

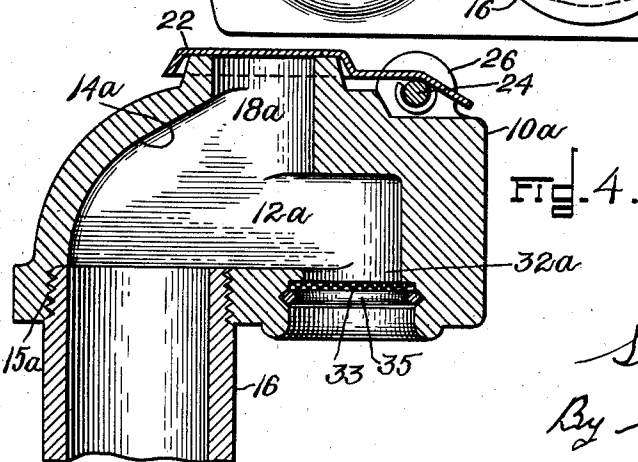
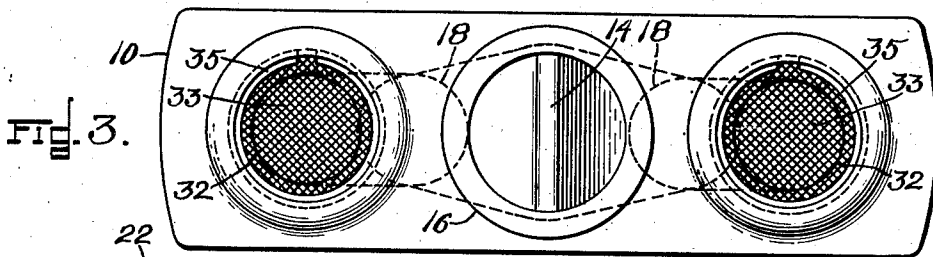
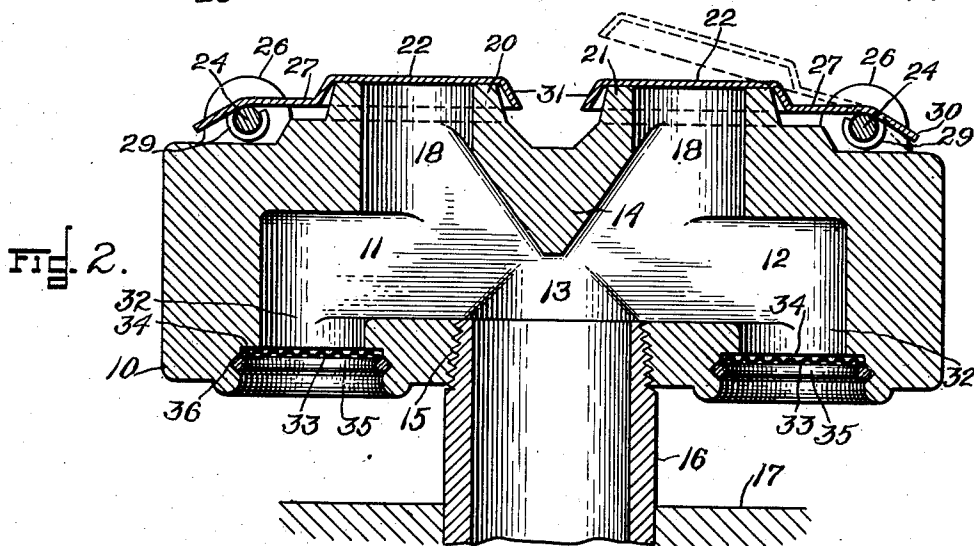
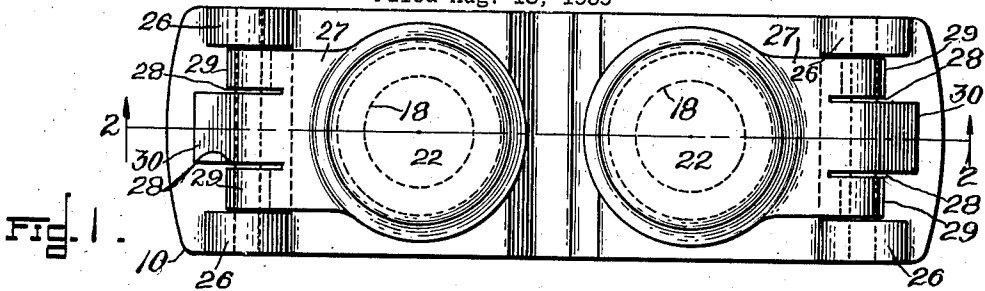
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TERMINAL FITTING FOR VENT PIPES

