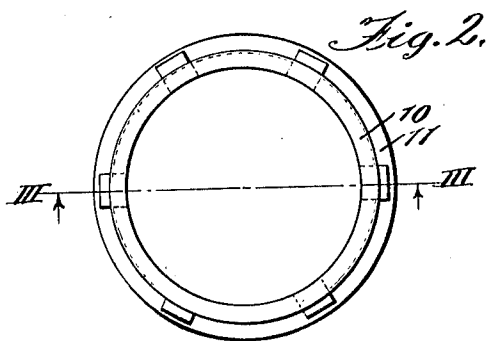
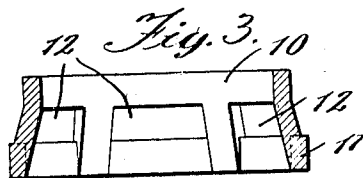
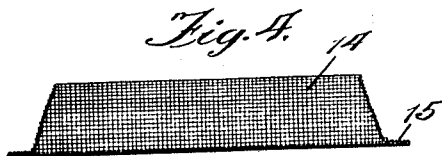
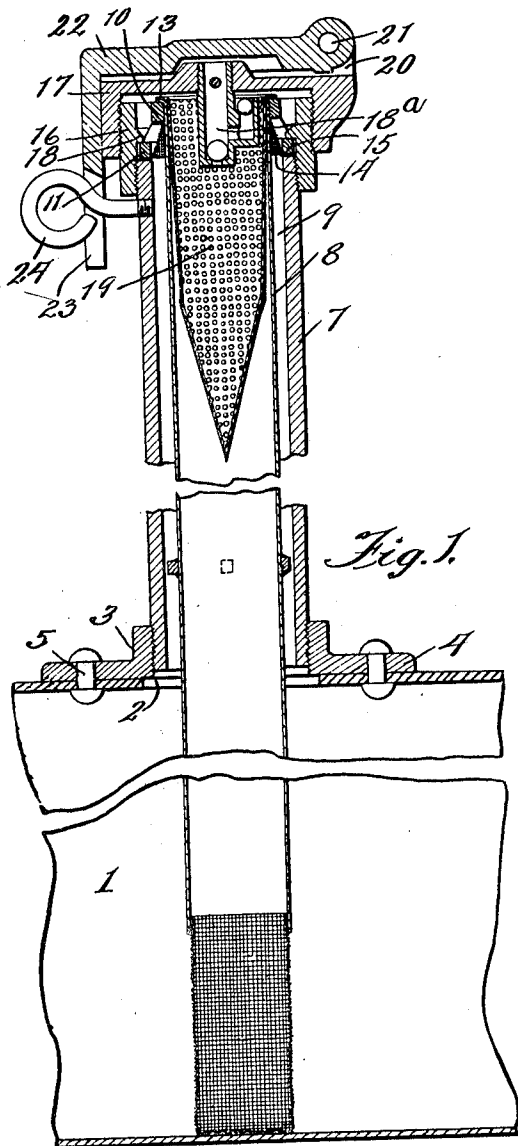


H. M. BOWSER.
FILL AND VENT FITTING DEVICE.
APPLICATION FILED MAR. 14, 1910.

Patented Mar. 12, 1912.

1,020,077.



Witnesses:
D. R. Perry
A. A. Knight

Inventor:
Harry M. Bowser
By Brown & Nephew
attys.

UNITED STATES PATENT OFFICE.

HARRY M. BOWSER, OF FORT WAYNE, INDIANA, ASSIGNOR TO S. F. BOWSER & CO.
INCORPORATED, OF FORT WAYNE, INDIANA.

FILL AND VENT FITTING DEVICE.

1,020,077.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed March 14, 1910. Serial No. 549,360.

To all whom it may concern:

Be it known that I, HARRY M. BOWSER, a citizen of the United States, residing at Fort Wayne, county of Allen, and State of Indiana, have invented certain new and useful Improvements in Fill and Vent Fitting Devices, of which the following is a specification.

This invention relates to fill pipes for tanks containing gasoline, oil or any other combustible fluid in connection with which it is desirable to provide a closed inlet.

