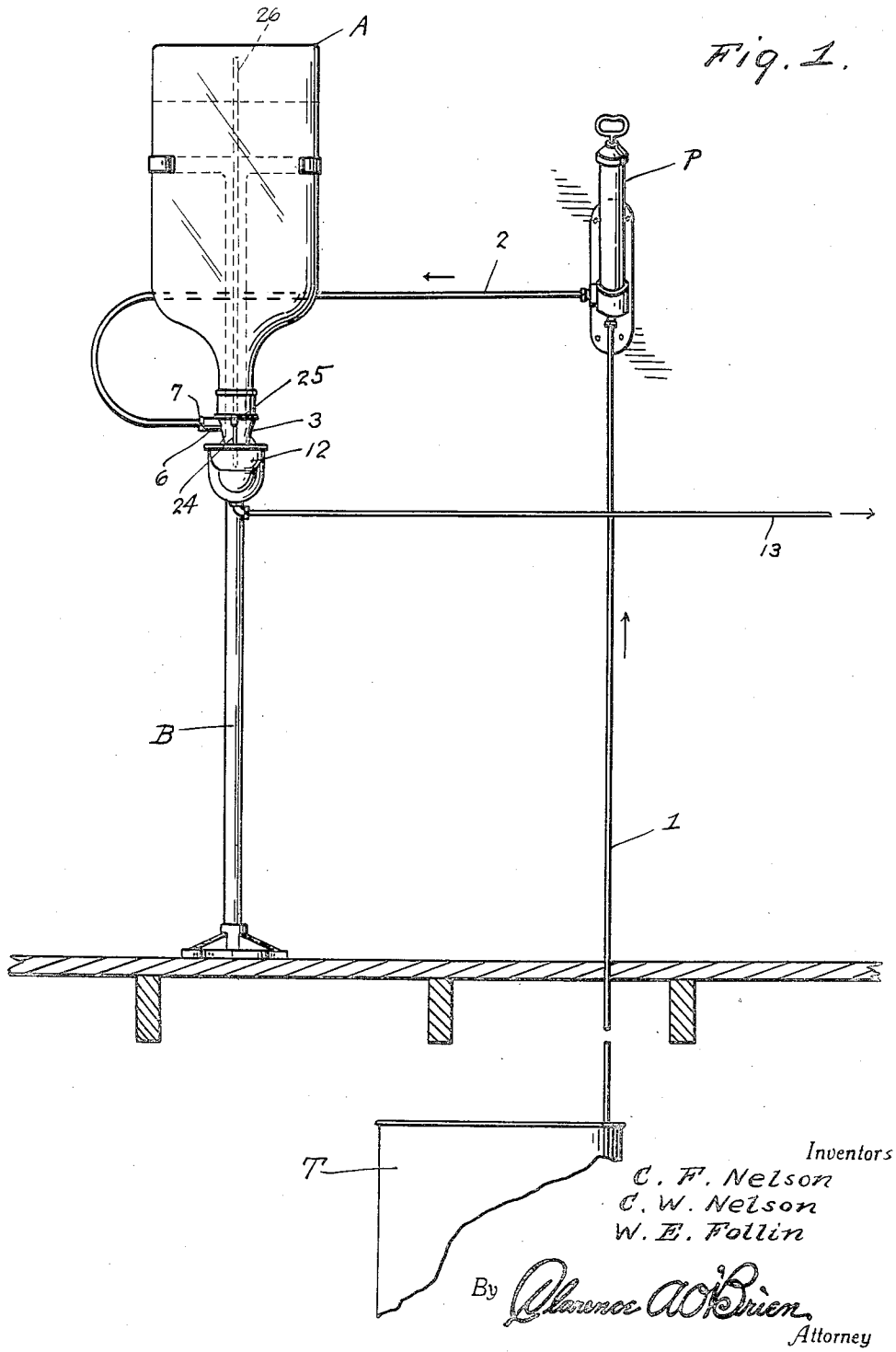
July 17, 1934. C. F. NELSON ET AL 1,966,829

REFILLING DEVICE FOR RESERVOIRS OF OIL STOVES AND THE LIKE

Filed Jan. 11, 1933 2 Sheets-Sheet 1

Fig. 1.



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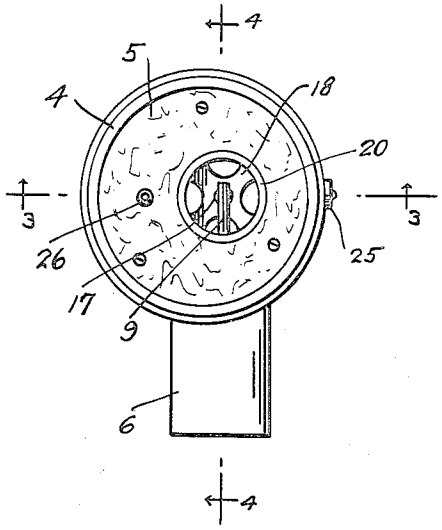
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Fig. 2



