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AUTOMATIC SHUT-OFF VALVE

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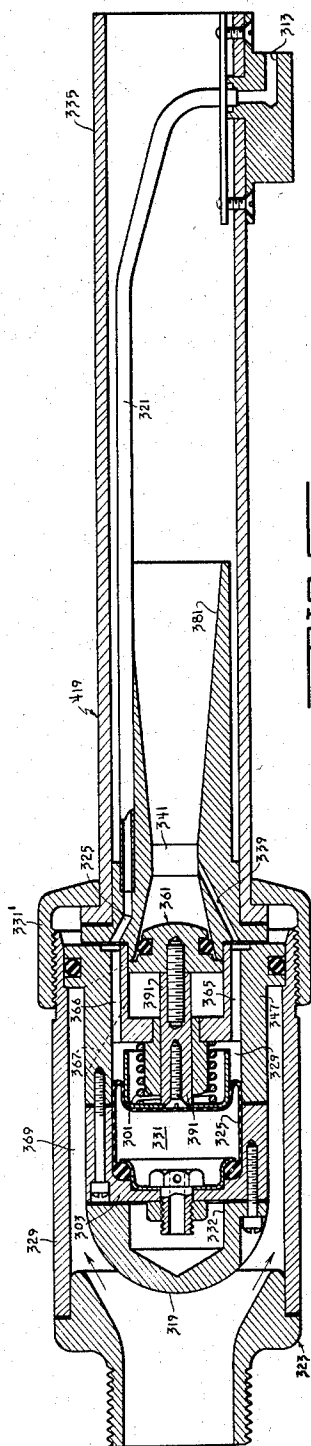
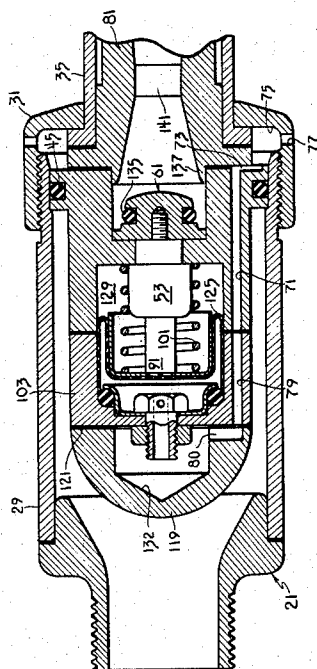


FIG. 5



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2,869,593

AUTOMATIC SHUT-OFF VALVE

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11 Claims. (Cl. 141—208)

This invention relates to an automatic shut-off valve. More specifically, it relates to an automatic shut-off valve and operating mechanism therefor which are associated with a spout so that the entire assembly may be substituted, as a unit, for the spout of a hand-operated nozzle valve such as is commonly used on the hose of a gasoline or other fuel dispenser.

It is an object of the invention to provide a shut-out valve of the type described which is usable for filling small containers such as the well-known "G. I. can" without spillage.

Another object of the invention is to provide a valve of the kind described which will stop the delivery of liquid to the container when the liquid reaches a predetermined level therein and which is adjustable to vary the level.

A further object of the invention is to provide means for automatically latching the valve in its closed position.

Still another object of the invention is to provide means for unlatching the valve for opening by the insertion of the spout into the container.

Yet another object of the invention is to provide means for preventing drainage of the control ducts when the nozzle spout is removed from the container.

Another object of the invention is to provide a mechanism of the kind described in which the valve is held open during the dispensing operation and is closed by a vacuum actuated motor when the container is filled to the desired level.

Still another object of the invention is to provide a mechanism of the kind described which may be used on the nozzle of the ordinary filling station dispenser.

A further object of the invention is to provide a mechanism of the kind described which is rugged and positive in operation.

Still another object of the invention is to provide a valve and valve operating mechanism which is in the form of a self-contained replaceable unit and which may be inserted into or withdrawn from the spout as a unit.

