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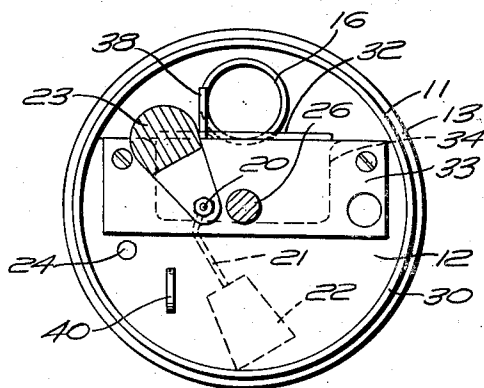
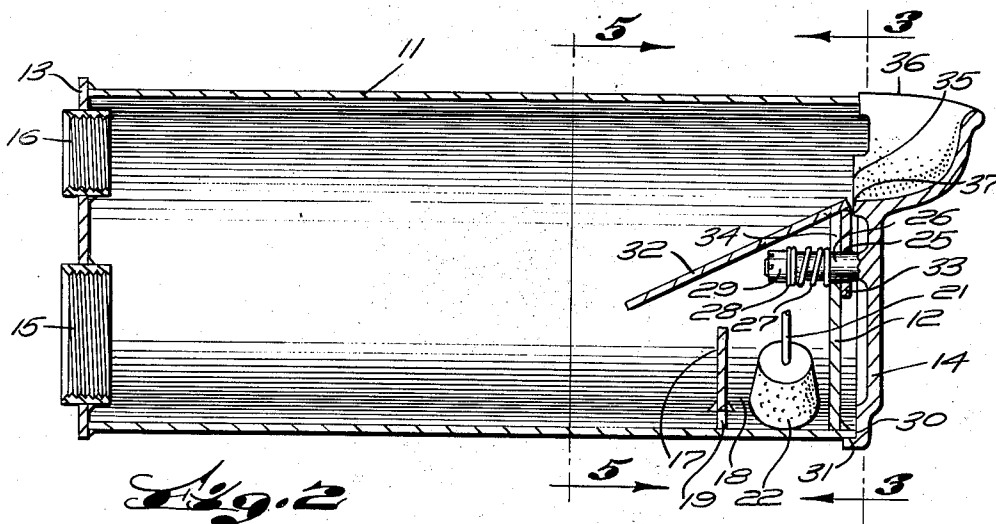
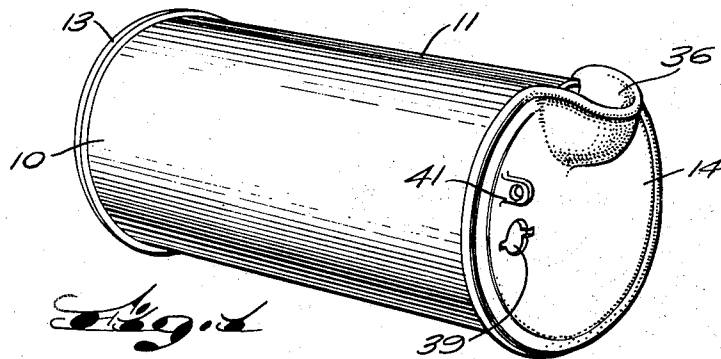
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2,564,962

