Nov. 29, 1949 R. P. BUNETA 2,489,746

FILLING CAN WITH FLOAT CONTROLLED DETACHING MEANS

Filed Sept. 16, 1946

Fig. 1.

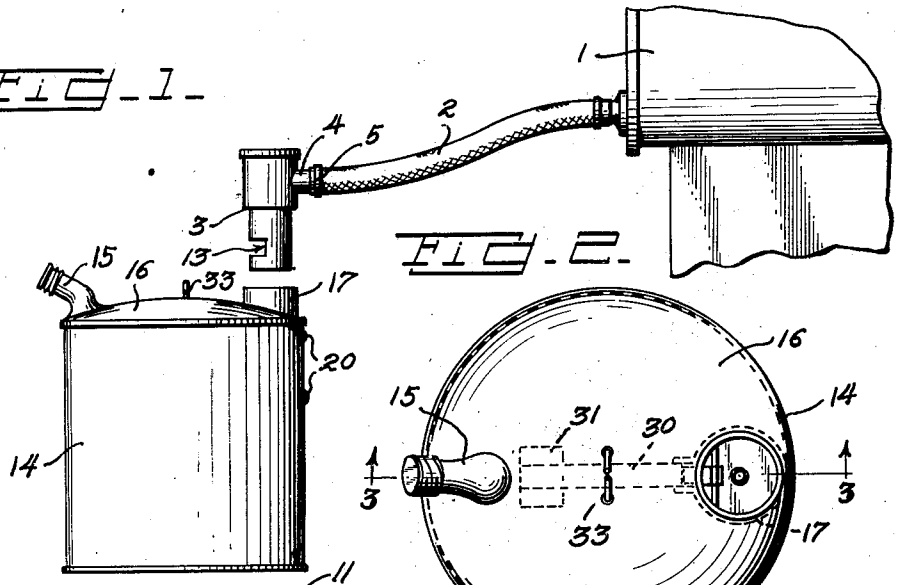


Fig. 2.

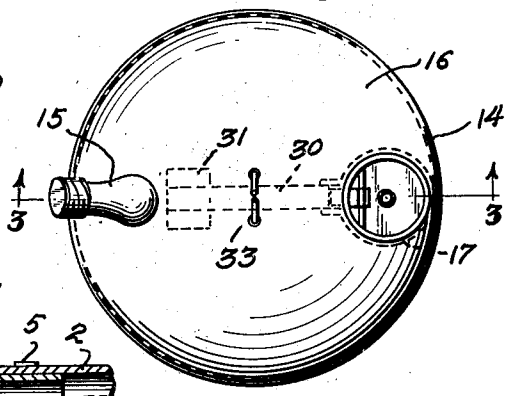


Fig. 3.

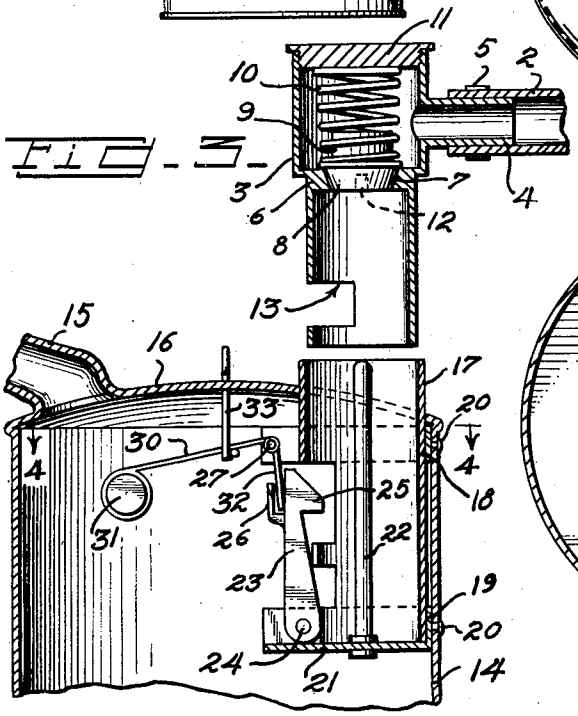
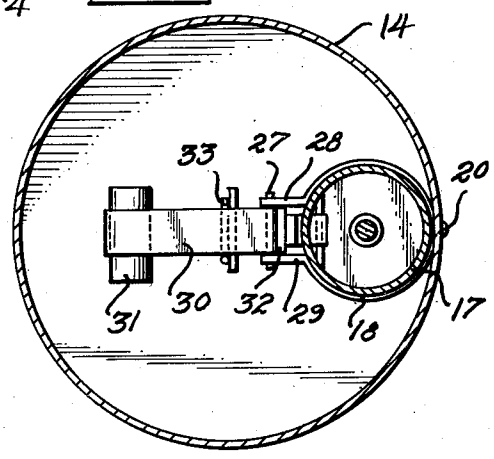


Fig. 4.



