May 24, 1938. C. KRANZ 2,118,314

BUNG

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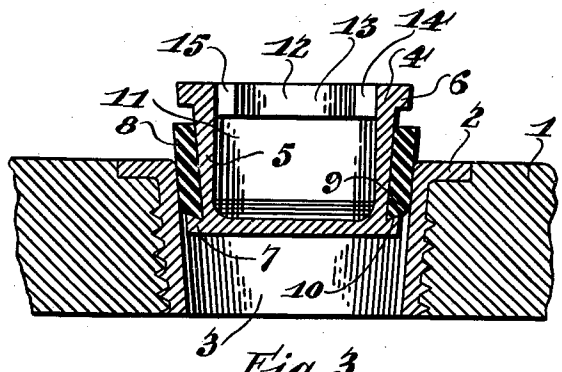


Fig. 3

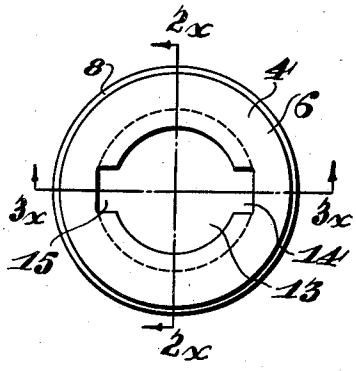


Fig. 1

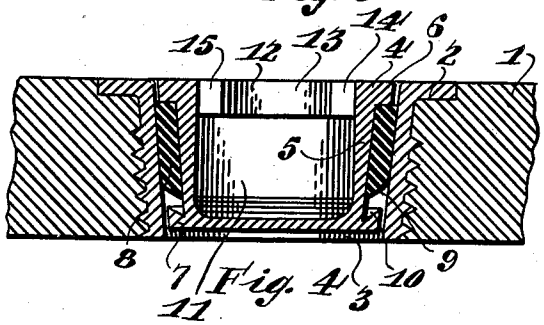


Fig. 4

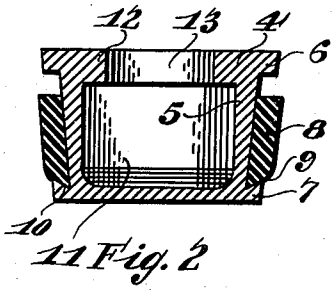


Fig. 2

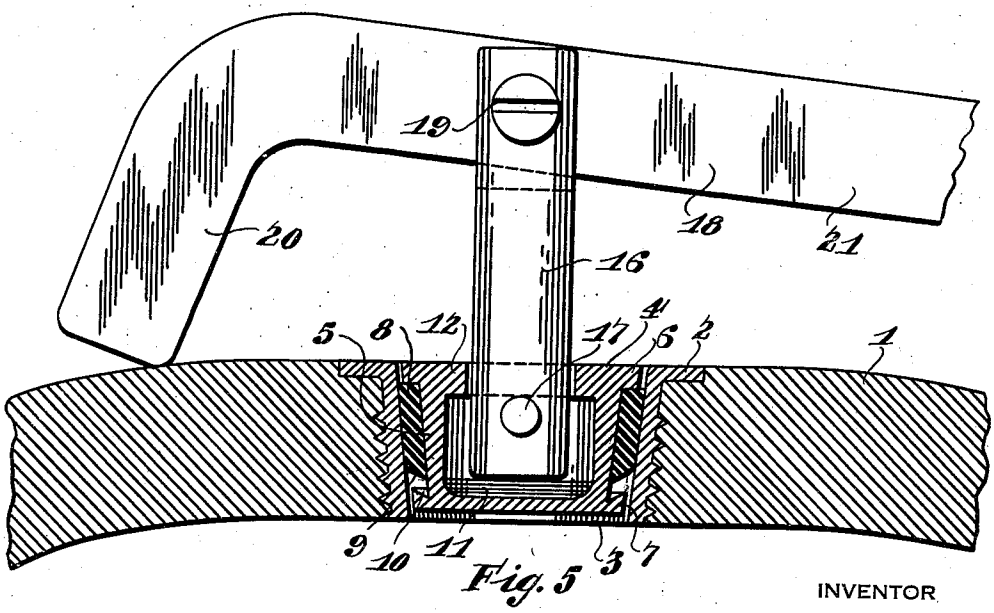


Fig. 5

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2,118,314

BUNG

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3 Claims. (Cl. 217—98)

The object of this invention is to provide a new and improved type of bung for barrels.

Another object of the invention is to provide a bung for a barrel that can be used over again in a barrel after having been used before in a barrel.

A still further object of the invention is to provide a bung for a barrel that is easily removable from the hole therein and yet, when driven into the hole, will tightly seal the hole and prevent the contents of the barrel from leaking out therefrom.

These and other objects of the invention will be illustrated in the drawing, described in the specification, and pointed out in the claims at the end thereof.

In the drawing:

Figure 1 is a top plan view of my improved bung.

Figure 2 is a vertical section of the bung on the line 2*x*—2*x* of Figure 1.

Figure 3 is a vertical section of the bung on the line 3*x*—3*x* of Figure 1, showing the position of the bung before it has been driven into the opening in the metal bushing in the barrel stave.

Figure 4 is a vertical section on the line 3*x*—3*x* of Figure 1, showing the position of the bung after it has been driven into the opening in the metal bushing in the barrel stave.

Figure 5 is a sectional view of the bung showing the bung driven into the opening in the metal bushing in the barrel stave with a tool for removing the bung from the opening in the metal bushing in place in the bung, ready to remove the bung from the opening in the metal bushing in the barrel stave.

In the drawing like reference numerals indicate like parts.