The primary object of the invention is to provide an improved construction, combination and arrangement of parts in a device of this nature according to which the fill pipe will be effectually closed against the admission of rain or dirt while at the same time providing a free discharge of any excess of gas as well as for the inlet of air necessary to replace the liquid extracted from the tank.

Another object is to provide an improved fill and vent fitting device having separate and distinct passages for the inlet of the fluid and the outlet of the gases.

Other and further objects will appear in the specification and be more specifically pointed out in the claims, reference being had to the accompanying drawing showing an exemplification of the invention.

In the drawing, Figure 1 is a vertical section of a tank provided with my improved device. Fig. 2 is a detail plan view of a pedestal for supporting the inner tube from the top of the outer pipe. Fig. 3 is a section on the line III—III of Fig. 2. Fig. 4 is a section of a frusto-conical screen for screening the apertures in said pedestal.

Referring to the embodiment shown in the drawings, a tank 1 provided with a circular opening 2 has rigidly mounted thereon an annular collar 3 extending around said opening. Said collar 3 is provided with an annular flange 4 by means of which the collar is secured to the shell of the tank by means of rivets 5, the joint between the annular flange and the shell of the tank being preferably calked. Projecting upwardly from the tank 1 is an outer pipe 7 which is mounted in the collar 3 by a screw-threaded connection. Within the outer pipe 7 and concentrically mounted therewith is an inner tube 8 having its wall spaced from the outer tube to provide an annular pas-

sage 9 for the outlet of gas when it reaches an undesirable pressure.

In order to provide means for supporting the inner tube in proper relation to the outer pipe, a pedestal or annular supporting member 10 is mounted upon the upper end of the outer pipe 7, said pedestal being provided with an annular base flange 11 and a plurality of apertures 12, through which the annular space 9 is placed in communication with an air space to be presently referred to. The inner tube is adapted to be suspended from the pedestal 10 by an annular flange 13 which overreaches the upper end of the pedestal 10. In order to properly screen the annular passage 9, I preferably employ a frusto-conical screen 14, as shown more clearly in Fig. 4, which is adapted to fit within the annular pedestal 10 and to be held in position on the upper end of the outer pipe 7 by the annular flange 11 of said pedestal, which is seated upon and clamps the flanged portion 15 of the screen to said pipe. Threaded to the upper end of the outer pipe 7 is a sleeve coupling 16 which serves to secure a cap 17 to said pipe, said coupling being provided with a plurality of lugs 18 which are adapted to engage the annular flange 11 of the pedestal 10, thus securely fastening said pedestal on the upper end of the pipe 7. The cap 17 is preferably threaded to the coupling 16, and depending from said cap 17 preferably at the center thereof is an automatic venting device 18^a. By reference to Fig. 1 it will be seen that the automatic venting device 18^a comprises a ball valve adapted to permit the escape of gas under pressure from within the tank, and a second ball valve communicating with the central tube of the venting device above the first valve to permit the inflow of fluid through the venting device to the tank. The cap 17 is so constructed and disposed as to provide an air space at the top of the fill pipe which is common to the annular passage 9 and the inner tube 8.

In order to provide suitable means for preventing a flare-back in the inner tube 8, said tube is provided with a screen 19 adjacent the top, said screen being preferably of a construction tapered downwardly into the inner tube 8 so as to provide a gradually enlarged passageway for the fluid passing through said screen. If desired, the screen 19 may be soldered onto the upper

end of the inner tube 8, for which purpose it is flanged outwardly to adapt it to nest within said tube.

In order to provide means for locking the cap to the upper end of the fill pipe, the cap is provided preferably adjacent one edge with a slotted projection 20 within which is mounted a hinge pin 21 whereby a hasp 22 is pivotally connected to said cap. Said hasp extends across the top of the cap and serves to cover the vent opening of the vent 18^a. Said hasp is furthermore provided with a depending slotted portion 23 which is adapted to be passed over an eye-let or staple 24 which projects from the outer pipe 7 and is adapted to receive a pad-lock or other suitable locking device. The hasp 22 is furthermore constructed and arranged to provide an air passage between the vent 18^a and the outer atmosphere.

What I claim is—

1. In a device for the purpose described, the combination of a fill pipe having separate and distinct intake and outlet passages, the outer ends of said passages being screened, and a cap for said fill pipe provided with an automatic vent communicating with both of said passages.

