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E. G. FRIEDMAN
TANK SEALING DEVICE
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1,741,104

Fig.1.

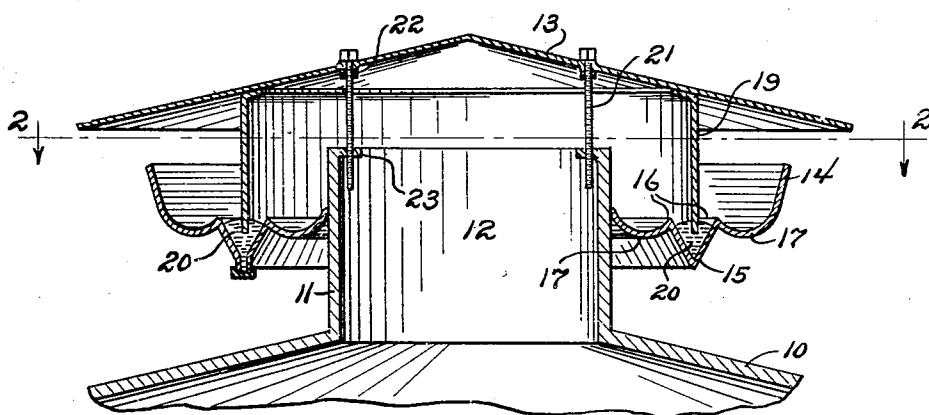


Fig. 2.

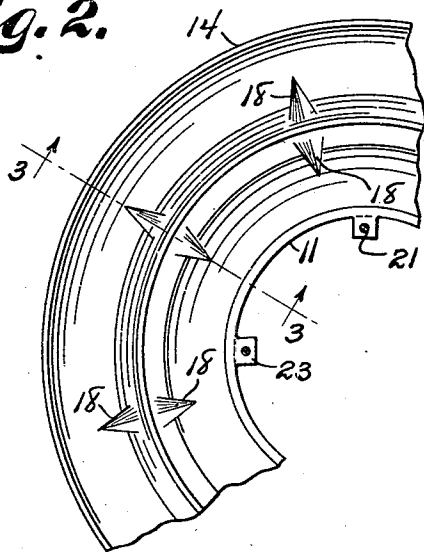
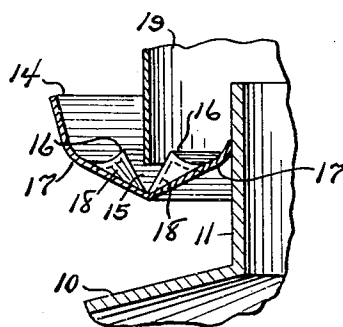


Fig.3.



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TANK-SEALING DEVICE

Application filed November 25, 1927. Serial No. 235,690.

This invention relates to improvements in tanks adapted for storing gasoline and other combustible liquids, an object being to provide means for protecting the contents of the tanks from fire, and at the same time permitting the passage of air and gas into and from the tank, so as to prevent damage to the tanks due to clogged breather passages or closed vents.

Another object of the invention is the provision of means of the above character which is adjustable to suit various conditions, and which is adapted to be used with different kinds of sealing elements.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:—

Figure 1 is a sectional view illustrating a portion of the top of a storage tank with the invention applied.

Figure 2 is a fragmentary sectional view on the line 2—2 of Figure 1.

Figure 3 is a section on the line 3—3 of Figure 2.

Referring to the drawings in detail wherein like characters of reference denote corresponding parts, the reference character 10 indicates a portion of the top of a storage tank which may be used for the storage of gasoline, oils and other inflammable materials.

Extending upwardly from the top 10 is a relatively long neck or flange 11, the passage through this neck or flange providing a breather opening 12 for the tank.

In order to protect this opening and yet permit of the passage of gas and air, the invention provides a canopy 13 which is spaced above the opening 12 and which extends beyond the periphery of the neck or flange for an appreciable distance. Secured to the neck or flange 11 is an annular trough 14. This trough is cross sectionally shaped as shown in Figure 1 so as to provide an annular channel 15. The channel is preferably, though not necessarily, V-shaped in cross section, and its upper edges 16 extend above the bot-

tom of annular gutters 17 also formed in the bottom of the trough. These gutters are in communication with the trough through the medium of passages 18.

The channel 15 is adapted to contain a sealing element (preferably mercury) and in the event of the mercury or other liquid sealing element overflowing the edges 16 into either of the gutters 17, the liquid sealing element will return to the channel through the passages 18.

Extending downwardly from the canopy 13 is a skirt 19. The lower edge of this skirt is emersed in the sealing element 20 and the depth of this emersion is controlled by the position of the canopy. For this purpose, the canopy carries downwardly extending threaded rods 21 whose upper ends are secured in place by means of lock nuts 22. The rods 21 threadedly engage lugs 23 which extend inwardly from the neck or flange 11. By loosening the lock nuts 22, the rods 21 may be rotated to adjustably position the skirt 19 with respect to the sealing element 20 so as to seal the tank and reduce danger of fire, yet permit of the passage of gas and air through the breather opening.

If desired, a suitable packing may be substituted for the sealing element and the skirt 19 may be tightly embedded in this packing.

While the trough and skirt are shown upon the outside of the neck or flange 12, it is obvious that they may be placed upon the inside if desired.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claims.

Having described the invention what is claimed is:—

1. In combination with a container having a breather opening surrounded by a flange, a trough extending around the flange below the opening, a channel extending around the bottom of the trough and having its upper edges above the bottom of said trough, a liquid within the channel, a canopy spaced above the breather opening, a skirt carried by the canopy and extending downwardly

within the liquid, means to adjust the skirt within the channel, and passages providing communication between the channel and the remaining portion of the trough.

2. In combination with a container having
5 ing a breather opening surrounded by a flange, a trough extending around the flange below the opening, a channel extending around the bottom of the trough and having
10 its upper edges above the bottom of said trough, a liquid within the channel, a canopy spaced above the breather opening, a skirt carried by the canopy and extending downwardly within the liquid, means to adjust the
15 skirt within the channel and means to return the liquid to the channel in the event of overflow of said liquid.

In testimony whereof I affix my signature.
EMERY G. FRIEDMAN.

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