Yet another object of the invention is to provide a spout of the kind described employing a unitary valve and associated operating mechanism in which the valve and mechanism may be removed by removing one nut.

These and other objects will become apparent from a study of this specification and the drawings which are attached hereto, made a part hereof and in which:

Figure 1 is a side elevation of a nozzle fitted with one form of the novel spout.

Figure 2 is a vertical sectional view of the preferred form of automatic shut-off valve and spout together with the operating mechanism therefor.

Figure 3 is a sectional view taken on the line 3—3 of Figure 2 showing the vacuum, liquid and control ports.

Figure 4 is a sectional view of the device of Figure 2 taken substantially on the line 4—4 thereof, showing the valve and associated parts in the valve open position.

Figure 5 is a vertical sectional view of a modified form of said valve and spout.

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PREFERRED FORM

Figures 1, 2, 3 and 4

Referring first to Figure 1, the numeral 10 represents the body casting of a common type of nozzle valve which includes an inlet boss 30, an outlet boss 50, and a trigger guard 70 having a trigger 90 pivotally mounted at 11 thereon. A spring closed valve (not shown) is housed by the body and the cap 13. The stem 15 of the valve extends through a packing box 17, and the end of the stem bears on the trigger for actuating thereby in a valve opening direction.

Either the preferred or modified form of spout may be mounted in the boss 50 of the nozzle.

Referring now to Figures 2 and 3, the spout indicated generally by the numeral 19 comprises a hollow fitting 21 which has a threaded end 23 adapted to enter the boss 50 of the nozzle body. The fitting is provided with a hollow boss 25 which is encircled by a flange 27.

A cylindrical sleeve 29 is fitted over the boss with its end abutting the flange and is brazed, welded or otherwise sealingly connected thereto. The other end of the sleeve is externally threaded to receive the nut 31 which has a central opening 33 through which the tailpiece 35 of the spout extends. An outwardly directed flange 37 is formed on the inner end of the tailpiece which contacts the inner surface of the nut for support thereby.

The sleeve 29 is counterbored at 39, and the mouth of the counterbore is preferably flared as at 41 to facilitate the entrance of an O-ring gasket 43 which is contained in a peripheral groove 45 formed in a radially outwardly extending flange 46 of a valve housing or bushing 47. The latter fits slidably within the counterbore of the sleeve.

The valve housing includes inwardly extending ribs 49 and 52, which terminate in an inwardly directed flange 54 adapted to receive the reduced shank 51 of the guide bearing 53. The flange 55 formed by the bearing and shank is positioned by the radial surface of the flange 54.

The axially extending inner edges of the ribs are arcuate as shown at 57 (Figure 3) and serve as guides for the flange 59 on the valve 61. The inner surface of flange 54 adjacent the valve serves as a stop to limit the opening movement of the valve.

The flange portion 46 of the valve housing is provided on its face with a pair of recesses or pockets 63 and 64 which communicate respectively with two fluid ducts 65 and 66 which pass longitudinally through the two ribs 49. The spaces 67 between the ribs 49 and 52 form passages for liquid which communicate with the annular space 69 between the valve housing and the interior of the sleeve 29.

The third duct 71 formed in the rib 52 as shown in Figure 4 communicates at one end with a recess 73 formed in the flange 46, which recess in turn communicates with the space 75 within the nut 31 and with the atmospheric vent port 77.

A Venturi nozzle 81, as shown in Figure 2, is provided with an axially extending flange 83 which fits into and is guided by the internal bore 95 of the valve housing 47 and is also provided with a radially outwardly extending flange 85 which overlies the flange 37. Suitable gaskets 87 and 89 are interposed between the flanges 85 and 37 and 85 and the flange 46 of valve housing 47 respectively to seal the joints therebetween.

A valve stem 91 is guided in the bearing 53 and has connected to it at one end, by means of a stud 93, the valve 61. A piston or cup 97 is attached to the other end of the stem by a screw 99. A helical compression spring 101 is confined within the cup and fingers 49 and 52 so that it will normally urge the valve toward its open position.