In the drawing reference numeral 1 indicates a barrel stave having a metal bushing 2 therein. This metal bushing has an opening 3 therein that tapers outwardly from the barrel stave and into which a similarly tapered bung 4 can be inserted to close the opening and keep the contents of the barrel sealed therein. The bung 4 comprises a body 5 that tapers outwardly from the barrel stave also and has an outwardly extending flange 6 at the top thereof and an outwardly extending flange 7 at the bottom thereof. Surrounding the body 5 and between the two flanges 6 and 7 is a rubber washer 8 that extends outwardly beyond the flanges 6 and 7 and makes contact with the wall of the metal bushing 2. The rubber washer 8 is shorter in length than the distance between the two flanges and is adapted to slide up and down on the body 5 between the upper flange 6 and the lower flange 7. The lower edge of the washer is beveled as indicated at 9 and when the bung is drawn out of the opening in the metal bushing, the beveled edge 9 of the washer will nest in the beveled groove 10 formed in the flange 7. The inner edge of the beveled groove 10 is cut deep and becomes correspondingly shallower as it extends to the outer edge of the flange 7 so that the groove has the same shape as the beveled edge 9 on the lower end of the washer 8.

The bung 4 is hollowed out on the inside to form a chamber 11, and extending into this chamber at the top of the body 5 is an inwardly extending flange 12 which forms an opening 13 in the bung at the top thereof that is smaller in diameter than the chamber 11 below it. In the inwardly extending flange 12 are two slots 14 and 15 diametrically opposite each other.

In Figure 5 I have shown a tool for removing the bung from the opening in the metal bushing in the barrel stave. This tool comprises a rod 16 having a pin 17 therein extending through the rod at the lower end and projecting outwardly from each side of the rod. The upper end of the rod is forked and in this fork is a lever 18 that is pivotally mounted on a screw 19 passing through the rod 16. One end of the lever 18 extends downwardly as indicated at 20 and makes contact with the barrel staves when the bung is being drawn from the opening in the bushing.

The barrel is usually filled through the opening 3 of the bushing 2 in the barrel stave and during the filling of the barrel the wall around the opening usually becomes wet. I have found that it is desirable to have either the wall of the bushing, the rubber washer, or both of these, moist before the bung is driven into the opening 3 of the metal bushing and with this understanding the bung, with the beveled edge 9 of the washer 8 engaging the beveled groove 10 of the lower flange 7, is placed into the opening 3 of the metal bushing 2 as shown in Figure 3. The bung will set into the opening with the greatest portion of the washer and body extending below the top surface of the barrel. The bung is then hit with a wooden mallet and forced into the opening until the top of the bung is substantially flush with the top of the barrel staves, as shown in Figure 4. When the bung is driven into the opening 3 of the metal bushing, the body 5 of the washer will slip up on the washer 8 so that the upper edge of the washer engages the flange 6 as shown in Figure 4.

When it is desired to remove the bung from the opening 3 the tool shown in Figure 5 is used.

The rod 16 with the pin 17 is placed into the opening 13 with the pin 17 in line with the slots 14 and 15. This permits the rod 16 to be inserted into the chamber 11 and when the rod is in this position the rod is given a slight turn so that the pin 17 no longer is in line with slots 14 and 15, and with the pin in this position the downwardly extending end 20 of the lever is brought into engagement with the barrel staves. The end 21 of the lever 18 is then raised and the pin 17 will engage the shoulder formed by the inwardly projecting flange 12. As the end 21 of the lever 18 is raised it causes the tapered body 5 of the bung to slide upward while the washer 8 remains stationary and in the same position with relation to the metal bushing. The sliding of the tapered body 5 upward causes the beveled edge 9 of the washer 8 to engage the beveled groove in the flange 7. The moving of the tapered body 5 upward causes the body surrounding the washer to have a smaller diameter than when the bung was fully driven into the opening. This permits the washer to expand more to its natural state and release some of the pressure of the rubber against the wall of the metal bushing and makes it easier to pull the bung out of the opening. By a continued stroke upward of the end 21 of the lever 18 the bung will be removed from the opening.

I claim:

1. A bung having an inwardly tapering cylindrical body, a bushing having an opening therein into which said bung is adapted to be driven, flanges on said body extending outwardly from the top and bottom thereof, a washer on said body between said flanges adapted to engage said opening in said bushing, said washer being smaller in length than the distance between said flanges, said inwardly tapering cylindrical body being adapted to slide up or down in said washer to cause said washer to expand or contract when engaged with the opening in said bushing.

2. A bung having an inwardly tapering cylindrical body, a bushing having an opening therein into which said bung is adapted to be driven, flanges on said body extending outwardly from the top and bottom thereof, a washer on said body between said flanges adapted to engage said opening in said bushing, said washer being smaller in length than the distance between said flanges, said inwardly tapering cylindrical body being adapted to slide up or down in said washer to cause said washer to expand or contract when engaged with said opening in said bushing, a groove in the lower flange of said body, said washer being adapted to engage in said groove when said body is being drawn from the opening in said bushing.

3. A bung having an inwardly tapering cylindrical body, a bushing having an opening therein into which said bung is adapted to be driven, flanges on said body extending outwardly from the top and bottom thereof, a washer on said body between said flanges adapted to engage said opening in said bushing, said washer being smaller in length than the distance between said flanges, said inwardly tapering cylindrical body being adapted to slide up or down in said washer to cause said washer to expand or contract when engaged with said opening in said bushing, a beveled groove in said lower flange of said body, said washer having a beveled edge at its lower end that is adapted to engage in said beveled groove when said body is being drawn from the opening in said bushing.

CARL KRANZ.