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TERMINAL FITTING FOR VENT PIPES

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1 Claim. (Cl. 220—88)

This invention relates to an improved terminal fitting for the vent pipe or conduit of a storage tank holding an inflammable liquid such as gasoline, kerosene or the like.

In many instances storage tanks for gasoline and the like are buried in the ground, closely adjacent to residences and other buildings, and it is customary to provide such tanks with two pipes leading upwardly therefrom, one of said pipes being provided for use in replenishing the contents of the tank and the other pipe being provided as a vent through which the fumes or vapor within the tank may be exhausted into the atmosphere above the ground while the tank is being refilled and through which air is admitted to the tank while the contents of the latter is being drawn off.

Many different forms of fittings have heretofore been provided for application to the upper end of the vent pipe for preventing the entrance of dirt, dust or rain, while at the same time providing a free vent for the interior of the tank and a free outlet for the gas, vapor or the like that is displaced when the tank is refilled. These fittings are invariably disposed close to the ground and heretofore provided upon their under side with a downwardly directed outlet through which the tank was always vented and through which the gas, vapor or the like displaced in refilling the tank was discharged downwardly onto the ground. Such gasoline vapor or gas is heavier than air and will remain in a layer close to the ground. As a result it has frequently happened that the vapor or gas discharged from the vent fitting has been wafted or otherwise caused to flow laterally through an open window disposed close to the ground into an adjacent building, thus creating a dangerous hazard within the latter.

My invention has for its primary object to provide an improved vent pipe terminal fitting so organized and constructed that the objectionable feature just referred to is obviated. It is also an object of this invention to provide a terminal fitting of the class described which will be simple in construction, efficient and inexpensive.

To these ends I have provided an improved terminal fitting having the features of construction and operation set forth in the following description, the several novel features of the invention being separately pointed out and defined in the claim at the close thereof.

In the accompanying drawing—

Figure 1 is a top plan view of my improved terminal fitting in its preferred form.

Figure 2 is a section on line 2—2 of Fig. 1.

Figure 3 is a bottom plan view of the fitting shown in Figs. 1 and 2.

Figure 4 illustrates an alternative construction.

The embodiment of my invention illustrated in Figs. 1, 2 and 3 comprises a one-piece body 10 which may be a metal casting and this body is formed interiorly with two chambers 11 and 12 whose lower portions are in communication through a passageway 13 and whose upper portions are separated by an intermediate partition 14 that is part of body 10. The passageway 13 and partition 14 are directly opposite a centrally disposed threaded aperture 15 provided through the bottom wall of the body and into which is forcibly screwed the upper exteriorly threaded end of a vertical vent pipe 16. As usual this vent pipe extends downwardly through the ground 17 to the usual buried tank, not shown, holding a supply of gasoline or the like.

At opposite sides of the partition 14 the chambers 11 and 12 are provided, with upwardly directed outlet ports 18.

The partition 14 is V-shaped and its apex is axially aligned with the pipe 16 while the outlet ports 18 are disposed equi-distant from, and at opposite sides of, said axis.

