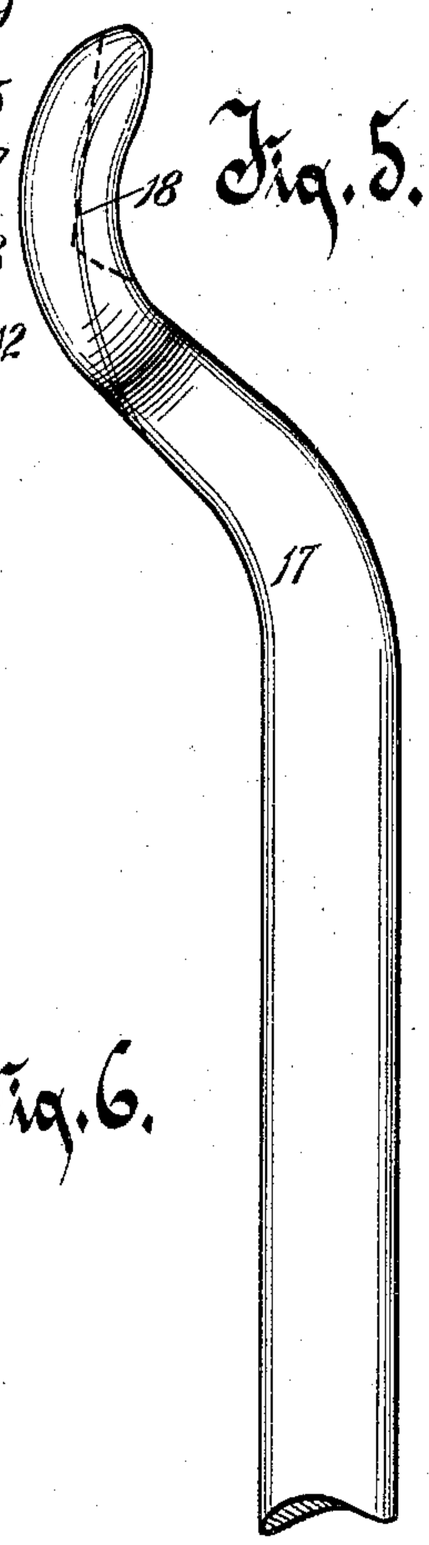


Fig. 3.

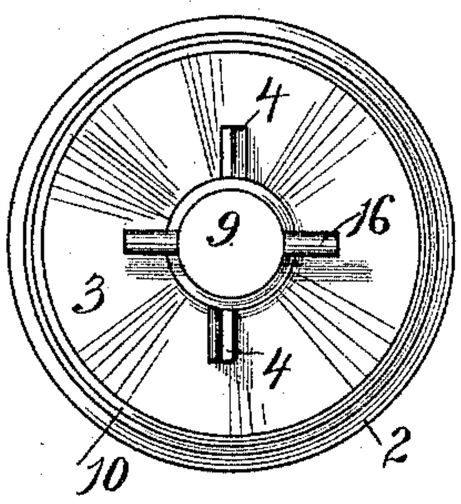


Fig. 6.

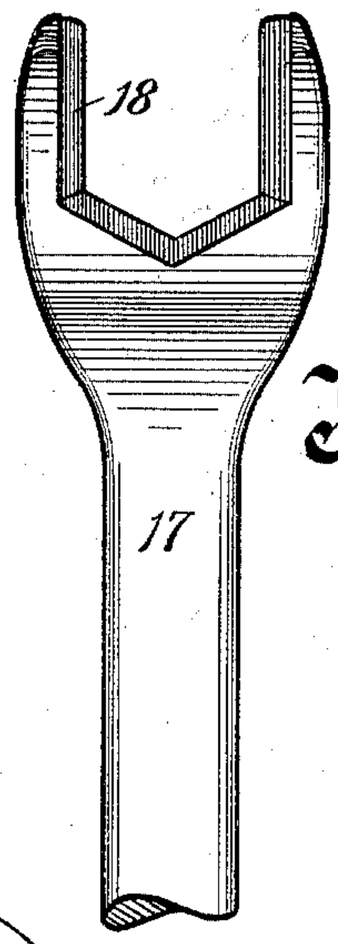
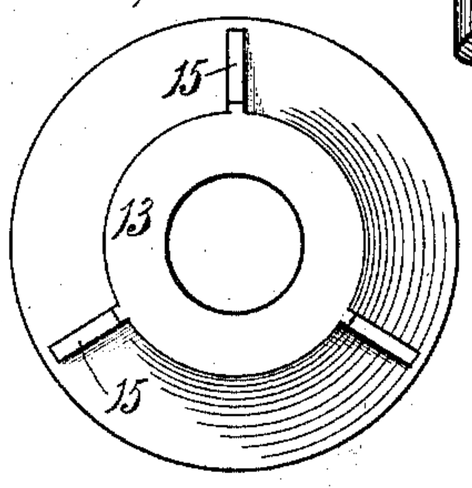


Fig. 4.



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. 482,714, dated September 20, 1892.

Application filed April 30, 1892. Serial No. 431,226. (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 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 in bungs; and it consists particularly in certain improvements upon the bung shown and described in my application for Letters Patent filed January 27, 1892, Serial No. 419,453, as will hereinafter more fully appear.

In the accompanying drawings, Figure 1 represents a fragment of a stave in which my improved bung is inserted. Fig. 2 is a transverse section on line 2 2 of Fig. 1. Fig. 3 is a view of the inner face of the inner disk. Fig. 4 is a similar view of the frusto-conical collar. Fig. 5 is an edge view of a fragment of a tool employed in connection with my improved bung, and Fig. 6 is a face view of the same.