2. In a device for the purpose described, the combination of a fill pipe provided with separate and distinct tubular passages for the intake of the hydro-carbon and the outlet for gas, a screen for each of said passages, and a cap for said pipe provided with a vent, said cap being constructed to provide a common air space above said passages in communication with said vent.

3. In a device for the purpose described, the combination of a fill pipe provided with separate and distinct tubular passages for the intake of the hydro-carbon and the outlet of gas, a screen for each of said passages, a cap for said pipe provided with a vent and providing a common air space above said passages in communication with said vent, and means for locking said cap on the fill pipe, said locking means being constructed and adapted to cover said vent and to provide an air passage from said vent to the atmosphere.

4. In a device of the character described, the combination of an outer pipe and an inner tube concentrically disposed with spaced walls, a cap for the outer pipe arranged to provide an air space above the upper ends of said pipe and tube, means for screening the upper ends of said pipe and tube, and a venting device mounted in the cap for placing said air space into communication with the atmosphere.

5. In a device for the purpose described, the combination of a fill pipe, an inner tube spaced therefrom to provide an annular passage, a screen for said tube, a screen for said annular passage, and a removable cap for

said pipe, said cap being provided with an automatic vent in communication with the space above each of said screens.

6. In a device for the purpose described, the combination of a fill pipe, an inner tube spaced therefrom to provide an annular passage, a perforated pedestal mounted on the top of said fill pipe for supporting said tube, a screen for said tube, a screen for said annular passage, and a removable cap for said pipe.

7. In a device for the purpose described, the combination of a fill pipe, an inner tube spaced therefrom to provide an annular passage, a supporting pedestal for said tube mounted on top of said pipe, said pedestal being provided with apertures in its lateral walls, means for preventing flare-backs through said apertures and said tube, and a cap removably mounted on said pipe, said cap being provided with an automatic venting device.

8. In a device for the purpose described, the combination with an outer pipe, of an inner concentric tube forming an annular passageway, means connecting the upper ends of said pipe and tube together, said means being provided with screened openings therethrough, a screen over the upper end of said inner tube, a cap for the outer pipe, said cap being provided with an automatic vent, and means for locking said cap in position, said locking means being adapted to cover said vent while permitting free access of air thereto.

9. In a device for the purpose described, the combination of an outer pipe, an inner tube spaced therefrom, a pedestal mounted on said outer pipe and in supporting engagement with said inner tube, said pedestal being provided with apertures, a screen mounted adjacent the upper end and depending into said inner pipe, a cap for said outer pipe, said cap being provided with an automatic vent in communication with both the outer pipe and inner tube, and a coupling for connecting said cap to the outer pipe.

10. In a device of the character described, the combination of an outer pipe, an inner tube spaced therefrom, the upper end of said inner tube being provided with a flange, a pedestal provided with an annular flange whereby it is mounted on said outer pipe and engaging at its upper end under the flange on the inner tube, said pedestal being provided with screened apertures therein, a screen mounted adjacent the upper end of and depending into said inner pipe, a cap for said outer pipe, said cap being provided with a vent in communication with both the outer pipe and inner tube, and a coupling for connecting said cap to the outer pipe, said coupling being provided with lugs for engaging the annular flange on said pedestal.

11. In a device for the purpose described,

the combination of an outer pipe, an inner
tube providing an annular passage, said
inner tube extending below the lower end
of the outer pipe, a cap for the outer pipe,
5 said cap being constructed and disposed to
provide an air space common to the outer
pipe and the inner tube, a venting device
depending from said cap, said venting device
being provided with passages and stops to
10 prevent flare backs while permitting an
escape of gas under excess pressure, a lock-
ing cover pivotally mounted on said cap,
said cover being constructed and arranged to

provide free access of air to said vent, and
means mounted on said outer pipe for co- 15
operating with a portion of said cover and
adapted to receive a lock.

In testimony whereof I have signed my
name to this specification, in the presence of
two subscribing witnesses, on this 5th day 20
of March A. D. 1910.

HARRY M. BOWSER.

Witnesses:

FREDERICK G. WEIR,
GEORGE EDWIN TIBBITS.