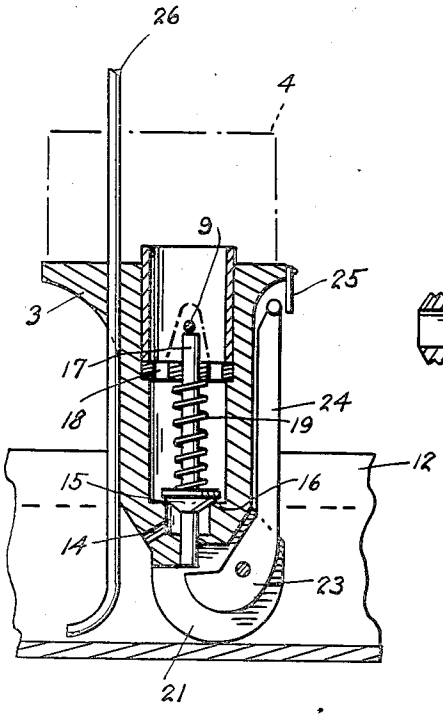
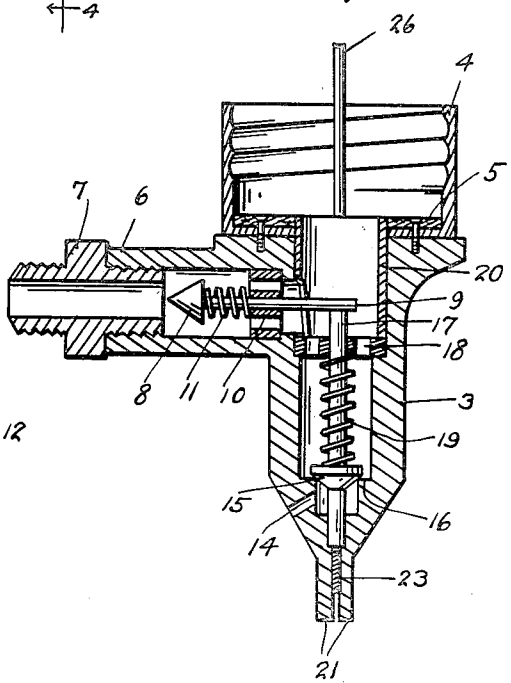


Fig. 3.

Fig. 4.



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UNITED STATES PATENT OFFICE

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REFILLING DEVICE FOR RESERVOIRS OF OIL STOVES AND THE LIKE

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Application January 11, 1933, Serial No. 651,218

3 Claims. (Cl. 158—40)

This invention relates to a refilling device for the reservoir of a barometric liquid feeding device for an oil stove or the like, the general object of the invention being to provide means for refilling the reservoir without removing the reservoir from its supporting means and taking the reservoir to the oil supply tank, thus saving one much effort and time in refilling the reservoir.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is a view in elevation showing an installation of the invention.

Fig. 2 is a top plan view of the valve carrying member and cap for the lower end of the reservoir or bottle.

Fig. 3 is a section on line 3—3 of Fig. 2.

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

In these drawings, the letter A indicates a reservoir or bottle for an oil stove or the like and the letter B indicates a supporting stand for the same. As is well known, when the bottle needs refilling, it is necessary to remove the bottle from its supporting means and then take the bottle into the cellar or other storage room where the tank containing a supply of oil is located and refill the bottle from this tank and then carry the bottle back to the supporting means.

It is the object of this invention to eliminate this work of refilling the bottle, and in carrying out the invention, a small hand pump P is suitably supported and is connected to the tank T by a pipe 1, so that when the piston is raised, oil will be drawn from the tank into the pipe 1 into the pump and when the piston is depressed, oil will flow from the pump through the pipe 2 into the valve body 3 which has a cap 4 attached to its upper end into which the mouth of the bottle is screwed.

A gasket 5 is placed in the cap to form a tight joint between the mouth of the bottle and the cap. The body is formed with a lateral tubular extension 6 having a nipple 7 threaded therein and the tube or pipe 2 is attached to this nipple. A valve 8 has its stem 9 slidably supported by the guide or spider 10 located in the part 6 and a spring 11 normally holds the valve 8 closing the inner end of the nipple 7. The body 3 extends into the usual well 12 to which a pipe 13 is connected, this pipe leading the oil to the burners of the stove. The body is provided with ports 14 in its lower part which deliver the oil from the body into the well, and the valve 15 engaging a seat 16 in the lower part of the body prevents oil from passing from the ports 14 when the valve is in closed position. The stem 17 of this valve passes through the guide or spider 18 and a spring 19 tends to hold the valve on its seat.