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A cap 103 is fitted to the end of the valve housing 47 and held thereon by screws 105. A gasket 107 seals the joint between the valve housing and cap. The end or head of the cap is provided with an axially directed opening 109. A circular, dished clamp 111 having a radially extending flange 112 is also provided with a centrally located hole which is disposed coaxially with the opening 109. A hollow bolt 113 is inserted in the opening and hole, and a nut 115 on the bolt holds the clamp on the head of the cap. The head of the bolt is cross-drilled at 117 to form, with the hollow center of the bolt, an air passage therethrough.

An air passage 79 (Figure 4) passes through the wall of the cap 103 and communicates with duct 71 and with a recess or pocket 80 in a hollow cover 119 which is held against a gasket 121 on the end of the cap by screws 123. A diaphragm 125, of the "Bellofram" type, has its rim 127 clamped against the cap by the clamp 111 and divides the space disposed between the head of the cap and the flange 54 of the valve housing into two chambers 129 and 131. The latter communicates with the chamber 132 in cover 119 and with recess 80 through the hollow bolt.

The valve 61 has a circumferential groove 133 in which an O-ring 135 is disposed which is adapted to seal against the frusto-conical inlet section 137 of the Venturi nozzle.

A fluid duct 139 formed in the Venturi nozzle connects the throat 141 with the recess or pocket 63.

A guide rod 143 is connected to the valve 61, extended coaxially therewith and is supported in a guide 147 which is supported centrally in the tailpiece 35 by a screw 145.

A stop member or lug 149 is fixed to the guide rod. A pivot pin 151 is mounted on the Venturi nozzle, and a latch pawl 153 is pivotally mounted thereon. A spring 155 is mounted on the pin and has one end 157 bearing on the Venturi nozzle 81 and the other end 159 hooked on the latch pawl to urge it toward the rod 143. The pawl has a flat end 161 which is adapted to engage the lug 149 when the valve occupies the closed position.

An actuating lever 163 is also pivotally mounted on the pin 151 and has an ear 165 which engages the edge of pawl 153. A spring 167 is mounted on the pin and has one end hooked into the lever 163 and the other end hooked into the pawl 153. The lever 163 extends through a slot 164 in the tailpiece 35 and terminates in a spring chamber 169.

The spring chamber 169 is mounted on the side of the tailpiece 35, and a valve rod 171 is slidably mounted in an opening 173 in the chamber. A plug 175 having a coaxial pin 177 is screwed into an opening 179 which is coaxial with the opening 173. A compression spring 181 is mounted on the pin and the end of the rod. A retaining washer 183 is supported on the rod and on a pin 185 set in the rod. The rod also has fixed to it a cam 187 which is adapted to actuate the lever 163 as described below.

A collar 189 is slidably mounted on the rod outside of the chamber. An actuator 191 has a threaded stud 193 which enters a threaded opening 195 in the collar and engages the rod. By loosening the actuator, the collar may be adjusted along the rod to any desired position.

An inwardly directed boss 197 is formed on a valve body 209 and extends through a hole in the tailpiece 35. The boss is provided with a channel or bore 199 which is counterbored at 201. A second counterbore 203 provides a receptacle for an O-ring gasket 205. A plate 207 rests on the boss and serves to compress the gasket.

The valve body 209 is mounted on the exterior of the tailpiece by screws 211 which pass through the tailpiece and draw the plate 207 down on the boss.

The valve body is provided with a bore 213 and a counterbore 215 with both being coaxial with the valve rod 171. The edge of the bore 213 serves as a seat for the conical point 217 on the rod which serves as the valve.

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It will be seen that rod 171 is urged to the right or downwardly by spring 181 so that the valve 217 normally occupies its full line or closed position.

A tube 221 is disposed generally axially in the tailpiece 35 but is bent laterally so as to enter the counterbore 201 wherein it is established in sealed relation with bore 199 by gasket 205. The other end of the tube is mounted in a counterbore 223 in a duct 225 in the Venturi nozzle 81 which communicates with the other pocket or recess 64.