FUEL OIL FILLER AND VENT UNIT

Filed Jan. 2, 1947

2 Sheets-Sheet 1



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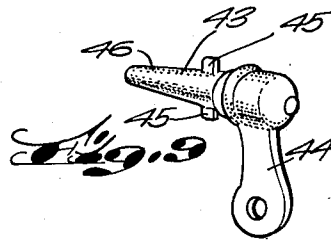
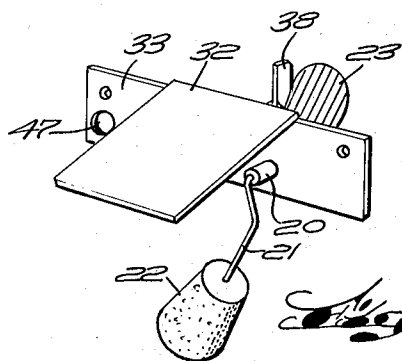
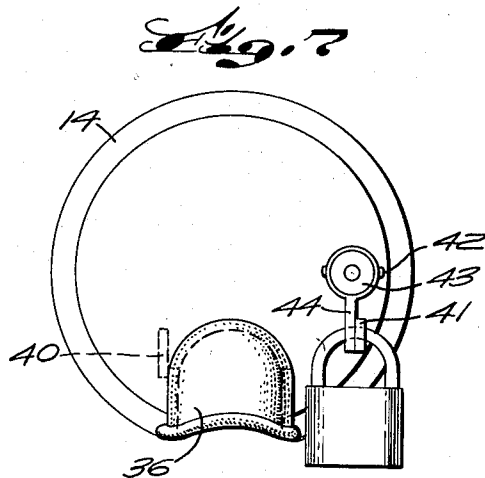
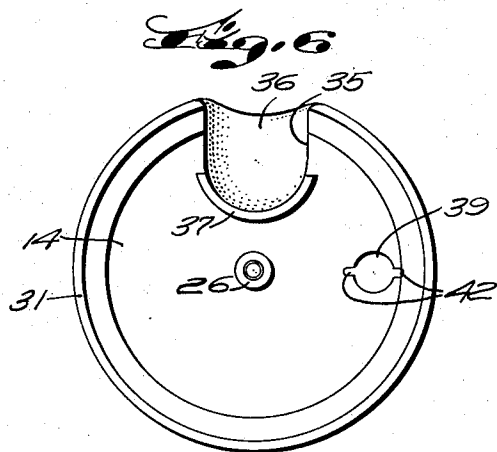
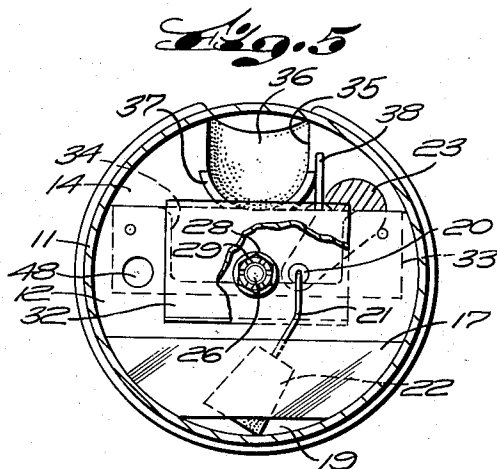
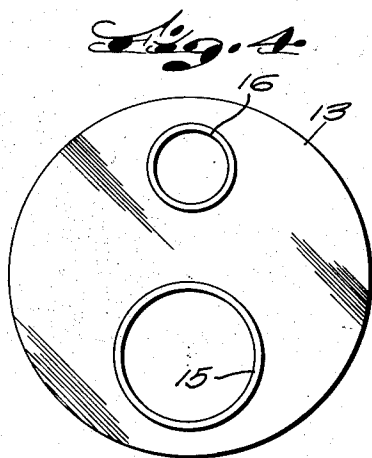
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FUEL OIL FILLER AND VENT UNIT

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FUEL OIL FILLER AND VENT UNIT

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10 Claims. (Cl. 116-118)

1

The present invention relates to fuel oil systems of the household heating type, and has particular reference to a novel construction for a combination filler and vent unit.

The principal object of the invention is to provide a novel unit which may be permanently installed in the wall of a dwelling, and which facilitates filling the fuel oil tank and eliminates both the filling pipe and vent pipe outlets.

Another object of the invention is to provide a fuel filler unit with a novel indicator or tell-tale, to disclose the filling of the tank and thus prevent overflow of oil.

A further object of the invention is to provide a fuel filler unit with a lock device, to prevent unauthorized access to the filling pipe.

Still another object of the invention is to provide a simple and effective combination filling and vent unit, made of a small number of readily manufactured and assembled parts which are accessible for cleaning, repair and replacement.

With the above and other objects and advantageous features in view, the invention consists of a novel arrangement of parts more fully disclosed in the detailed description following, in conjunction with the accompanying drawings, and more specifically defined in the appended claims.

In the drawings:

Fig. 1 is a perspective view of the novel combination unit, ready for installing in the wall of a dwelling, the cover being disclosed in filling position;

Fig. 2 is a longitudinal section of Fig. 1;

Fig. 3 is a view of the filling end of the unit, the cover being removed, the position of the indicator when the tank is full being shown in dotted lines;

Fig. 4 is a view of the rear end of the unit;

Fig. 5 is a view of the rear end of the unit, the rear plate being removed, and parts broken away;

Fig. 6 is a rear view of the cover plate;

Fig. 7 is a front view of the cover plate in venting position;

Fig. 8 is a perspective view of the shield and oil level indicator assembly; and

Fig. 9 is a perspective view of a novel lock tab for use with the unit.

It has been found desirable to provide a single unit for filling and venting fuel oil tanks, which may be installed or mounted in the wall of a dwelling and connected to the filling and the vent pipes, thus eliminating the standard unsightly double pipe extensions. I further provide the unit with a fluid actuated indicator to disclose when the tank is full, and I provide means

2

for locking the unit to prevent unauthorized access to the filling pipe, the parts being so arranged that they may be readily inspected, cleaned, repaired, and replaced when necessary.