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FILLING CAN WITH FLOAT CONTROLLED DETACHING MEANS

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7 Claims. (Cl. 226—127)

1

This invention relates to automatic fluid filling means for receptacles or containers.

An object of the invention is to provide an improved mechanism partially contained in a receptacle or container which is to be filled with a fluid or liquid, and partially contained in the filling nozzle connected with the fluid or liquid storage tank or drum, said mechanisms cooperating when connected together to fill the receptacle or container with the fluid or liquid from said storage tank or drum, and to automatically stop and cut off the flow of fluid or liquid from the tank or drum when said receptacle or container has been filled to a predetermined level.

Another object of the invention is to provide an improved automatic float controlled means for cutting off the flow of a fluid or liquid from a storage tank or drum to a portable receptacle or container when the same has been filled.

A further object of the invention is to provide an improved spring closed valve construction and automatically operated float controlled operating means therefor, which will open said valve to permit the flow of the fluid or liquid from a storage tank or drum into a receptacle or container as soon as the same is connected with said spring closed valve, and said float controlled operating means automatically disengaging the valve from the container or receptacle and shutting off the spring closed valve when the receptacle or container has been completely filled.

Another object of the invention is to provide an improved automatically float operated controlled spring closed valve mechanism which will be highly efficient in operation and relatively inexpensive to manufacture and produce.

Other objects will appear as the description proceeds.

In the accompanying drawings which form a part of this application,

Figure 1 is a side elevation showing a portion of a storage tank or drum and a receptacle or container about to be filled, the same having the subject matter of the instant invention incorporated therein;

Figure 2 is a plan view of the receptacle or container;

Figure 3 is a sectional view taken on the line 3—3 of Figure 2, and

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Like characters of reference are used throughout the following specification and the accompanying drawings to designate corresponding parts.

2

In carrying out the invention, there is provided a fluid or liquid storage tank or drum 1 having a filling hose 2, and a tubular valve housing and spout 3 attached to the outer end of said hose by means of the laterally extending pipe connection 4 connected with the valve housing and received in the outer end of said hose, being fastened and secured in place by means of the hose clamp 5 placed about the end of said hose 2.

A transversely extending wall 6 is formed between the valve housing and the spout, and is apertured to provide the bevelled valve seat 7 of annular form, on which the bevelled valve 8 is adapted to seat when closed. The valve 8 is formed with an upwardly extending shank 9, about which the coil tensioning spring 10 is positioned, with its opposite ends engaging the top surface of the valve 8 and the undersurface of the screw threaded closure head 11 for the valve housing 3. A centrally positioned recess 12 is formed in the bottom of the valve 8 for purposes hereinafter described. The spout is open at its lower end and is apertured at 13 in one side thereof.

The receptacle or container 14 is of the usual five-gallon oil can type, having a pouring spout 15, and a top 16 which is apertured at the opposite side from said spout to receive and support the cylindrical spout guide 17 which is open at its upper end to receive the filling spout 3 on the end of the filling hose 2.

Oppositely disposed clamping brackets 18 and 19 are secured about the upper and lower ends of the spout guide 17, and are riveted to the adjacent inner wall of said receptacle or container 14 by means of the rivets 20.

The clamping bracket 19 is formed with a closed bottom 21 underlying the spout guide 17, and axially supports the vertically extending valve actuating finger or rod 22, which is adapted to seat in the recess 12 in the lower surface of the valve 8 to raise the same off of its seat against the tension or pressure of the coil spring 10 when the filling spout 3 is inserted in the spout guide cylinder 17.

A spout locking dog 23 is pivoted on the rod 24 upon the bracket 19 and extends upwardly therefrom, being formed with the locking nose 25 on its upper end, and with the upwardly extending spout releasing ear 26 on the opposite side thereof from the nose 25.

The spout guide tube or cylinder 17 is apertured to permit the nose 25 of the locking dog 23 to engage in the side aperture 13 in said filling spout 3 when the same is inserted therein, to

hold said spout locked in said spout guide tube or cylinder 17, while the fluid or liquid is being filled from the storage tank or drum into said receptacle or container.