The spider 18 is held on its seat by a sleeve 20 in the upper part of the body with its upper end in communication with the bottle through the cap. The lower end of the stem 17 extends into the space between the prongs 21 formed by the forked lower end of the body and the head 23 of a cam lever 24 is pivoted in the space between the prongs and has a part thereon for engaging the lower end of the stem 17 when the lever is moved outwardly, so as to raise the valve 15 from the seat. The lever is held in its outward position by a latch member 25 pivoted to a part of the body and adapted to engage a part on the upper end of the lever to hold the lever in its outward position. As will be seen, when the lever 24 is in inoperative position, its handle part will extend upwardly parallel to the major portion of the body, with its upper end located in the space formed by a portion of the body and the latch member 25. Then when the valve 15 is to be opened to permit liquid to flow from the bottle or reservoir into the well, the latch member 25 is swung upwardly on its pivot so that the upper end of the lever 24 can pass the same and after the lever 24 has been moved to cause its head to engage the stem of the valve 15, to raise said valve 15 off its seat, the latch member 25 is swung downwardly so that the upper end of the lever 24 will rest against the same and thus the lever 24 is held in a position with a part of its head engaging the stem of valve 15 to hold the valve off its seat. The liquid or oil will then flow from the bottle through the body into the well, but as soon as the level of liquid in the well reaches a point where the port 14 is covered by the liquid, the flow of liquid from the bottle to the well ceases. Thus it will be seen that the device acts as a barometric liquid feeding device.

When the valve 8 is on its seat and the stem 17 of the valve 15 is raised by the cam lever 24, the upper end of said stem 17 will abut the end of the stem 9 of the valve 8 and thus hold the valve 8 on its seat and prevent opening movement of the valve 8, so that if one should operate

the pump P with the valve 15 in open position, no oil can enter the valve body as the valve 8 will prevent this.

From the foregoing it will be seen that when it is necessary to refill the bottle or reservoir, the lever 24 is released from the latch 25 and moved inwardly so that its lower end will move out of engagement with the lower end of the stem 17 and thus the spring 19 will move the valve 15 upon its seat to prevent oil from entering the well 12. This downward movement of the stem 17 frees the stem 9 and valve 8 so that when the pump is operated oil will be pumped from the tank up through the pipe 1 and through the pipe 2 into the part 6, forcing the valve 8 off its seat and thus the oil will enter the reservoir through the cap. Air displaced by the oil entering the bottle will be vented from the top of the bottle through the pipe 26 which passes through the neck or mouth of the bottle and through the cap and a part of the body with its lower end curved and located in the well so that the oil in the well will cover the lower end of the pipe. Of course the air forced from the bottle by the oil entering the same, will cause the air to pass through the vent pipe 26 and will thus bubble up through the oil in the well, and the oil covering the lower end of the vent pipe, will seal the lower end of the pipe.

When sufficient oil has been pumped into the bottle, the pumping operation is stopped and the spring 11 will force the valve 8 back upon its seat and then the lever 24 is swung outwardly and held in this position by the latch 25 so that the lower end of the lever will push the stem 17 upwardly and thus raise the valve 15 off of its seat so that oil can pass from the bottle into the well in the usual manner.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts provided that such changes fall within the scope of the appended claims.

Having thus described our invention, what we claim as new is:—

1. Means for refilling a barometric feed reservoir from a tank comprising a valve body, a cap attached thereto for receiving and sealing the mouth of the reservoir, a constant level liquid receiving well positioned to receive liquid from and to thus seal the discharge end of the valve body, a spring pressed valve for preventing the oil passing from the body to the well, manually operated means for opening the valve, a pump connected with the tank, a pipe connecting the discharge of the pump with the body, a spring pressed valve normally closing communication between the last mentioned pipe and the body and opening under the pressure of oil from the pump, said valves being so constructed and arranged that the last mentioned valve is held closed when the first mentioned valve is in open position and means for venting said reservoir during the filling operation.

2. Means for refilling a barometric feed reservoir from a tank comprising a valve body, a cap attached thereto for receiving and sealing the mouth of the reservoir, a constant level liquid receiving well positioned to receive liquid from and to thus seal the discharge end of the valve body, a spring pressed valve for preventing the oil passing from the body to the well, manually operated means for opening the valve, a pump connected with the tank, a pipe connecting the discharge of the pump with the body, a spring pressed valve normally closing communication between the last mentioned pipe and the body and opening under the pressure of oil from the pump, said valves being so constructed and arranged that the last mentioned valve is held closed when the first mentioned valve is in open position, means for venting said reservoir during the filling operation, said venting means consisting of a pipe leading from the top of the reservoir through the valve body and into the well and having its lower end terminating adjacent the bottom of the well.

3. Means for refilling a barometric feed reservoir from a tank comprising a valve body, a cap attached thereto for receiving and sealing the mouth of the reservoir, a constant level liquid receiving well positioned to receive liquid from and to thus seal the discharge end of the valve body, a spring pressed valve for preventing the oil passing from the body to the well, manually operated means for opening the valve, a pump connected with the tank, a pipe connecting the discharge of the pump with the body, a spring pressed valve normally closing communication between the last mentioned pipe and the body and opening under the pressure of oil from the pump, said valves being so constructed and arranged that the last mentioned valve is held closed when the first mentioned valve is in open position, means for venting said reservoir during the filling operation, said manually operated means for opening the valve comprising a cam lever pivotally connected with the valve body and having a part thereon for engaging the first mentioned valve to move the same off its seat when the lever is swung outwardly and a pivoted latch member for holding said lever in its outward position.

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