July 14, 1931. R. J. ANSCHICKS 1,814,656

FILLING AND VENTING DEVICE

Filed July 9, 1928

Fig. 1.

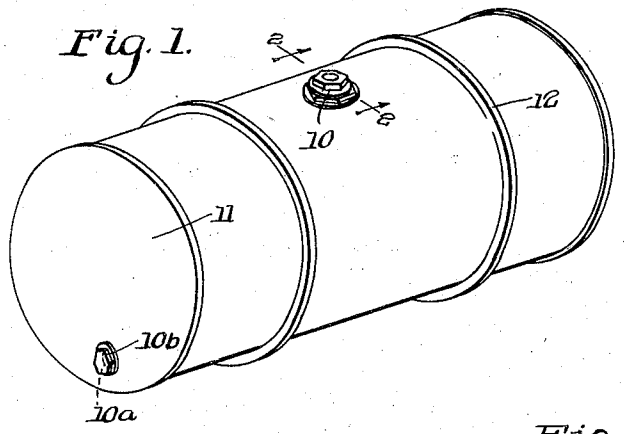


Fig. 2.

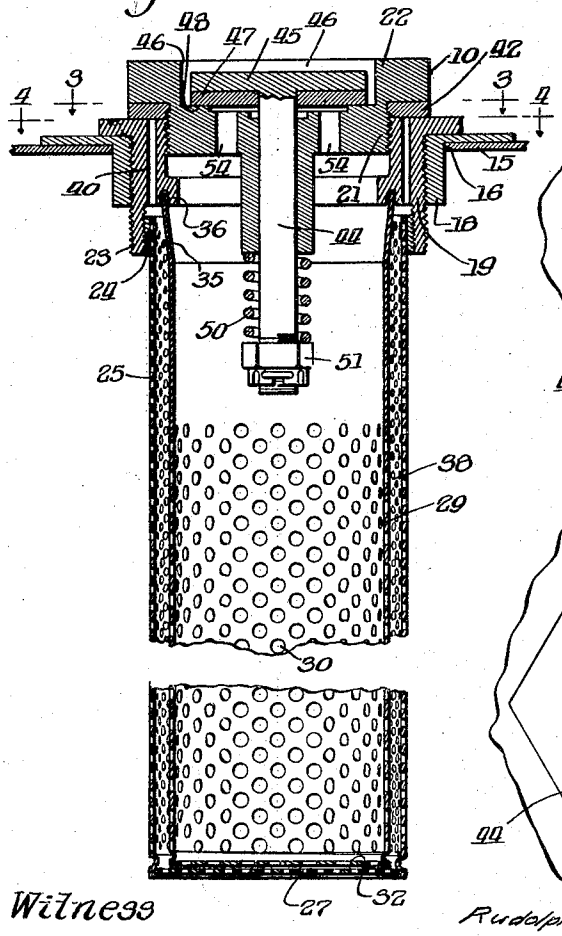


Fig. 3.

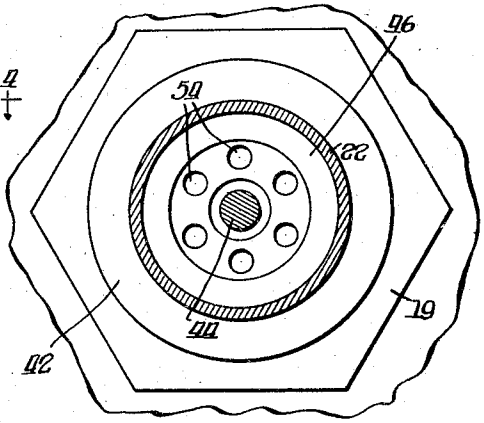
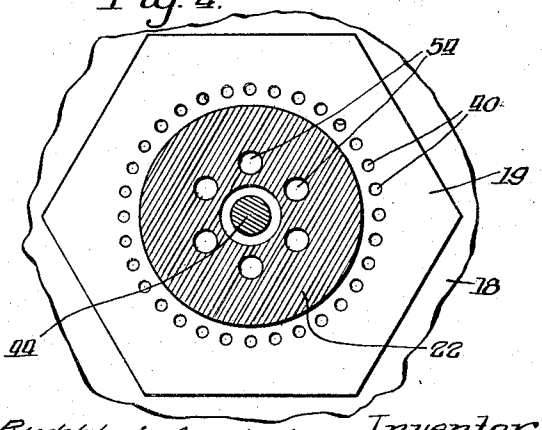


Fig. 4.



