

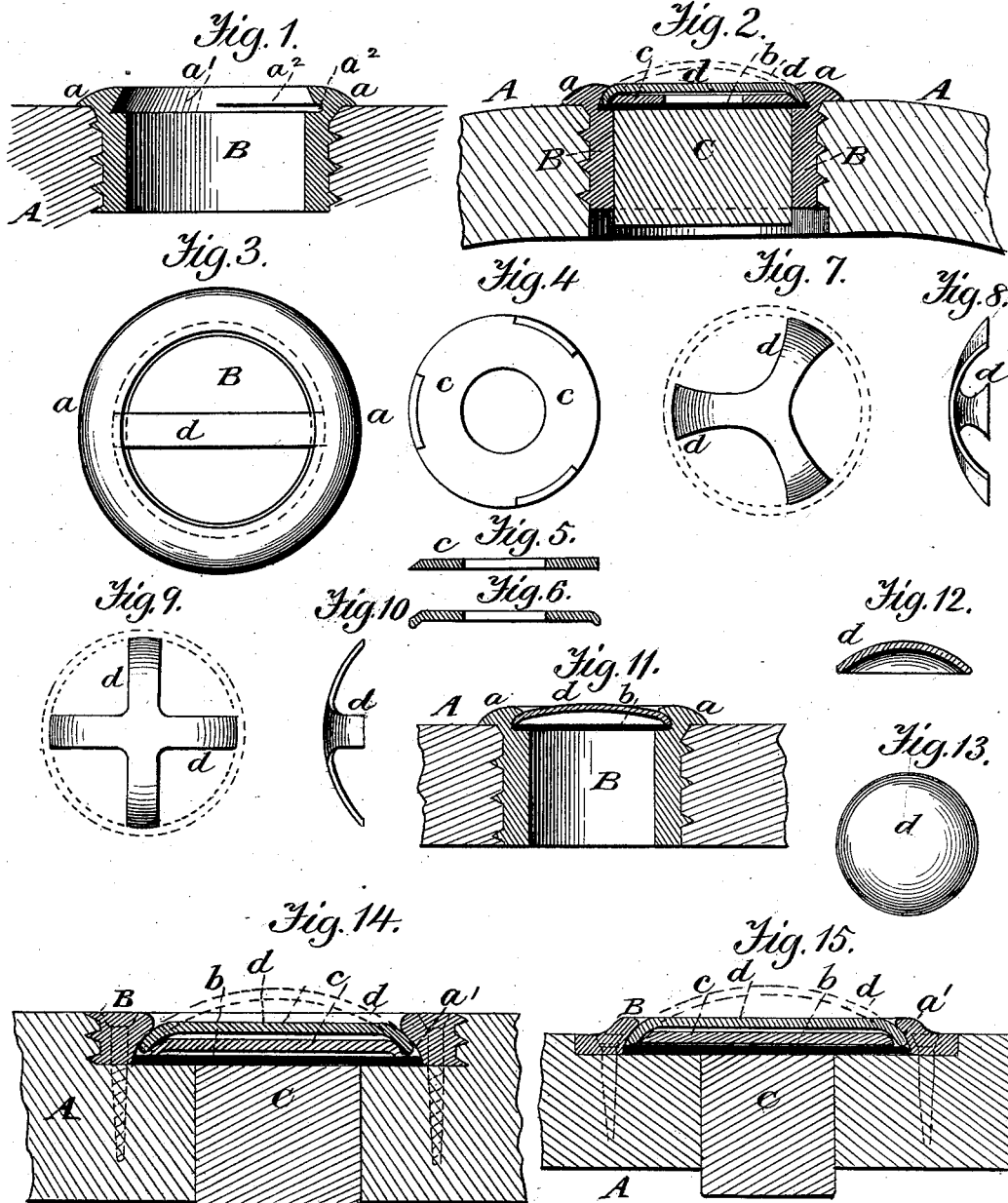
(No Model.)

G. A. GEMÜNDEN & A. F. GÄRTNER.

BUNG FASTENER.

No. 381,920.

Patented May 1, 1888.



Witnesses:
A. Rupprecht.
G. Franz Elmit.

Inventors:
George A. Gemünden
Albert F. Gärtner,
by *W. J. Howard* atty.

UNITED STATES PATENT OFFICE.

GEORGE A. GEMÜNDEN AND ALBERT F. GÄRTNER, OF SAVANNAH, GEORGIA.

BUNG-FASTENER.

SPECIFICATION forming part of Letters Patent No. 381,920, dated May 1, 1888.

Application filed August 16, 1887. Serial No. 247,049. (No model.)

