W. A. GILL.

CLOSURE.

APPLICATION FILED APR. 18, 1917.

1,247,391. Patented Nov. 20, 1917.

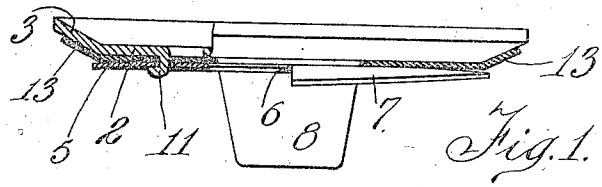


Fig. 1.

Fig. 2.

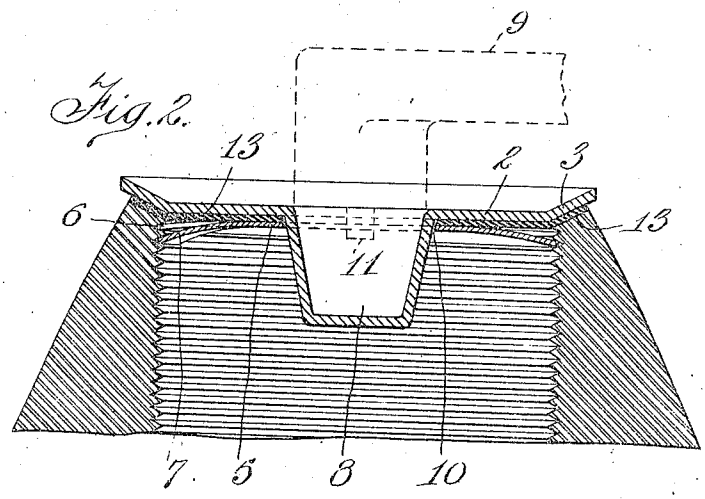
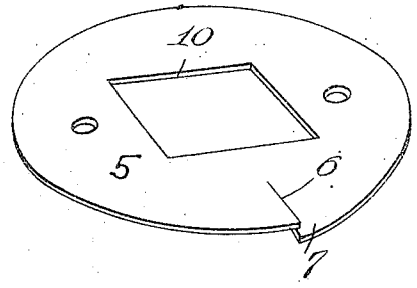


Fig. 3.



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CLOSURE.

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To all whom it may concern:

Be it known that I, WALTER ALFRED GILL, a subject of the King of Great Britain, and resident of St. Johns, Province of New Brunswick, Dominion of Canada, have invented certain new and useful Improvements in Closures, and do hereby declare the following to be a full, clear, and exact description of same.

This invention relates to devices for closing screw-threaded openings of articles such as projectile shells, pipes, cans, jars and the like and is exemplified particularly herein in connection with a device for closing the fuse receiving opening in the nose of a projectile shell prior to the application of the fuse thereto.

The object of the invention is to improve the construction of closures of the above identified type by providing one which will hermetically seal the opening to which it is applied and while being securely locked in position against accidental displacement, is readily removable.

For full comprehension, however, of my invention reference should be had to the accompanying drawings forming a part of this specification; in which similar reference characters indicate the same parts and wherein;

Figure 1 is a side elevation, partly in section, of the closure;

Fig. 2 is a vertical section of the closure in position; and

Fig. 3 is a perspective of the retaining plate.

Referring now to the drawings 2 indicates the closure proper which consists of a plug or disk of larger diameter than the opening to which it is to be applied and presenting a beveled peripheral edge 3, and a plate or disk 5 of resilient material, spring metal, attached to the underside of the closing disk 2 so that the outer edge of the resilient disk has free movement in the axial plane of the disks. The disk 5 is cut radially from the periphery at 6 and opened slightly to present a wing 7 so that when the device is applied to a screw-threaded opening and turned this wing gives entrance of the disk 5 to the thread and the disk being resilient follows the latter and being thus drawn away at its outer edge from the closing disk clamps the latter tightly against the edge of the opening.

The closing disk 2 is made preferably of sheet metal pressed into dish form to present the beveled edge and depressed at the center to form an angular well 8 constituting a key-way for the reception of a key 9 by means of which the closure can be screwed into or out of the opening. The resilient disk is apertured at 10 to take over the well and may be attached to disk 2 by welding or by rivets or the like but is fastened thereto preferably through the medium of lugs 11 struck up from the disk 2 and extending therefrom through holes 12 in the resilient disk, over which latter the lugs are bent. The lugs are arranged diametrically opposite and located about midway between the center of the device and periphery of the resilient disk to permit of the movement of the outer edge of such disk.

The size of the resilient disk particularly, varies with differently sized openings to which the closure is to be applied, its diameter being substantially equal to the diameter of the groove of the thread with which it engages but especially is greater than the diameter of such threads. In this way a positive engagement of the resilient disk is secured and its clamping action upon the closing disk proper and consequent resistance to accidental displacement thereof insured. This clamping action is augmented, and a hermetically tight joint between disk 2 and the article provided by a gasket which consists of a ring 13 of leather, rubber or other suitable yielding material surrounding well 8 and having its inner edge clamped between the two disks to hold it upon the beveled edge of the disk 2 in position to bear upon the edge of the opening of the article.

From the above it will be seen that my improved closure can be readily applied to securely and hermetically close an opening and be as readily removed from the latter.

What I claim is as follows:

1. A closing device for screw-threaded openings, consisting of a plug of larger diameter than the opening and having a socket therein for the reception of an operating tool, and a plate attached to the plug and adapted to engage the screw-threads of said opening.

2. A closing device for screw-threaded openings, consisting of a dish shaped disk having a well pressed out therefrom, a re-

silient disk apertured to take over said well and fastened to the underside of the dish shaped disk, the outer edge of the resilient disk being free of the dish shaped disk and having a radial cut therein and a gasket surrounding the well and clamped between the two disks.

3. A closing device for screw-threaded openings consisting of a disk presenting beveled edges and having a central angular well pressed out therefrom, lugs struck up from the disk, a resilient disk apertured to take over said well and having openings therein through which said lugs extend and are bent over the resilient disk, the outer edge of the resilient disk being free of the dish shaped disk and having a radial cut therein and a gasket upon the said beveled edge and clamped between the two disks.

4. A closing device for screw-threaded openings, consisting of a dish shaped disk having a well pressed out therefrom, a resilient disk apertured to take over said well and fastened to the underside of the dish shaped disk, the outer edge of the resilient disk being free of the dish shaped disk and having a radial cut therein.

In testimony whereof I have signed my name to this specification.

WALTER ALFRED GILL.