OPERATION

Prior to the operation of the device, the parts shown in Figure 2 occupy their full positions. The actuator 191 is adjusted on the rod 171 to the position at the distance from the end of the bore 213 which is proportional to the distance desired to be maintained between the rim of fill opening of the container to be filled and the final level to which the container is to be filled.

With the dispenser (not shown) in the operative condition, the tailpiece is inserted in the container with the actuator 191 in engagement with the rim of the fill opening therein and is pressed down to move the valve rod to its dashed line position. This action opens the valve 217 and moves the cam 187 past the end of lever 163 to rotate it clockwise. The ear 165 on the lever engages and rotates pawl 153 clockwise and withdraws the pawl from the lug 149. The spring 101 will thereupon withdraw the valve stem 91 and valve 61 to the left, Figure 2, and raise the O-ring 135 from its seat 137. The "Bellofram" 125 is collapsed and air is displaced from chamber 131, through hollow bolt 113, chamber 132, recess 80, ducts 79 and 71, recess 73, chamber 75 and vent 77 to atmosphere.

When the trigger 90 is pressed to open its associated valve, liquid under pressure will flow into the fitting 21 and, as shown by the arrows, will flow through the spaces 69, passages 67, around the valve 61, through the Venturi nozzle 81 and tailpiece 35 into the container.

The flow creates a vacuum at the throat 141 of the Venturi which is communicated through duct 139, recess 63 and duct 65 to the chamber 129. However, since valve 217 is open and the bore 213 communicates with the atmosphere through the fill opening of the container, air will pass through the passages 215 and 199, tube 221 and duct 225 to the recess 64 and duct 66 to chamber 129 so that the vacuum created as described is dissipated.

Dispensing is continued until liquid rises in the container to a sufficient height to cover the bore 213. When this occurs, liquid is drawn into the bore, and since the passages offer much more resistance to flow of the liquid than they did to the flow of air as described above, the vacuum builds up in chamber 129 to a degree sufficient to move the "Bellofram" to the right (Figure 2) to compress the spring 101 and close the valve 61. This action causes the lug 149 to pass the end of the pawl 153 which is moved to its latching position with respect to the lug by its spring 155.

With this movement of the "Bellofram" air is drawn into the chamber 131 from the vent 77 through 75, 71, 79, 80, 132, 113 and 117.

The trigger 90 is released to permit its associated valve to close. The tailpiece is withdrawn from the container and thereupon the spring 181 will move rod 171 to the right closing the valve 217 to prevent liquid from dripping from the bore 213. The cam 187 passes the lever 163, rotating it in a counterclockwise direction without effect. The lever is returned to its normal (full line) position by its spring 167.

The structure is thus restored to its initial condition ready for another operation.

MODIFIED FORM

Figure 5

The modified form shown in Figure 5 is intended for

a general purpose automatic shut-off nozzle and is without the valve latching and liquid level control devices disclosed in the preferred form.

The fitting 323 screws into the boss 50 of nozzle 10 and sleeve 329 forms with cover 319, cap 303 and valve housing 347, the liquid inlet passages 369 and 367 to the Venturi 381. Valve 361 with its stem 391 are actuated in an opening direction by spring 301 and in a closing direction by "Bellofram" 325.

Vacuum created at the throat 341 of the Venturi nozzle is transmitted through ducts 339 and its associated passages including 365 to the chamber 329 while atmospheric pressure is transmitted to the chamber 331 on the other side of the "Bellofram" by a duct system similar to that described in connection with the preferred form.

Chamber 329 is also connected in communication with the port 313 at the lower end of tailpiece 335 by the ducts 366 and 325 and tube 321.

OPERATION

With the valve of the nozzle (Figure 1) closed, the valve 361 will be held open by spring 301. Assuming that the dispensing apparatus is operating, the spout 419 will be inserted in the fill opening of the tank to be filled and thereafter the trigger 90 will be actuated to open the associated valve. Liquid will then flow under pressure through fitting 323, passages 369 and 367, past valve 361, the Venturi nozzle 381 and tailpiece 335 into the tank.

