

W. H. McNUTT,
SAFETY BUNG.
APPLICATION FILED AUG. 8, 1913.

1,142,902.

Patented June 15, 1915.

Fig. 1.

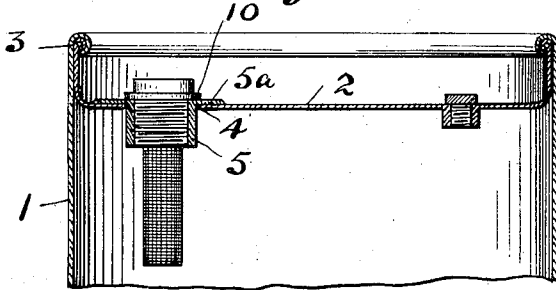


Fig. 2.

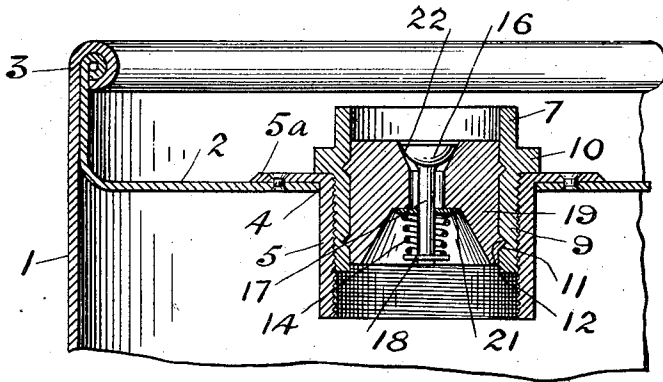


Fig. 3.

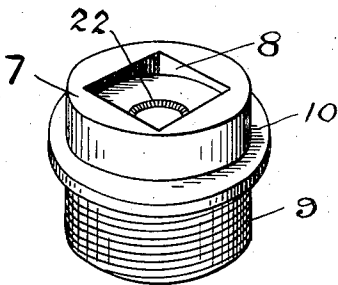
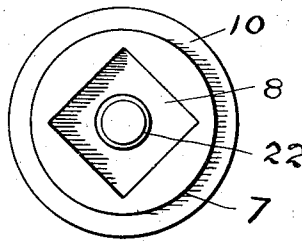


Fig. 4.



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UNITED STATES PATENT OFFICE.

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SAFETY-BUNG.

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To all whom it may concern:

Be it known that I, WILLIAM H. McNUTT, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Safety-Bungs, of which the following is a specification.

This invention relates to safety bungs, and it proposes an improved device of the character stated, which is designed for application to barrels, cans, etc., and is equipped with a specially constructed fusible venting portion cooperative with the safety valve, all as hereinafter described.

In the accompanying drawing showing one embodiment of my invention, Figure 1 shows the top portion of a container with the bung in position. Fig. 2 shows in section the bung attached. Fig. 3 is a perspective view of the bung; and Fig. 4 shows a plan of the bung.

In the drawings, 1, is a container provided with a head 2 and chime 3. At 4 an internally threaded collar or sput 5 is set in the barrel head to form a bung hole. Flange 5^a, is provided by means of which the sput is riveted or welded to the head. The threaded portion of the sput may extend some distance beyond the end of the bung. The bung consists of another member or casing provided with an upward extension or head 7, having a square or polygonal opening 8, wherein a wrench may be seated, and a sleeve-like inner member or lining 19. Obviously, instead of thus providing the bung head with an inside squared recess, the bung head may be squared outside to engage a wrench. The lower extension of the bung casing is threaded at 9 to fit in the head of the barrel. An annular lug 10 may, if desired be provided to allow the use of a gasket should it be needed. The above mentioned sleeve or lining 19, which is made of fusible metal, is secured in the bore of the bung casing, preferably by being cast therein, and may be locked in position by providing recesses 11, in the wall of said bore, into which recesses extend projections 12 from the sleeve 19.

The bore of the sleeve contains a valve 16, whose stem 17 is shown as projecting down through the bore, and provided with a controlling spring 14 for retaining the valve seated, to lift from internal pressure

in the container and permit escape of gases generated in the container. The stem 17 is provided with a nut 18; one end of the spring pressing on the nut, while the other end has its thrust received by the sleeve 19. If desired, a washer 21 may be interposed between the spring and the sleeve 19.

The conical upper portion 22 of the sleeve bore constitutes the seat for the valve 16, which is shown as globular. This arrangement of rounded valve engaging a conical seat, will produce a tight closure for different positions laterally of the valve; the requisite degree of pressure of the valve being obtained by adjusting the nut 18. This type of bung is very simple to construct as it is only necessary to fill up the whole interior of the bung with the fusible material, and then drill out the passage for the valve stem, and form the beveled valve seat portion.

It will be understood from the foregoing, that the thrust of both the valve and the spring member will be received directly by the member formed of fusible material; when the temperature rises in the region of the container, the fusible member will probably first become plastic or mobile, and the pressure of the spring member against the lower portion of the fusible sleeve, or through the spring washer 21, will cause the material of the sleeve to yield, and the spring pressure, together with the internal pressure in the container, will force the washer upward, to lessen the pressure of the spring and permit further upward movement of the valve away from its seat, thus enlarging the exit passage for the confined gas. Thereupon, the high temperature will either permit the washer to be forced entirely through the bore of the sleeve 19; or else, the sleeve will become loosened from its connection with the bung; or become sufficiently plastic to be itself blown entirely out of the bung member, with the attached valve member.

When two metallic surfaces are in contact and are exposed to conditions favorable to corrosion, the surfaces are apt to become cemented together by reason of such action. The same thing would tend to occur more or less if the valve device of the present invention were not separated from the body of the bung by the fusible sleeve. Without such separation the valve device

might become so firmly set in the bung that at temperatures at which the valve device should be blown bodily from the bung, this would fail to occur. In the present structure, however, the possibility of the valve thus sticking in the bung is successfully obviated.

The purpose of the present invention is apparent from the foregoing. Should a rise in temperature occur within the barrel, the valve 16 is unseated, allowing release of pressure. Should the high temperature continue, then the fusible material of the sleeve 19 will melt and the whole safety valve is blown out of the bung, providing a large free exit for the escape of vapors and gases in the container.

Having thus described my invention, what I claim is:—

In a safety closure for containers, a bushing, a sleeve of fusible material forming a lining for the bushing, a valve seated directly on the sleeve and having a stem extending through the bore of the sleeve, and a spring having one end connected with the valve stem and the other end confined by the said sleeve whereby the melting of the sleeve will release the spring and valve to be expelled by the internal pressure in the container.

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Witnesses:

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