

June 16, 1931.

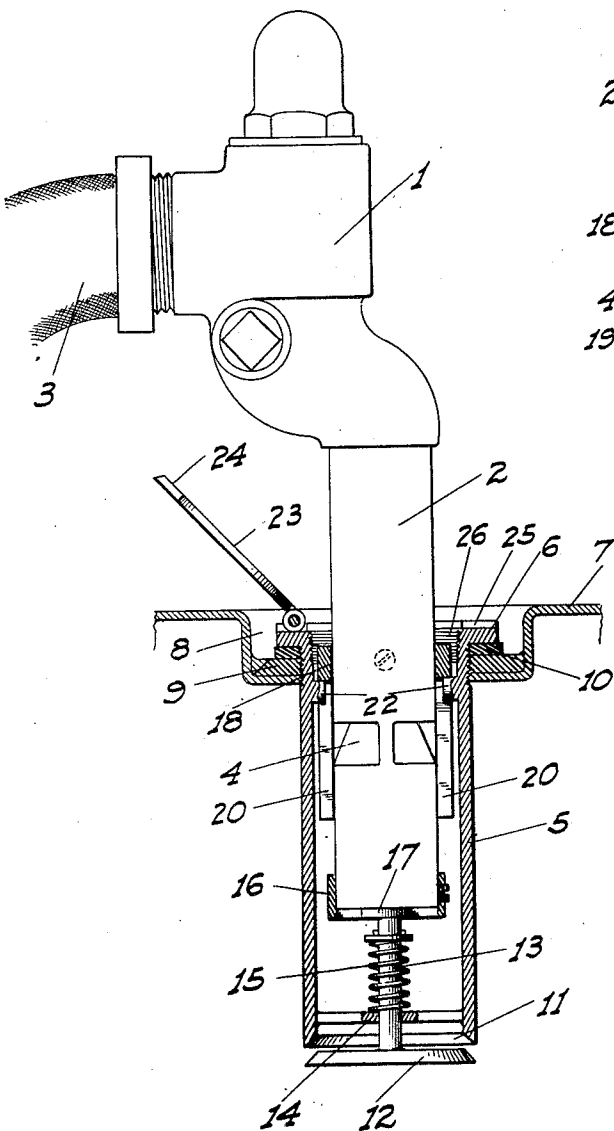
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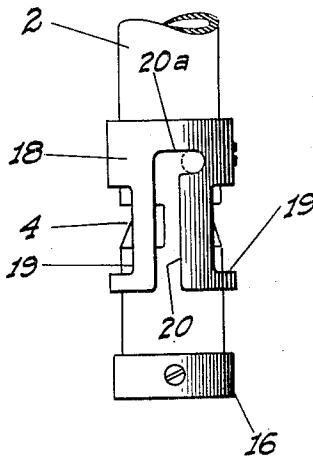
SELF-CLOSING DRUM FILLING VALVE

Filed June 10, 1930

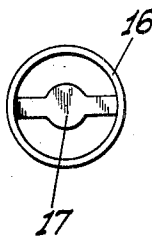
*Fig. 1*



*Fig. 2*



*Fig. 3*



INVENTOR

*Felipe Martin*

BY *[Signature]*  
ATTORNEY

## UNITED STATES PATENT OFFICE

FELIPE MARTIN, OF FAIRFIELD, CALIFORNIA

## SELF-CLOSING DRUM FILLING VALVE

Application filed June 10, 1930. Serial No. 460,141.

This invention relates to the filling of drums or barrels with gasoline or the like. My principal object is to provide a structure adapted to be attached to a drum and to a standard filling nozzle such as is commonly employed in connection with the filling of the drums, by means of which the opening into the drum through which the liquid flows from the nozzle will be automatically closed with a liquid-tight fit as soon as the nozzle is withdrawn. This device is particularly for the purpose of eliminating the ordinary plugs, which have to be removed and released whenever the drum is filled, and which in the aggregate entail a considerable expense in labor-time and are apt to become lost. Also considerable care must be taken with these plugs to insure them having a liquid-tight fit with the drum. With my improved structure time of operation is saved, there is nothing to put on or take off with the filling operations, and a liquid-tight closure is automatically had at all times.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a sectional elevation of my improved structure as applied to a drum and filling nozzle shown as in operation.