The flow of liquid through the Venturi nozzle creates a vacuum in chamber 329 which is dissipated through the tube 321 and duct 313 which admit atmospheric pressure which enters from the open top of the tank. When the liquid level rises to cover duct 313, liquid will enter and since the duct offers a much higher resistance to the flow of liquid than it did to the air, a vacuum will be built up in chamber 329 which enables the atmospheric pressure in chamber 331 acting on the "Bellofram" to overcome the spring 301 and close the valve 361 which will be held closed by the liquid under pressure until the trigger 90 is released and its associated valve closes. As soon as the pressure on the valve 361 is relieved, the spring 301 will return the valve to the open position. Liquid draining from the spout will flow into the tank, and when drainage is complete, the spout may be withdrawn from the tank.

It should be noted that removal of the valve 61 or 361 from the associated spout can be readily accomplished by merely unscrewing the nut 31 or 331' which permits removal of the tailpiece, Venturi and associated parts and exposes the valve housing 47 and 347 which can then be withdrawn from the sleeve. It will be seen by inspection of the drawing that the valve, valve stem, spring, "Bellofram," cap, cover and other associated parts which are connected to the bushing will thus be withdrawn from the sleeve for such inspection, cleaning or repairs as may be required. If desired, an entirely new assembly of these parts may be inserted as a unit to restore the spout to service quickly, and the withdrawn unit may be repaired at leisure.

While there have been disclosed herein a preferred and a modified embodiment of the invention for purposes of illustration, it is obvious that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit of the invention, and I do not wish to be limited to the specific forms disclosed but desire protection falling fairly within the scope of the appended claims.

What I claim to be new and desire to protect by Letters Patent of the United States is:

1. In an automatic shut-off valve mechanism for a nozzle, the combination of means, including a spout, having inlet and discharge ends, and a vacuum creating Venturi nozzle defining a conduit for the liquid being

dispensed, a valve mounted for movement between open and closed positions with respect to said conduit, resilient means connected to said valve to urge it toward open position, a fluid motor operatively connected with said valve, separate means for supplying air at atmospheric pressure and vacuum created by said Venturi nozzle to said fluid motor in a direction to close said valve in opposition to said yieldable means, a conduit having an opening disposed adjacent the discharge end of said spout, and connected with said vacuum supplying means for dissipating the vacuum when said conduit opening is uncovered by liquid, said Venturi nozzle serving to build up said vacuum when said conduit opening is closed by liquid to cause said fluid motor to close the valve, the improvement comprising means for latching the valve in a closed position and actuator means operable by the insertion of said spout into a container for disabling said latching means, said actuator means operable to close said valve when the spout is removed from the container.

2. In an automatic shut-off valve mechanism for a nozzle, the combination of a spout comprising an inlet sleeve and a tailpiece having a discharge end connected by a rotatable nut, a vacuum creating Venturi nozzle disposed in said tailpiece, means including a bushing having a gasketed flange, slidably mounted in said sleeve and held in place by said nut, said sleeve, bushing, Venturi nozzle and tailpiece defining a conduit for liquid being dispensed, a valve mounted on said bushing for movement between open and closed positions with respect to said conduit, yieldable means mounted on said bushing for opening said valve, a fluid motor mounted on said bushing and serving, when actuated, to close said valve in opposition to said yieldable means, separate conduit means for applying air at atmospheric pressure and vacuum created by said Venturi nozzle to actuate said fluid motor, a control conduit connected with said vacuum supplying means and having an inlet adjacent the discharge end of the tailpiece, said control conduit serving to dissipate the vacuum when its inlet is not submerged in liquid and serving to resist the flow of liquid there through to enable said Venturi nozzle to create the vacuum required to actuate said fluid motor, said fluid motor, yieldable means and valve being removable from said sleeve as a unit with said bushing when said nut is removed.