Like numerals of reference designate 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-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 opposing faces of substantially truncated conical form, with a series of short beveled ribs 4 formed upon the inner face and radiating from the central opening. Adapted to pass through this opening is a bolt 5, said bolt being threaded between the plane portions 6 and 7, the threads extending throughout the greater portion of its length. The bolt is further formed next to the part 7 into a hexagonal enlargement 8 and finally terminates in the usual headed portion 9, the circumferential edge thereof extending out beyond the hexagonal part.

Supported upon the disk 3 and surrounding the bolt is a ring 10, of rubber or other elastic material, of a form substantially cylindrical upon its outer surface and its inner surface beveled from the ends inwardly, forming tapering portions 11 and 12, the former registering with the disk 3.

The numeral 13 indicates a collar of frusto-conical shape, the truncated apex of which being provided with a central aperture through which the bolt 5 passes, the plane portion 7 of said bolt when in the position illustrated in Fig. 2 registering therewith.

The outer face of disk 3 and inner face of collar 13 are provided with a series of radial ribs 14 and 15, respectively, which are adapted to take into corresponding grooves formed in the respective contiguous surfaces of the ring 10 when the parts are adjusted together, and thereby hold the disk and collar rigid with the rubber ring.

A transverse pin 16 intersects the plane portion 6 of the bolt and is adapted to coact with ribs 4, as will hereinafter more fully appear.

My improved spanner is indicated by the numeral 17, the operating end thereof being bifurcated and provided with a flange 18, projecting out at right angles, the innermost edges of said flange and the furcated arms, of which it forms a part, meeting at an angle, so as to constitute an approximate V shape, whereby the spanner is made to conform to the shape of the hexagonal enlargement of the bolt.

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 spanner is passed under the head 9 and made to engage the hexagonal enlargement. The bolt is now readily turned so as to be forced inwardly, and thus bring disk 3 outwardly against the face of the rubber washer. When the bolt has been screwed inwardly 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 the opposite faces of the ring is of course to spread said ring outwardly 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 screwed outwardly, whereby pressure against the rubber ring is relieved. After this the bung may be readily pulled out by manipulating the tool. It will thus be seen that the tool or spanner provides for tightening, loosening, and removing the bung without changing the tool.

It sometimes happens that the bore of the bushing becomes coated with pitch, resulting in the rubber ring 10 adhering closely thereto. In such case it becomes quite difficult to remove the bung by a direct pull thereon without first turning the rubber ring and loosening same. To provide for this, I form the beveled ribs 4 upon the inner face of disk 3, so that after the bolt has been screwed outwardly a certain distance these ribs will be engaged by the transverse pin 16. 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 and beveled lugs contact, 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.

The present invention differs from that described in my former application, Serial No. 419,453, filed January 27, 1892, not only in the provision of the feature just described, but also in providing a bolt which is not made integral with the inner disk and without having upon its outer end a removable nut. Practice has demonstrated that such construction is open to this objection—*i. e.*, the facility with which the nut at any time may be removed either by accident or other causes and resulting in a loss of the nut as well as destroying the liquid and air tight closure. In the present arrangement the outer nut is entirely dispensed with, as clearly shown, and the bolt made separate from any of the other parts and provided upon its outer end with the headed portion and upon its inner end with means for preventing its withdrawal independently of the withdrawal of the entire bung. It will thus be seen that the disadvantage pointed out is entirely absent in this device and the removal of the bung rendered extremely difficult without the employment of the special tool or spanner illustrated.

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

1. The combination, with a bung, of a screw-bolt working therethrough, said bolt provided upon its inner end with a contacting-surface constructed to act against the inner face of the bung upon the unscrewing of the bolt and to rotate said bung therewith, substantially as set forth.

2. In a bung, the combination of an elastic ring, disks acting against opposite faces of said ring and a screw-bolt passing through said disks and drawing the same together to expand the ring, said bolt provided upon 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.

3. In a bung, the combination of an elastic ring, disks acting against the opposite faces of said ring, the inner disk provided upon its inner face with a series of radial ribs, and a screw-bolt passing through the disks and drawing the same together to expand the ring, said bolt provided upon its inner end with a transverse pin, substantially as set forth.

4. In a bung, the combination of an elastic ring substantially cylindrical upon its outer surface and its inner surface beveled from the ends inwardly, forming tapering faces, a disk fitting against the inner tapering face of the ring, a frusto-conical collar fitting against the outer tapering face, and a screw-threaded bolt passing through an aperture in the collar and through a threaded opening in the disk, said bolt provided upon its inner end with a contacting-surface constructed to act against the inner face of the disk upon the unscrewing thereof and to rotate the bung therewith, substantially as set forth.

5. In a bung, the combination of an elastic ring, disks acting against opposite faces of said ring, and a screw-bolt passing through the disks, said bolt provided upon its outer end with an integral headed portion and upon its inner end with means for preventing its entire withdrawal from the bung, substantially as set forth.

6. In a bung, the combination of an elastic ring, disks acting against opposite faces of said ring, and a screw-bolt provided upon its inner end with means for preventing its entire withdrawal from the bung, near its outer end with an enlargement, and at its extremity with a headed portion having its edge extending laterally beyond the enlargement, said enlargement adapted to be engaged by a tool or spanner passing beneath the headed portion, substantially as set forth.

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

JOHN BAEUMLE.

Witnesses:
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ARTHUR L. MORSELL.