

(No Model.)

E. C. HILLYER.
CAN FILLING DEVICE.

No. 527,982.

Patented Oct. 23, 1894.

Fig. 2.

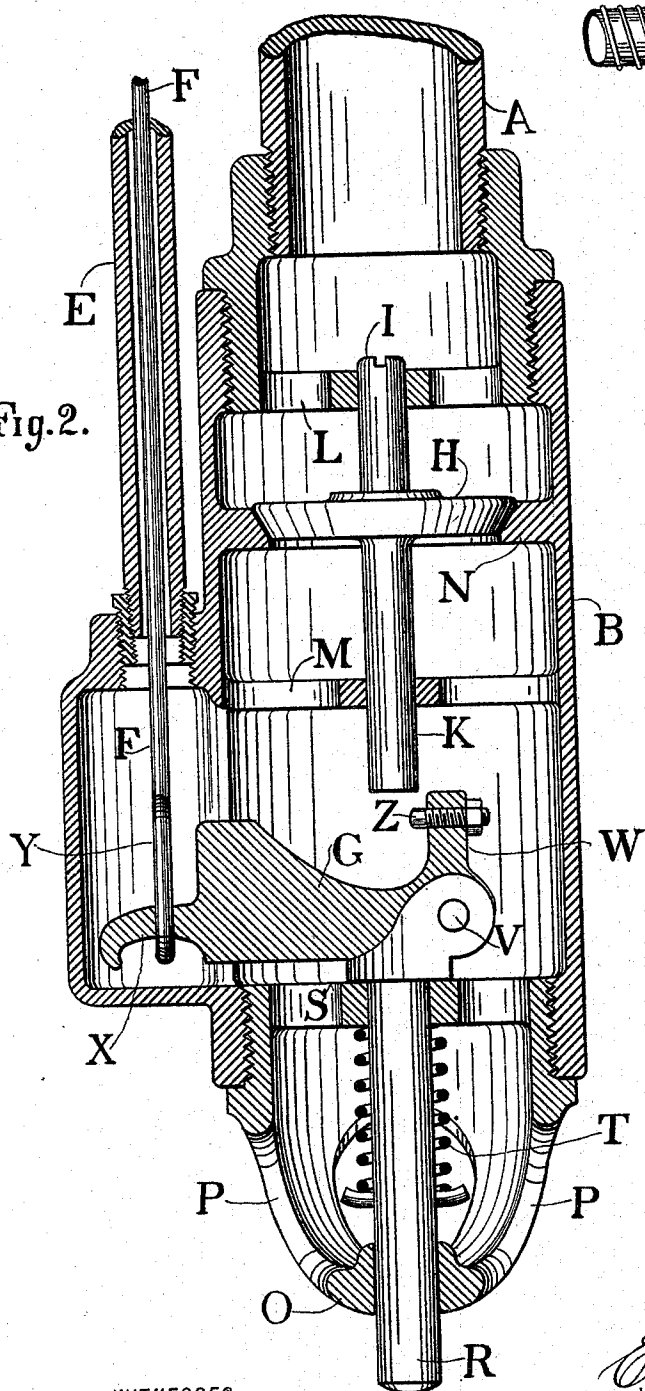
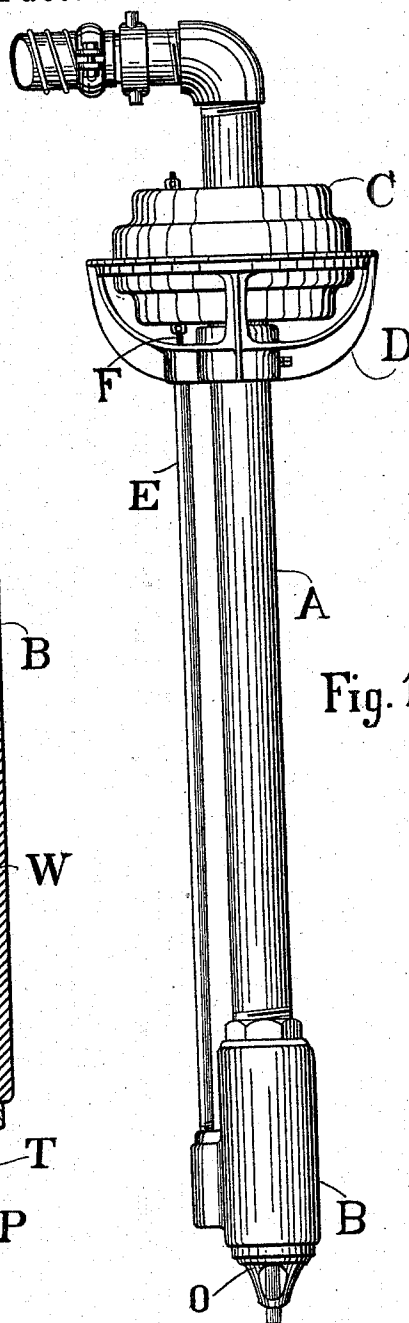


Fig. 1.