Referring to the drawings, the combination filling and venting unit 10 includes a body 11 which is hollow and preferably of tubular form, a front closure plate 12, a rear closure plate 13, and a movable cover plate 14. The rear closure plate 13 is sealed or welded to the cylinder walls to make a fluid tight closure, after the indicating parts have been mounted in the body 11 as hereinafter described. The rear closure plate has a threaded pipe boss 15 in its lower portion for receiving a filling pipe leading to the oil tank, and a threaded pipe boss 16 in its upper portion for receiving a vent pipe from the oil tank.

A partition 17 is positioned within the forward portion of the body to form a separate chamber 18, see Figs. 2 and 5, and has a lower opening or spacing 19 through which fuel oil may enter freely. A stud 20 is rotatably mounted in the front closure plate 12, see Fig. 8, which plate is also spaced inwardly in the cylinder and welded in place, the stud carrying a depending arm 21 in the interior to which a float 22 is attached, whereby rise of fuel oil in the chamber 20 will lift the float and rotate the stud 20. An indicator 23 is mounted at the outer end of the stud 20 to move downwardly against a stop 24 integral with or secured to the front face of the front closure plate, the indicator being painted a bright color, such as red or green, for the purpose hereinafter described.

The front closure plate 12 has a central opening 25, see Fig. 3, through which a stud 26 centrally secured to the rear face of the cover plate 14 extends, the stud being releasably held in place by a spring 27, an end washer 28, and a cotter pin type lock nut 29 secured by a cotter pin, whereby the cover plate is resiliently held against the forward rim 30 of the cylinder body, which acts as a track and seats into a flange 31 of the cover plate, whereby the cover plate is spring held to its seat but may be rotated as hereinafter described.

Referring to Figs. 2, 3, 5 and 8, the interior surface of the front closure plate is provided with a rearwardly extending shield 32 which completely covers the front plate locking parts and is inclined downwardly to extend beyond and over the partition 17. The shield 32 is attached to the front closure plate 12, by means of a cross plate 33 which is preferably integral with the shield and extends vertically downwardly over the front

upper portion of the front closure plate and is secured thereto, as by screws. The upper portion of the front closure plate is provided with an opening 34, see Fig. 5, and the upper portion of the cover plate 14 is provided with a U-shaped opening 35 and a forwardly extending filling trough 36 which has an arcuate lip 37 at its lower end adapted to abut the upper forward edge of the shield member 32 whereby an oil line loading nozzle may be thrust through the filling nozzle and the opening 35 to rest on the shield 32 while filling the tank. The opening 35 is positioned for filling by a forwardly extending stop 38 which is mounted on the upper edge of the cross plate 33 and abuts the rearwardly extending lip 37 of the cover plate 14 when the cover plate has been turned 180 degrees from its normal locked position.

As the filling progresses, the fuel oil passes outwardly through the lower portion of the cylinder body into the filling pipe; when the oil tank and the filling pipe are full, the fuel oil rises in the float chamber 18 and causes the indicator 23 to drop against its stop 24, the indicator becoming freely visible through an aligned opening 39 in the cover plate.

When the filling is completed, the pipe line nozzle is removed, and the cover plate is turned until the cover plate lip 37 contacts another stop 40, see Fig. 7, extending outwardly from the front surface of the front closure plate. The cover plate is now in the position shown in Fig. 7, with the trough 36 and the opening 35 in down position, whereby the oil tank is vented through the top of the cylinder body, the opening 34, the space between the front closure plate and the cover plate, and the opening 35 and trough 36, the interior of the cylinder body being closed against rain and snow. The spring-held cover plate is sufficiently loose to provide an adequate vent around the edges, and the trough 36 may therefore, if desired, be shaped to provide a threaded portion adapted to receive a correspondingly threaded closure cap.

It is preferred to lock the cover plate when in venting position in order to prevent unauthorized access to the interior of the combination unit. A suitable locking means is obtained by providing a ring type lug 41 on the outer surface of the cover plate, see Fig. 7, and the opening 39 being formed with two opposite horizontally extending notches 42, see Fig. 6. A key 43, see Fig. 9, having a perforated arm 44, vertical lugs 45 and a forwardly extending tapered shank 46 is inserted in the opening 39 and through aligned holes 47 and 48 in the cross plate 33 and front closure plate 12, the key lugs 43 passing through the notches 42, and is turned 90 degrees to bring the lugs 45 in vertical relation to the notches 42, whereby the key is locked behind the cover plate. A padlock may then be passed through the ring type lug 41 and the perforated arm 44 to lock the cover plate in down position.

