

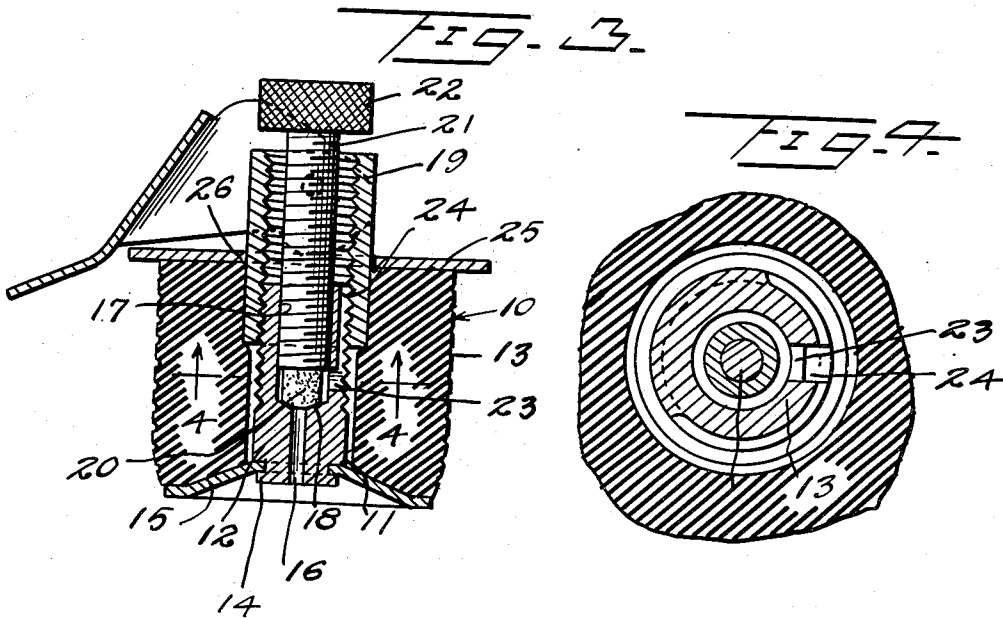
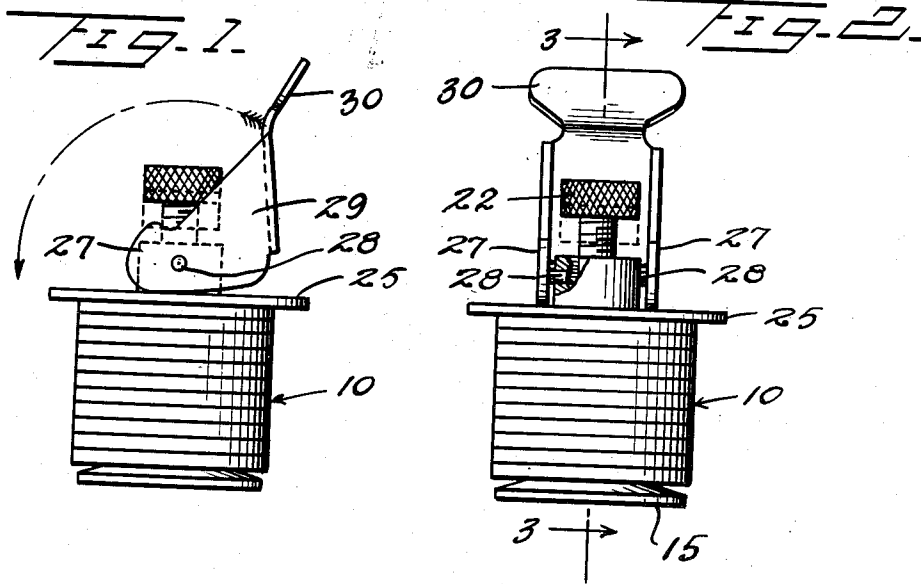
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BOTTLE STOPPER

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BOTTLE STOPPER

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1 Claim. (Cl. 215-53)

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This invention relates to a bottle stopper.