A bell crank operating lever is pivoted on the cross pin 27 extending between the ears 28 and 29 on the upper bracket 18, and is formed with the arm 30 upon the outer end of which a float 31 is supported, and with the arm 32 which is bent downwardly to be received behind the releasing ear 26 on the pivoted dog 23.

An upwardly extending yoke member 33 will be secured to the arm 30 to extend through the receptacle or container top 16, whereby the mechanism may be manually operated to cut off the flow of liquid or fluid into said receptacle or container 14 at any desired time before it is full and automatically cut off by the hereinbefore described mechanism.

From the foregoing description, it will be seen that the mode of operation will be as follows:

The filling spout 3 will be inserted within the cylindrical spout guide 17 and forced downwardly therein until the pivoted dog moves inwardly and the nose thereof engages in the side slot or aperture 13 in said filling spout 3, thereby locking the parts together. As the filling spout 3 moves downwardly in the spout guide 17, the upper end 3 of the vertically extending valve actuating finger or rod 22 will engage in the recess 12 in the undersurface of the valve 8 to force the same open against the tension of the coil spring 10, thereby permitting the flow of the liquid or fluid from said storage tank or drum into the container 14. As the fluid or liquid reaches a point near the top of the container 14, the float 31 will become immersed in the fluid or liquid and will rise with the fluid to cause the arm 32 engaged behind the spout releasing ear 26 to retract the pivoted dog 23 away from the spout guide and spout and out of the side aperture 13 in the spout, thereby permitting the spring 10 which was compressed to force the valve 8 downwardly to again seat and also in so doing, forcing the spout 3 upwardly from said spout guide 17, whereupon the same may be removed from the container 14, and said filled container moved to any desired location.

While the preferred embodiment of the instant invention has been illustrated and described, it will be understood that it is not intended to limit the scope of the invention thereto, as many minor changes in detail of construction may be resorted to without departure from the spirit of the invention.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. In combination with a fluid storage tank having a fluid discharge hose connected therewith and a spring seated valved filling spout at the outer end of said hose, of a container having a spout guide formed therein, means supported thereby for engaging and unseating said valve when said filling spout is disposed in said spout guide, means for reseating said valve when said container is full, simultaneously operated means for unlocking said spout from the spout guide comprising a float operated latch mechanism.

2. In combination with a fluid storage tank having a fluid discharge hose connected therewith and a spring seated valved filling spout at the outer end of said hose, of a container having a spout guide formed therein, means supported thereby for engaging and unseating said valve when said filling spout is disposed in said spout guide, means for reseating said valve when said container is full, float operated means for unlocking said filling spout from said spout guide when said container is full, and manually operable means for unlocking said filling spout from said spout guide at any time during the filling of said container.

3. The combination of claim 2 wherein said means supported by the spout guide for engaging and unseating said valve when said filling spout is disposed in said spout guide includes a base plate fixedly carried by said spout guide, an upstanding actuating finger rigidly secured to said base plate at one end, and a guide recess provided in said valve for normally engaging the free end of said finger.

4. The combination of claim 2 wherein said means supported by the spout guide for engaging and unseating said valve when said filling spout is disposed in said spout guide includes a pivotal latch carried by said spout guide, and an opening provided in said spout normally engaging said latch.

5. In combination with a fluid storage tank having a fluid discharge hose connected therewith and a spring urged valved filling spout at the outer end of said hose, of a container having a spout guide therein including a base plate, a rigid arm carried by the base plate for actuating said valve to an open position, a pivotal latch carried by said guide, an opening provided in said spout for engaging said latch for normally holding said spout seated in said guide, a float operatively connected to said latch for movement of said latch out of the opening in said spout when the container is full, and means for manually actuating said latch.

6. In combination with a fluid storage tank having a fluid discharge hose connected therewith and a spring urged valved filling spout at the outer end of said hose, of a container having a spout guide therein including a base plate, a rigid arm carried by the base plate for actuating said valve to an open position, a pivotal latch carried by said guide, an opening provided in said spout for engaging said latch for normally holding said spout seated in said guide, a lever pivotally mounted adjacent its ends within said container, one end of said lever engaging said latch, a float carried by the opposite end of said lever for pivotal movement of said lever to actuate said latch out of the opening in said spout when said container is full, and means for manually actuating said latch.

7. The combination of claim 6 wherein said last mentioned means includes a slidable plunger carried by said container and connected to said lever.

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