Witness

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Patented July 14, 1931 1,814,656

UNITED STATES PATENT OFFICE

RUDOLPH J. ANSCHICKS, OF CHICAGO, ILLINOIS, ASSIGNOR TO PROTECTOSEAL COMPANY OF AMERICA, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS

FILLING AND VENTING DEVICE

Application filed July 9, 1928. Serial No. 291,379.

My invention relates to filling and venting devices and particularly to devices of the kind described that are adapted to be mounted in barrels, metallic drums, or the equivalent.

The invention has among its other objects, the production of devices of the kind described that are compact, convenient, durable, efficient and satisfactory for use wherever found applicable.

An object of the invention is to provide an improved closure member for the filling opening of a barrel or the equivalent, which closure member is adapted to permit removal of a portion thereof for filling the barrel, the portion remaining being constructed to serve as a fire baffle suited to withstand usage incidental to inserting a tube or the like in the baffle for filling.

Still another object is the provision of an improved venting device adapted to be mounted upon a barrel or the equivalent, which is capable of functioning as a venting device regardless of where it is located in the barrel, and also regardless of the position of the barrel.

A particular object of the invention is to provide an improved filling and venting device which may be mounted upon a barrel, or the equivalent, in such manner that it will not interfere with the handling thereof.

Another particular object of the invention is to provide an improved venting device adapted to be mounted upon a barrel, or the equivalent, and constructed so that it may be readily adjusted to admit air into the barrel when the barrel is being emptied.

Still another particular object of the invention is to provide an improved closure member for the filling opening of a barrel, or the equivalent, which closure member is adapted to permit the escape of gases from the barrel when the pressure therein rises to a predetermined value.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claim.

In the drawings, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a perspective view of a metallic barrel or drum upon which a device embodying my invention has been installed;

Fig. 2 is an enlarged section taken on line 2—2 of Fig. 1;

Fig. 3 is a section taken on line 3—3 of Fig. 2; and

Fig. 4 is a section taken on line 4—4 of Fig. 2.

While my improved device is shown and described in connection with a metallic barrel or drum, it is to be understood that my invention is limited to this use only to the extent indicated in the appended claim.

Referring to Fig. 1, the reference character 10 designates generally a filling and venting device which embodies a preferred form of the invention and is installed upon a metallic barrel or drum which is designated by the reference character 11. The drum 11 is of well known construction and is substantially cylindrical in form. In line with the construction generally employed in connection with drums or barrels of this type, the drum 11 is provided with a plurality of annular beads 12 upon which the drum may be rolled. In this instance, the filling opening of the barrel or drum 11 is disposed intermediate the beads 12 but it will be noted that the improved filling and venting device 10 may be mounted in the filling opening of the drum no matter where the filling opening is located upon the drum. However, my improved filling and venting device is particularly advantageous when it is mounted in the cylindrical wall of a drum or barrel of the type shown in Fig. 1.

Referring to Fig. 2, the cylindrical wall of the drum or barrel 11 is designated by the reference character 15 and the filling opening therein is designated by the reference character 16. Mounted in the filling opening 16 and rigidly secured to the wall 15 is a collar 18. Screw-threaded into the collar 18 and

projecting into the barrel 11 is an annular member 19, the annular member 19 being provided with external screw-threads adapted to engage internal screw-threads formed upon the collar. The annular member 19 is also provided with internal screw-threads adapted to engage external screw-threads provided upon a boss 21 which form part of a plug 22, the plug 22 being adapted to be removed from the barrel whenever the barrel is to be filled. The annular member 19 is provided with a downwardly extending integral annular flange 23 provided with internal screw-threads which are engaged by external screw-threads provided upon a metallic ring 24 to which a foraminous tube 25 is secured. The foraminous tube 25 is preferably provided with flame-proof apertures throughout its entire length and its lower end is preferably closed by a plate 27 which is also preferably provided with flame-proof apertures. Resting upon the plate 27 is the bottom end of a tubular member 29 which is provided with a plurality of apertures 30. The apertures 30 are preferably formed in the lower end of the tube 29 and are preferably larger than the flame-proof apertures provided in the tube 25. The lower end of the tube 29 is preferably closed by an apertured plate 32. The tube 29 and the plate 32 are preferably formed from thicker sheet metal than the tube 25 and its bottom plate 27 so that the tube 29 and the plate 32 protect the tube 25 and its plate 27 when sticks, filling nozzles, or the like, are inserted in the barrel through the filling opening thereof. Another advantage of this construction is that the tube 29 protects the tube 25 in the event that an explosion occurs within the tube 29. Thus, assuming that an explosion occurs in the tube 29, it is readily understood that the gases resulting from the explosion will pass through the apertures 30 but the pressure thereof will be reduced to such an extent that the tube 25 will not be subjected to the full force of the explosion. The upper end of the tube 29 is preferably flared as at 35 and preferably engages an annular groove 36 formed in the bottom surface of the annular member 19.