An object of this invention is to provide a bottle stopper for use on vacuum bottles which is so constructed and arranged that steam or air pressure within the bottle may be relieved without removing the stopper.

Another object of this invention is to provide a bottle stopper which includes a cam-shaped operating means for expanding or releasing the stopper.

A further object of this invention is to provide a bottle stopper which is simple in construction so that it can be made at small cost.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claim.

In the drawing:

Figure 1 is a detailed side elevation of a bottle stopper constructed according to an embodiment of this invention showing the stopper in released position.

Figure 2 is a view at right angles to Figure 1.

Figure 3 is a sectional view taken on the line 3-3 of Figure 2 showing the device in sealed position.

Figure 4 is a fragmentary sectional view taken on the line 4-4 of Figure 3.

Referring to the drawing, the numeral 10 designates generally a cylindrical body which is formed of rubber or other distortable material, and the body 10 is formed on the periphery thereof with ribs 13 and is also formed with a central bore 11. A valve body 12 is disposed within the bore 11 and is secured as by a crimping 14 to an upwardly dished plate 15. The valve body 12 is formed with a central bore 16 which communicates with a threaded counter bore 17, and the junction between the counter bore 17 and the bore 16 forms a tapered valve seat 18.

An internally threaded sleeve 19 is threaded on the exterior of valve body 12, and sleeve 19, as shown in Figure 3, projects partly into the distortable body 10. A valve plug 20 is adapted to engage on the valve seat 18 for closing the bore 16, and valve plug 20 is carried by a threaded shank or screw 21 having a head or knob 22 at its upper or outer end. The valve body 12 is formed with a laterally extending pressure release passage 23 communicating with bore 17 above valve seat 18, and lateral passage 23 communicates with a longitudinal release passage 24 formed longitudinally in the valve body 12.

A pressure plate 25 is mounted on the outer

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end of body 10 being formed with a central opening 26 through which the sleeve 19 loosely or slidably engages. A pair of cam members 27 are rockably mounted on pivot members 28 carried by and extending into sleeve 19. The cam members 27 engage the upper side of pressure plate 25, and cam members 27 are formed integral with a U-shaped lever 29 engaging about the sleeve 19 and formed with a lip or finger engaging member 30 by means of which the U-shaped member or lever 29 may be rocked downwardly to pressure applying position or may be raised upwardly to a pressure released position.

In the use and operation of this device, the distortable stopper body 10 is inserted into the neck of a bottle, which preferably is adapted to have fluid under pressure therein. The device hereinbefore described is adapted to be inserted into the neck of a bottle which is preferably a vacuum bottle and which is adapted to contain hot liquids. The body 10 is inserted into the bottle neck at the time the cam operating lever 29 is in its up-raised and released position, which is the position shown in Figure 1. When body 10 is disposed within the bottle neck, lever 29 is rocked downwardly to the position shown in Figure 3 whereby cam members 27 will exert pressure on plate 25 and cause an upward pull on dished plate 15 to thereby effect an expanding of body 10. If it is desired to release any pressure which is present within the bottle, the pressure may be released without removing the stopper by unthreading the screw shank 21 so as to unseat the valve plug 20 from seat 18. The pressure will then pass through bore 16 into bore 17 through lateral passage 23 and out through longitudinal passage 24 into the atmosphere.

I do not mean to confine myself to the exact details of construction herein disclosed, but claim all variations falling within the purview of the appended claim.

What is claimed is:

A bottle stopper comprising a cylindrical distortable body formed with a central bore, a dished plate bearing against the inner end of said body, a valve structure in said bore formed of a cylindrical housing having a central passage with a valve seat at the outer end of said passage, said housing being fixed at its inner end to said plate, a valve plug engageable on said seat, a threaded shank fixed to said plug and extending from the outer end of said body, said housing having a laterally extending exhaust passage communicating with said bore above said seat, a longitudinal relief passage communicating with

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said exhaust passage, an outer plate loose about said housing and bearing against the outer end of said body, a U-shaped lever rockably carried by said housing, and a pair of cams carried by said lever bearing against said outer plate.

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