The top of body 10 is made with two upstanding annular rims or beads 20 and 21 which surround the upper ends of the outlet ports 18. These rims are made with smooth and flat top surfaces which serve as seats for clack-valves 22 which are loosely and pivotally supported by pintles 24, said pintles being fixed at their opposite ends in lugs 26 projecting upwardly from the top of body 10.

In order to avoid undue weight each clack-valve is preferably a sheet metal stamping formed with a laterally extending web 27 which is slitted as at 28 to provide three tangs. The two outermost tangs of each valve are formed into eyes 29 which loosely embrace one of the pintles 24 while the intermediate tang 30 extends more or less radially outwardly from said pintle so as to serve as a stop arm to limit the opening movement of the valve through engagement with the top of body 10. The stop arm tang 30 of each valve maintains the center of gravity of the latter always offset laterally at one side of the pivot pintle so that the valve is always urged toward its seat 20 or 21 by gravity, and so that when relieved of a force tending to hold it in its fully open position it will fall by gravity on to said seat.

The body or closure portion of each valve is made in the form of an inverted cup whose skirt 31 surrounds the upper portions of the rim 20, or 21, on which the valve is seated so as to shield said rim from rain, snow and the like.

Each chamber 11 and 12 is also provided at its bottom with a downwardly directed inlet port 32 that is offset laterally from the vent pipe 16 and outlet 18, and within each inlet port 32 there is provided a fine wire mesh screen 33 that is held in position therein by an annular shoulder 34 and split ring 35. The split ring 35 is sprung into position within an annular groove 36 formed within the inlet 32 and holds itself in position as well as the screen 33.

While the supply of gasoline or the like within the tank is being replenished a stream of gas or vapor is discharged upwardly from vent pipe 16 against the lower edge of the partition 14 whose opposite inclined surfaces direct the current against the valves 22 so that the latter are lifted into their open positions as indicated by the dotted lines in Fig. 2. The valves 22 are in the open; that is, they are not shrouded by a cap, hood or cover and as a result the vapor or gas is discharged upwardly from outlets 18 into the atmosphere and dissipated instead of toward the ground as heretofore has usually been the case.

As the contents of the tank is drawn off air is free to be supplied to said tank through the inlets 32.

In the form of my invention illustrated in Fig. 4 a single chamber 12a is provided having a screened inlet port 32a at its bottom and a valve-controlled outlet port 18a at its top. The vent pipe 16 is screwed tightly into a threaded aperture 15a provided at the bottom of chamber 12a and while the underground tank is being filled the gas or vapor discharged from pipe 16 is directed

toward outlet 18a by an inclined surface 14a at one side of chamber 12a. In this form of my invention the one-piece body 10a is made upon its top with a pair of upstanding lugs 26 between which a valve 22 is pivotally mounted on a pintle 24 that is fixed at its opposite ends in the lugs 26. Thus during refilling operation the gas or vapor discharged upwardly from pipe 16 lifts the valve 22 and discharges upwardly from outlet port 18a into the atmosphere where it becomes dissipated. The inlet port 32a at all times provides a vent for chamber 12a and pipe 16.

What I claim is:

As a new article of manufacture, a terminal fitting of the class described comprising a one-piece body having at its bottom an opening adapted to be connected with the upper end of a vent conduit and formed interiorly with a cavity with which said opening communicates, said cavity being shaped to provide two chambers at opposite sides of the axis of said conduit; two downwardly directed inlet vent ports, each communicating with the bottom of one of said chambers, two upwardly directed outlet ports, each communicating with the top of one of said chambers and a V-shaped partition between said outlet ports whose apex is disposed opposite said conduit so that the gas discharged from the latter is deflected thereby into said outlet ports; screens within said inlet vent ports; two valves normally closing the upper ends of said outlet ports, each of said valves being pivotally mounted upon the exterior of the top wall of said body so that it is opened by the impact of said gas against it, and means for limiting the opening movement of each valve so that the latter will be closed by gravity upon termination of the flow of said gas.

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