Feb. 19, 1957 G. W. LINDSAY 2,781,941

VERTICAL VENT FITTING

Filed March 31, 1955

FIG.-1

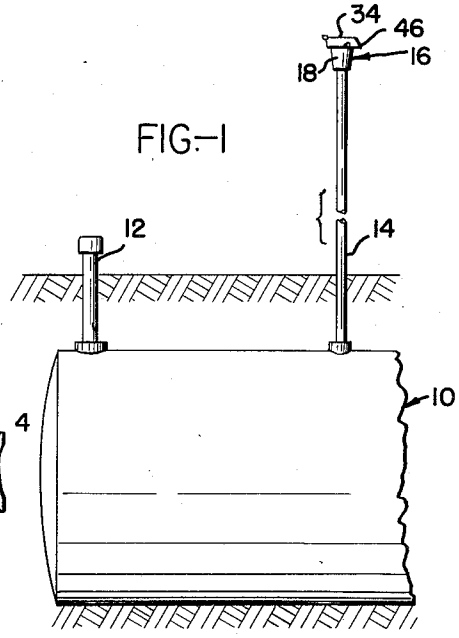



FIG.-2

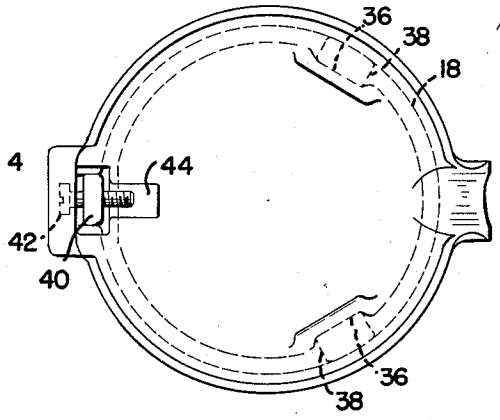



FIG.-3

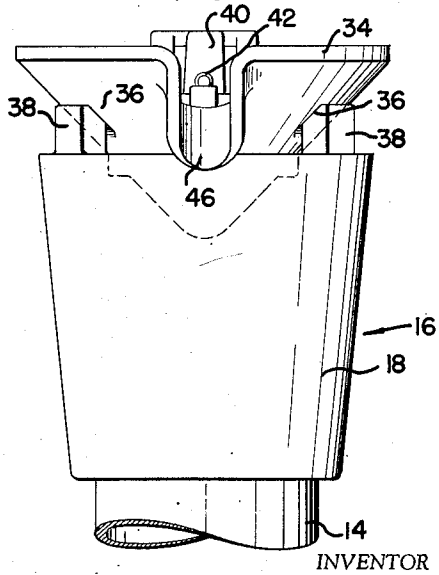
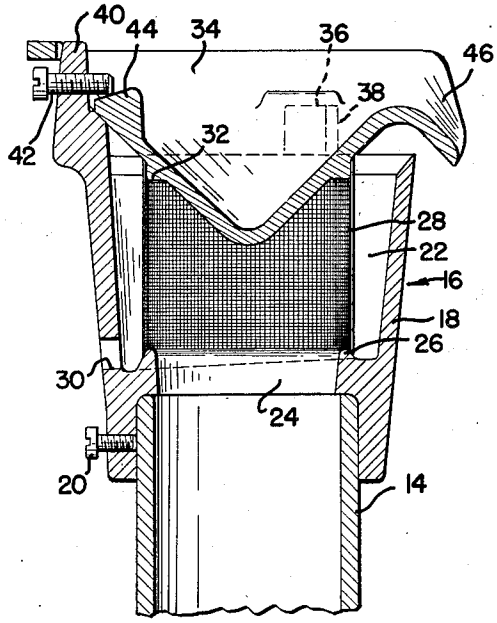



FIG.-4




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United States Patent Office 2,781,941 Patented Feb. 19, 1957



2,781,941

# VERTICAL VENT FITTING

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Application March 31, 1955, Serial No. 498,259

3 Claims. (Cl. 220—44)

This invention relates to a vent fitting, and, particularly, to a vent fitting for venting an underground tank such as a gasoline tank.

Underground gasoline tanks of the nature that are employed in filling stations and the like are always vented and the vent usually takes the form of a length of pipe extending upwardly from the tank to a substantial distance above the ground where it is provided with a gooseneck opening downwardly so that fumes, vapors and air will be vented from the tank while the gooseneck prevents moisture from getting into the tank due to rain fall.

There are certain objections to the type of vent arrangement referred to above with the principal objection being that the vapors from the vent fitting are directed downwardly, and since vapors are generally heavier than air, there is a tendency for them to move downwardly in a stream toward the ground thereby creating an explosion hazard, particularly when the atmosphere is quite still. Principally, because of the objection referred to above this type of vent fitting is no longer acceptable in certain localities and, it is accordingly a primary objective of the present invention to provide an arrangement for venting an underground gasoline tank or the like which avoids the drawbacks referred to above and which is accordingly acceptable in all locations.

Another object of the invention is the provision of a vent fitting which eliminates the tendency for the vented vapors to collect and form an explosion hazard and which is also effective for preventing moisture from getting into the underground tank through the vent pipe.

A still further object is the provision of a vent fitting adapted for being placed on the upper end of the vent pipe in place of the customary gooseneck, but requiring no change in the vent pipe other than the removal of the gooseneck.