Fig. 2 is a side elevation of a locking sleeve and valve stem depressing collar as applied to the filling nozzle.

Fig. 3 is a top plan view of this collar.

Referring now more particularly to the characters of reference on the drawings, the standard type of drum-filling device in common use by oil companies comprises a body 1 from which a straight nozzle 2 depends; a flexible hose 3 leading from the source of supply being connected to one side of the body. The nozzle intermediate its ends has circumferential passages 4 from which the liquid

flows. These side passages or outlets are necessitated by the use of an automatic closing valve structure with which this type of device is equipped, and which functions when the lower end of the member 2 is merged in the liquid to a certain depth. This feature however in itself forms no part of my invention.

Said invention adapted to be used with the above described filling nozzle comprises a barrel 5 open on top and having a top polygonal sided flange 6. This barrel is adapted to project into a drum 7, one wall of which is provided with a recess into which the flange 7 projects. A large rigid washer or nut 9 is threaded onto the barrel under this flange and is permanently secured to the drum at the bottom of the recess. A gasket 10 between the flange and washer provides for the necessary liquid-tight seal when the barrel is turned down so that the gasket is compressed between the flange and washer. The bottom of the barrel is formed with a taper-seat 11 having a downwardly open valve 12 whose stem 13 projects upwardly into the barrel some distance and is slidable through a spider 14 formed with the barrel. A compression spring 15 about the stem acts to hold the same raised and the valve seated.

It is intended that the forceful projection of the nozzle 2 into the barrel a certain distance will cause the valve to be opened against the resistance of the spring. In order to do this without changing the natural form and structure of the nozzle, I have mounted a collar 16 on the lower end of said nozzle, which collar has a cross-bar 17 to engage the top of the valve stem, as shown in Fig. 1. To enable the nozzle to be retained in a valve depressing and opening position without a constant hand-pressure on the nozzle being necessary, I have mounted a sleeve 18 on the nozzle above the collar 16; said sleeve having opposed openings 19 in the plane of the passages 4, so as not to interfere with the flow of liquid from the latter. The sleeve and collar, especially the latter, have a free fit in the barrel, so as not to offer any material obstruction to the flow of the liquid from the side of the nozzle and thence down the barrel and into the

drum. Between the openings 19 longitudinally extending and opposed slots 20 are cut in the sleeve from the bottom upwardly and which terminate at their upper ends in right angled extensions 20a. The slots are adapted to receive opposed pins 22 fixed on and projecting inwardly from the wall of the barrel. The well-known form of bayonet lock structure is therefore provided by means of which the nozzle, if depressed so that the pins engage the upper extensions 20a of the slots, and then turned, will be held against upward movement; the valve being then held depressed and open. Reversing the turning movement of the nozzle releases the pins from this locking engagement with the slots and the spring 15 instantly acts to push the nozzle up and close the valve.

To close the top of the barrel when the nozzle is withdrawn, so as to keep dirt and the like out, I provide a hinged flap 23 which is mounted on top of the flange 6 and which opposite the hinge has a lip 24 having a releasable pressing fit in a recess 25 cut in the top of said flange so that the flap will tend to remain in a closed position. The inside of the barrel at the top is tapped as shown at 26, so that a discharge faucet, of that type having an extension to engage and depress the valve stem, may be secured in connection with the barrel.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

A self-closing filling valve structure for drums for use in connection with a cylindrical nozzle having discharge openings intermediate its ends, said structure comprising a barrel of greater diameter than the nozzle adapted to be removably secured on and depend into a drum, a downwardly opening valve for the bottom of the barrel mounted in connection with the barrel, means to yieldably hold the valve closed, means adapted to be mounted on the lower end of the nozzle to depress and open the valve after the nozzle has been inserted into the barrel a distance sufficient to dispose the intermediate openings of the nozzle below the top of the barrel, a sleeve to loosely fit inside the barrel adapted to be mounted on the nozzle with its upper end above the openings and with its lower end below said openings, and releasable catch means between the sleeve and barrel to hold the nozzle in a valve opening

position; said sleeve having side ports in the zone of the nozzle openings.

In testimony whereof I affix my signature.

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