To all whom it may concern:

Be it known that we, GEORGE ALEXANDER GEMÜNDEN and ALBERT F. GÄRTNER, of Savannah, in the county of Chatham and State of Georgia, have invented certain new and useful Improvements in Closing Devices and Fastenings for Barrels or other Packages, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention is designed to prevent the forcing out of the bung by the pressure of the liquid held in the package or the gases contained in said liquid, and also to prevent leakage caused by the use of an imperfect bung or by the rough handling of the package.

The invention is also designed to render unnecessary the use of a pressed or costly-finished bung and the consequent hard driving of the bung into the bushing or package itself, thus facilitating a proper sealing and closing of the package without injury thereto.

In the accompanying drawings, Figure 1 is a vertical section of the ring. Fig. 2 is a similar section showing the ring, bung, and fastening devices in one form of our invention. Fig. 3 is a plan view showing parts, as hereinafter explained. Figs. 4, 5, 6, 7, 8, 9 and 10 illustrate details, hereinafter explained. Fig. 11 shows a vertical section of a modification of our invention. Figs. 12 and 13 represent in detail parts of Fig. 11. Figs. 14 and 15 show vertical sections of modifications of our invention, as hereinafter described.

Similar letters of reference indicate similar parts in the respective figures.

A is the barrel or package.

B is the ring for attachment to the package, and C the bung. The ring B may be threaded or burred upon its exterior, as shown in Figs. 1, 2, and 11, and adapted to be screwed or driven into the package, so as to be effectually held therein by such means alone, or it may be additionally secured by screws, as seen in Fig. 14, or simply screwed to the package, as shown in Fig. 15. The ring B is provided with a top flange, *a*, and a groove, *a'*, the diameter of which is the greater at its base or bottom.

It being desired to close the package, the bung C is first driven into the ring B, as shown

in Fig. 2, whereupon the parts are in readiness to receive the fastening appliances. These consist of the following devices: A disk or washer, *b*, made of soft metal, rubber, leather, or any suitable flexible material, is passed through the top of the ring B and pressed into the groove *a'*. The disk *b* will effectually prevent leakage arising from the use of an imperfectly constructed or imperfectly-fitting bung. Upon the disk *b* is now placed an inflexible metal plate or disk, *c*, as shown in Figs. 4, 5 and 6. The disk *c* is preferably shaped or beveled at its edges, as differently shown in cross-section in Figs. 5 and 6, the beveled or specially-shaped parts being intended for a purpose hereinafter explained. The entire periphery of the disk *c* may, however, be beveled or shaped as shown in Fig. 4 or 5. The disk *c* is adapted to press upon the disk *b* and thus spread it out upon the bung and into the groove *a'*. The disk *c* having been put in place the guard *d* is applied. The guard may consist of a single bar of metal, as shown in plan in Fig. 3 and by full and dotted lines in Fig. 2, or of a three-armed device, illustrated in Figs. 7 and 8, or a four-armed device. (Seen in Figs. 9 and 10.)

In Fig. 1 the groove *a'* is provided with notches *a²*, to receive the ends of the single bar or guard *d*. In all cases the guard *d* is made of any pliable metal of sufficient strength and rigidity for the purpose in view. The guard *d*, first having the convex form seen in Figs. 2, 8, and 10, is entered in the top of the ring, as shown in dotted lines in Fig. 2, and then flattened out, so as to be forced into the groove *a'*, as shown in full lines in the same figure. The arms of the guard fit over the beveled portions of the periphery of the disk *c*, said beveled parts being equal to the number of the arms and adapted thereto. The bung is thus tightly sealed and secured in the package.

Figs. 11, 12, and 13 show modifications of the invention as used for packages having small openings. Here the metal disk *c* is omitted, and instead of the skeleton guard *d*, (shown in Figs. 7, 8, 9, and 10,) or the simple guard *d*, (shown in Figs. 1 and 2,) a solid guard *d* is used, it being shown applied in Fig. 11 and detached in Figs. 12 and 13.

Figs. 14 and 15 show further modifications,

in which the bung is not driven tightly into the ring, but directly into the package.

The advantages of this invention are obvious; and it is also evident that the various
5 parts are capable of minor changes in construction without departing from the general nature of the invention.

We claim as our invention—

As an appliance to be used with a package
10 and a bung, and as a seal for the latter, the ring B, having the groove *a'*, combined with the

disks *b* and *c*, and guard *d*, adapted to be driven into the groove, so as to rest upon the disk *c*, substantially as set forth.

In testimony whereof we have hereunto set
our hands and seals. 15

GEORGE A. GEMÜNDEN. [L. S.]
ALBERT F. GÄRTNER. [L. S.]

Witnesses:

R. H. BULLOCH,
A. C. OLNEY.