A still further object is the provision of a vent fitting which will vent fumes and vapors upwardly and which will absolutely prevent water from getting into a vent pipe even in a driving rain.

These and other objectives and advantages of the present invention will become more apparent upon reference to the following specification taken in connection with the accompanying drawings, in which:

Figure 1 is a view showing an underground tank vented via a conduit having a fitting on the upper end thereof according to the present invention;

Figure 2 is a plan view of the vent fitting.

Figure 3 is an elevational view of the fitting, and

Figure 4 is a vertical sectional view indicated by lines 4—4 on Figure 2.

Referring to the drawings somewhat more in detail, an underground tank to be vented is indicated at **10** in Figure 1. The tank is provided with a fill pipe **12** and with a vent pipe **14** upstanding to a substantial distance above the ground. The upper end of the vent pipe **14** is provided with a vent fitting **16** according to the present invention which is illustrated in more detail in Figures 2, 3 and 4.



The vent fitting comprises a main body portion **18** which has a recess in its lower end for receiving the upper end of the vent pipe **14**. Body **18** may be threaded to the upper end of pipe **14** or may be fixed thereto as by the set screw **20**.

The inside of the body **10** is provided with a cavity **22** that communicates via a central bore **24** with pipe **14**. A ledge **26** upstands about opening **24** and is availed of for receiving the lower end of a cylindrical screen **28**.

As will be noted in Figure 4, the channel or groove surrounding upstanding portion **26** is inclined downwardly toward one side of the body **18** where it terminates at its lower points at a drain hole **30**.

The upper end of the screen **28** fits about a boss **32** formed about the periphery of the inserted cone-shaped cover member **34**. Cover member **34** extends outwardly beyond the outer periphery of the body **18** of the fitting so that under all normal operation conditions of rain fall, snow and the like will not enter cavity **22** of the body but will instead fall past the body or, if it enters the body or runs down inside the body on the outside of the cover member **34**, it will be entrained on the screen and flow down the screen to the annular channel at the bottom thereof which terminates in drain hole **30**.

The cover **34** is provided with spaced ledges **36** that engage bosses on upstanding portions **38** about the upper edge of body part **18**. At another point about body part **18** there is an upstanding part **40** extending through the aperture formed in cover **34** so that when screw **42** is threaded through the said upstanding portion and engages the boss part **44** on the inside of the cover, the said cover is firmly located in place.

The cover part is provided with a drain opening at **46** so that any moisture that collects on the inside thereof will readily spill out and over the edge of body part **18** and will not run down inside of the said body part.

From the foregoing it will be evident that the vent fitting provided according to this invention is ideally suited for use in connection with the vent pipe of underground gasoline tanks and the like. Moisture is substantially prevented from entering the vent conduit and the fumes and vapors leaving the vent conduit are dispersed and distributed by the conical undersurface of the cover member for the fitting whereby these vapors do not tend to flow downwardly and collect in a body adjacent the ground. The explosion hazard is thus greatly decreased over that which existed with the usual type gooseneck fitting. The fitting according to this invention is inexpensive to manufacture and install and can readily be dismantled for cleaning and repair.

It will be understood that I desire to comprehend within my invention such changes and modifications and adaptions of the invention to meet particular circumstances such as might be considered to fall within the scope of the appended claims.

I claim:

1. In a vent fitting for a vertical vent pipe; a generally cylindrical body part with a bore therethrough adapted to receive the upper end of a vent pipe in its lower end so gases from the pipe will pass upwardly through the body, an inverted cone shaped cover member at the top of the body extending outwardly beyond the body, axial projections on one of said cover and body engaging the other thereof to hold the cover fixedly spaced from the body to define an upwardly outwardly opening vent, means detachably securing said cover in place, and a vented upwardly opening channel formed about the inside of said body part to catch moisture that flows down the inner wall thereof, there being a cylindrical screen member having its lower end resting in said channel and its upper end engaging the lower side of said cover.

2. In a vent fitting for a vertical vent pipe; a generally

cylindrical body part with a bore therethrough adapted to receive the upper end of a vent pipe in its lower end so gases from the pipe will pass upwardly through the body, an inverted cone shaped cover member at the top of the body, axial projections on one of said cover and body engaging the other thereof to hold the cover fixedly spaced from the body to define an upwardly outwardly opening vent, means detachably securing said cover in place, and a vented upwardly opening channel formed about the inside of said body part to catch moisture that flows down the inner wall thereof, there being a cylindrical screen member having its lower end resting in said channel and its upper end engaging the lower side of said cover, said cover extending outwardly beyond said body and having a drain lip to discharge water that collects therein.

3. In a vent fitting for a vertical vent pipe; a generally cylindrical body part with a bore therethrough adapted to receive the upper end of a vent pipe in its lower end so gases from the pipe will pass upwardly through the body, an inverted cone shaped cover member at the top



of the body, projections upstanding from said body, ledges on the bottom of said cover to engage said projections, an aperture in the cover on the side opposite said ledges, a finger on the body extending through the aperture, a screw through the finger holding the cover in place, an upwardly opening inclined channel inside said body adjacent the bottom vented to the outside of said body at its lowest point, and a cylindrical screen member having its lower end embracing the inside wall of said channel and its upper end engaging the bottom of said cover to be clamped in place thereby.

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