3. The structure defined by claim 2 in which said Venturi nozzle includes an inlet section and said valve is formed with a circumferential groove which supports an O-ring gasket in position to sealingly contact said section.

4. In an automatic shut-off mechanism for a nozzle the combination of means including a spout, having a discharge end adapted for insertion in a container and defining a conduit for the liquid being dispensed, a valve mounted for movement between open and closed positions with respect to said conduit, means for opening and closing said valve, releasable latching means connected with said valve to hold it closed, an elongated element, means mounting said element on said spout and substantially parallel thereto for lengthwise reciprocation, an actuator mounted on said element near the discharge end of the spout and extending transversely of the rod and spout for engagement with and movement by a portion of the container to be filled when the spout is inserted in the container, and means connected to said element for releasing said latching means to open or close the valve upon said movement of said actuator.

5. The structure defined by claim 4 wherein the actuator is adjustably mounted on said element to regulate the extent of insertion of said spout into the container.

6. In an automatic nozzle shut-off mechanism for a nozzle, the combination of means including a spout, having a discharge end, and a vacuum creating Venturi nozzle defining a conduit for the liquid being dispensed,

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a first valve mounted for movement between open and closed positions with respect to said conduit, means for urging said valve open, an actuable fluid motor for closing said valve, separate means for supplying fluid under atmospheric pressure and under vacuum created by said Venturi nozzle to actuate said motor, means for controlling the actuation of said motor including a conduit connected at one end to said vacuum supplying means and at the other end to a valve body mounted on the spout adjacent the discharge end of the spout, means defining an inlet duct on said body which is in communication with said conduit, a second valve mounted for movement in said body to open and close said duct, an actuator connected with said second valve and extending transversely of said spout for engagement with and movement to open said valve by a portion of the container to be filled, as the spout is inserted therein, said control means serving to dissipate the vacuum created by the Venturi nozzle when said second valve is open and when said port is in communication with fluid under atmospheric pressure, and serving to promote the creation of a vacuum by said Venturi nozzle when said second valve is closed and when said duct is closed by liquid.

7. The structure defined by claim 6 in which yieldable means are provided for urging said second valve closed.

8. In an automatic nozzle shut-off mechanism for a nozzle, the combination of means including a spout, having a discharge end, and a vacuum creating Venturi nozzle defining a conduit for the liquid being dispensed, a first valve mounted for movement between open and closed positions with respect to said conduit, means for urging said valve open, an actuable fluid motor for closing said valve, separate means for supplying fluid under atmospheric pressure and under vacuum created by said Venturi nozzle to actuate said motor, means for controlling the actuation of said motor including a conduit connected at one end to said vacuum supplying means and at the other end to a valve body mounted on the spout adjacent the discharge end of the spout, means defining an inlet duct on said body which is in communication with said conduit, a second valve mounted for movement in said body to open and close said duct, an actuator connected with said second valve and extending transversely of said spout for engagement with and movement to open said valve by a portion of the container to be filled, as the spout is inserted therein, said control means serving to dissipate the vacuum created by the Venturi nozzle when said second valve is open and when said port is in communication with fluid under atmospheric pressure, and serving to promote the creation of a vacuum by said Venturi nozzle when said second valve is closed and when said duct is closed by liquid, means for releasably latching said first valve closed, and means operable by said actuator upon movement thereof by contact with the container for releasing said latching means.