It will be noted that the tubular member 29 is disposed concentrically with respect to the tubular member 25 and that its wall is spaced from the tubular member 25 to provide an annular passage 38 which extends from the bottom of the tubes up to the upper ends thereof. The upper end of the annular passage 38 communicates with the lower ends of a plurality of vertically extending apertures or passages 40 formed in the annular member 19. Resting upon the upper surface of the annular member 19 and interposed between that member and the plug 22 is a gasket 42 which is preferably made of some suitable material such as leather, or the equivalent. Obviously, if the plug 22 and the gasket 42 are removed from the barrel, and funnel or nozzle is inserted in the opening for filling the tank, gases may flow from the annular passage 38 up through the passages or apertures 40 and thence into the atmosphere.

Slidably journaled in the plug 22 is a vertically disposed pin or valve stem 44 which, at its upper end, carries a disk or valve 45. Also carried by the pin or valve stem 44 is an apertured gasket 47 formed from leather, or the equivalent, the gasket being adapted to seat upon an annular shoulder 48 formed in the bottom of a recess 46 provided in the plug 22. A compression spring 50 disposed around the pin or valve stem 44 and interposed between the plug 22 and a castle nut 51 carried by the valve stem yieldingly holds the gasket 47 in engagement with the seat or shoulder 48. Formed in the plug 22 within the boundaries of the annular seat or shoulder 48 are a plurality of ports or vents 54 through which gas may escape from the barrel when the gasket 47 is disengaged from the shoulder 48. Obviously, the spring 50 may be adjusted to permit the escape of gas from the barrel when a predetermined pressure obtains therein.

It will be noted that the recess 46 is of sufficient depth so that the upper surface of the valve 45 normally lies beneath the upper surface of the plug 22 and that the gasket 47 may be disengaged from the shoulder 48 without bringing the upper surface of the valve 45 above the upper surface of the plug. This is advantageous in that when the barrel is in a position wherein the plug contacts or substantially contacts the surface upon which the barrel is supported, the valve 45 may be displaced to allow a reduction in the pressure within the barrel. The plug 22 preferably projects a relatively small distance from the barrel so that it will not be injured when the barrel is rolled along upon its beads 12.

When the barrel is to be filled with liquid, the plug 22 and the gasket 47 are preferably removed from the annular member 19 so that the liquid may be poured into the barrel or a nozzle may be inserted in the tube 29 to discharge the liquid therein. The air displaced in the barrel then passes through the annular passage 38 and thence through the apertures 40. When the contents of the barrel are to be removed therefrom, the plug 10*b* is removed from the screw-threaded opening 10*a* and a faucet (not shown) is inserted therein. The plug 22 is unscrewed a few turns so that the gasket 42 does not seal the upper ends of the apertures 40. Obviously, when the faucet is opened to permit the liquid to escape from the barrel, air may enter through the apertures 40 so that the contents of the barrel can be quickly discharged through the faucet.

Having thus described my invention, it is

obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention, hence I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described, or uses mentioned.

What I claim as new and desire to secure by Letters Patent is:

In a device of the class described, a pair of foraminous tubular members closed at one end and telescoping each other with a space therebetween, means engaging the open ends of said tubular members and adapted to close a tank or the like, said means having a flange forming a recess, said means also having a perforation therein, and a valve seated in said recess, said valve having a face yieldingly seated over said perforation and adapted to be unseated upon the exertion of a predetermined pressure on said face, the depth of said recess being greater than the maximum movement of said valve.

In testimony whereof, I have hereunto signed my name.

RUDOLPH J. ANSCHICKS.