The above described construction thus provides a very simple and effective combination unit, which is attractive in appearance, and is particularly suitable for use with city dwellings. The parts may be readily reached for repair or cleaning through the aligned openings in the cover plate and the front closure plate, and may be reached through the rear closure plate if necessary.

Although I have described a specific constructional embodiment of my invention, it is obvious that changes in the size, shape, and relation of

the parts may be made to obtain different designs for the combination unit, without departing from the spirit and the scope of the invention as defined in the appended claims.

I claim:

1. A combination filling and venting unit for an oil tank, comprising a hollow body having a front closure plate and a rear closure plate, said rear closure plate having an opening adapted to receive a filling pipe and an opening adapted to receive a vent pipe, and said front closure plate having a filling opening, and a cover plate rotatably mounted on the front end of said tubular body and having a filling trough adapted to be aligned with the filling opening.

2. A combination filling and venting unit for an oil tank, comprising a hollow body having a front closure plate and a rear closure plate, said rear closure plate having an opening adapted to receive a filling pipe and an opening adapted to receive a vent pipe, and said front closure plate having a filling opening, and a cover plate and rotatably mounted on the front end of said tubular body, and having a filling trough adapted to be aligned with the filling opening said cover plate and said front closure plate having cooperating stop lugs.

3. A combination filling and venting unit for an oil tank, comprising a tubular body having a front closure plate and a rear closure plate, said rear closure plate having an opening adapted to receive a filling pipe and an opening adapted to receive a vent pipe, and said front closure plate having a partition spaced from the front plate and providing a filling opening, said body having an oil chamber, and an indicator mounted on the front closure plate and movable to indicate the level of oil in said oil chamber.

4. A combination filling and venting unit for an oil tank, comprising a tubular body having a front closure plate and a rear closure plate, said rear closure plate having an opening adapted to receive a filling pipe and an opening adapted to receive a vent pipe, and said front closure plate having a partition spaced from the front plate and providing a filling opening, a cover plate having a filling trough and rotatably mounted on the front end of said tubular body, said body having an oil chamber, and an indicator mounted on the front closure plate and movable to indicate the level of oil in said oil chamber, said cover plate having an opening therethrough positioned to disclose the indicator.

5. A combination filling and venting unit for an oil tank, comprising a tubular body having a front closure plate and a rear closure plate, said rear closure plate having an opening adapted to receive a filling pipe and an opening adapted to receive a vent pipe, and said front closure plate having a filling opening, a partition in said body spaced from the front closure plate and providing a float chamber, a float movably mounted in said float chamber, an indicator mounted on the front cover plate and connected to the float for indicating the level of oil in the float chamber, and a shield in said body below the filling opening and extending over the float.

6. A combination filling and venting unit for an oil tank, comprising a tubular body having a front closure plate and a rear closure plate, said rear closure plate having an opening adapted to receive a filling pipe and an opening adapted to receive a vent pipe, and said front closure plate having a filling opening, a cover plate rotatably

5

mounted on the front end of said tubular body and having a filling trough adapted to be aligned with the filling opening, and means for locking the cover plate with the filling trough in non-aligned relation to the filling opening.

7. A combination filling and venting unit for an oil tank, comprising a tubular body having a front closure plate and a rear closure plate, said rear closure plate having openings to receive a filling pipe and a vent pipe, said front closure plate having a filling opening, a partition in said body spaced from the front closure plate and providing a float chamber therebetween, a float in said chamber, a rod rotatably mounted in the front closure plate and having its rear end secured to the float, an indicator positioned forwardly of the front closure plate and secured to the forward end of the rod, a shield at the rear of the front closure plate below the filling opening and extending over the float chamber, and a cover plate rotatably mounted on said body in spaced relation to the front closure plate, said cover plate having a filling trough and opening adapted to permit insertion of a filling nozzle into the filling opening when the filling trough and opening are in alignment therewith, a stop on the front closure plate and a cooperating stop on the cover plate for obtaining the filling alignment, and an opening in the cover plate for observing the indicator, said cover plate being rotatable to move the filling trough and opening out of alignment with the front closure plate filling opening.

6

8. In combination with the structure of claim 7, a second stop on the front closure plate for cooperating with the cover plate stop to set the cover plate with the filling trough in non-aligning position with respect to the filling opening.

9. In combination with the structure of claim 7, a stop mounted on the front closure plate for engagement by the indicator when the float chamber is full of oil.

10. In combination with the structure of claim 7, spring means for resiliently urging said cover plate towards said body.

GEORGE H. DEAN.

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