9. In an automatic nozzle shut-off mechanism for a nozzle, the combination of means including a spout, having a discharge end, and a vacuum creating Venturi nozzle defining a conduit for the liquid being dispensed, a first valve mounted for movement between open and closed positions with respect to said conduit, means for urging said valve open, an actuable fluid motor for closing said valve, separate means for supplying fluid under atmospheric pressure and under vacuum created by said Venturi nozzle to actuate said motor, means for controlling the actuation of said motor including a conduit connected at one end to said vacuum supplying means and at the other end to a valve body mounted on the spout adjacent the discharge end of the spout, means defining an inlet duct on said body which is in communication with said conduit, a second valve mounted for movement in said body to open and close said duct, an actuator connected with said second valve and extending

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transversely of said spout for engagement with and movement to open said valve by a portion of the container to be filled, as the spout is inserted therein, said control means serving to dissipate the vacuum created by the Venturi nozzle when said second valve is open and when said port is in communication with fluid under atmospheric pressure, and serving to promote the creation of a vacuum by said Venturi nozzle when said second valve is closed and when said duct is closed by liquid, means for releasably latching said first valve closed, and means operable by said actuator upon movement thereof by contact with the container for releasing said latching means, said actuator connection being constructed and arranged for adjustment of said actuator relative to said valve to position the actuator at different distances from the discharge end of said spout to regulate the depth of entry of said spout into the container.

10. In an automatic nozzle shut-off mechanism for a nozzle, the combination of means including a spout, having a discharge end, and a vacuum creating Venturi nozzle defining a conduit for the liquid being dispensed, a first valve mounted for movement between open and closed positions with respect to said conduit, means for urging said valve open, an actuable fluid motor for closing said valve, separate means for supplying fluid under atmospheric pressure and under vacuum created by said Venturi nozzle to actuate said motor, means for controlling the actuation of said motor including a conduit connected at one end to said vacuum supplying means and at the other end to a valve mounted body mounted on the spout adjacent the discharge end of the spout, means defining an inlet duct on said body which is in communication with said conduit, a second valve mounted for movement in said body to open and close said duct, an actuator connected with said second valve and extending transversely of said spout for engagement with and movement to open said valve by a portion of the container to be filled, as the spout is inserted therein, said control means serving to dissipate the vacuum created by the Venturi nozzle when said second valve is open and when said port is in communication with fluid under atmospheric pressure, and serving to promote the creation of a vacuum by said Venturi nozzle when said second valve is closed and when said duct is closed by liquid, means for releasably latching said first valve closed including a stop member connected with said valve, a latch pawl pivotally mounted on said spout for engagement with said stop member when the valve is closed, means for yieldably urging said pawl toward engaging position, a lever pivotally mounted on said spout and having means disposed for contact with said pawl and adapted to pivot said pawl away from said stop when said lever is actuated in one direction, cam means mounted for movement with said second valve and disposed to move said lever in said one direction when said second valve is opened.

11. In an automatic shut-off valve mechanism for a nozzle, the combination of means, including a spout, having inlet and discharge ends, and a vacuum creating Venturi nozzle defining a conduit for the liquid being dispensed, a valve mounted for movement between open and closed positions with respect to said conduit, resilient means connected to said valve to urge it toward open position, a fluid motor operatively connected with said valve, separate means for supplying air at atmospheric pressure and vacuum created by said Venturi nozzle to said fluid motor in a direction to close said valve in opposition to said yieldable means, a conduit having an opening disposed adjacent the discharge end of said spout, and connected with said vacuum supplying means for dissipating the vacuum when said conduit opening is uncovered by liquid, said Venturi nozzle serving to build up said vacuum when said conduit opening is closed by liquid to cause said fluid motor to close the valve, means including a stop member attached to the

valve for movement therewith, a latch pawl pivotally mounted on said Venturi nozzle, means urging said pawl into holding engagement with said member when said valve is closed and means operable from the exterior of said spout for releasing said latch pawl from said member when said spout is inserted into an opening in a container.

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2,138,380
2,302,766
2,303,179
2,335,346
2,445,524
2,528,696
2,529,936
2,686,626

References Cited in the file of this patent

UNITED STATES PATENTS

Killman et al. ----- Nov. 29, 1938
Grise ----- Nov. 24, 1942
Sitton et al. ----- Nov. 24, 1942
McGee ----- Nov. 30, 1943
Grise ----- July 20, 1948
Logan et al. ----- Nov. 7, 1950
Grise ----- Nov. 14, 1950
Slattery ----- Aug. 17, 1954