WITNESSES:

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EDGAR C. HILLYER, OF NEWPORT NEWS, VIRGINIA.

CAN-FILLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 527,982, dated October 23, 1894.

Application filed August 12, 1893. Serial No. 482,964. (No model.)

To all whom it may concern:

Be it known that I, EDGAR CURTIS HILLYER, a citizen of the United States, residing at Newport News, in the county of Warwick and State of Virginia, have invented a new and useful Device for Automatically Filling Cans or Receptacles with Liquids, of which the following is a specification.

My invention relates to improvements in can-filling devices in which a float, operating in conjunction with a valve, regulates automatically the height or level of liquid in the can or receptacle, and the objects of my improvements are: first, to provide a device by which the valve will be automatically opened by the simple act of placing the apparatus in the can or receptacle; second, to so connect the valve opening mechanism with the float that the incoming liquid on reaching the required level will raise the float and trip the valve automatically; third, to insure the valve closing positively and quickly (not wiredrawing the liquid); fourth, after being tripped to leave the valve entirely free from the opening and closing mechanism, so that it can seat itself properly; fifth, to simplify the apparatus by combining the opening and closing mechanism in one device, and to have no exposed working parts. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1. is a view of the entire apparatus. Fig. 2. is a vertical section of the enlargement of the main pipe at its lower end.

Similar letters refer to similar parts throughout both the views.

The apparatus consists of a pipe A. to the lower end of which is screwed the enlargement B. The upper end of pipe is connected by a hose with the supply of liquid. A water-tight float C surrounds the pipe, and this float is free to move up or down. The float is surrounded by a guard D which prevents it being injured when the apparatus is laid on the floor. This guard is adjustable vertically and is secured by a set-screw. Between the guard D and valve enlargement B is fixed a tube E, which protects from injury the wire F, which connects the float with the tripping lever G. The enlarged portion B contains a valve H which is free to move vertically, and is guided by the stems I K passing through

spiders L M. The valve H rests normally on its beveled seat N, with which it makes a water-tight joint. The lower end of the enlargement is provided with a nozzle O having side openings P P. The nozzle O carries a spindle R, which is free to move vertically. This spindle projects through a hole in the extreme bottom end of the nozzle, and the top end of spindle passes through and is guided by the spider S. Around the spindle R is coiled a light spring T which bears against the under side of spider S, and a pin on spindle R, thus tending to keep the spindle down. The upper end of the spindle R is enlarged and forms a hinge joint V, to which is hinged the tripping lever G. At the outer end the lever G terminates in a finger X, which passes through a loop Y formed on the bottom end of the float wire F. From the hinged end of the lever G, is an upwardly projecting arm W carrying an adjustable pin Z.

The apparatus acts as follows: The liquid from storage tank fills the connecting hose, and apparatus up to the valve H. The apparatus is then placed nozzle down in the can or receptacle to be filled. The projecting spindle R first comes in contact with the bottom of the can and stops, as does also the tripping lever G which it carries. The balance of the apparatus continues on down until the end of the nozzle O rests on the bottom. During this downward movement the valve stem K impinges on the pin Z and stops. The seat N, together with the balance of the apparatus, continues on down and leaves the valve H, thus allowing the liquid to pour down and out at openings P P. The play of the loop Y allows a free downward movement of the wire F. The liquid rises in the can and reaches the float C, which gradually rises and lifts the wire F until the lost motion of the loop Y is taken up, when the lever G is revolved on its axis V, thereby disengaging the pin Z from the valve stem K at any desired level of the liquid, depending on the position of float C. The disengaging of the pin Z allows the valve H to fall and shut off the flow of liquid. The apparatus may remain in this position for any length of time without allowing any more liquid to flow into the can.

When the apparatus is removed from the can the spindle R is forced down by the spring T, and as soon as float C leaves the liquid, the float wire F and lever G immediately regain their normal positions and the apparatus is ready to be used again.

I am aware that prior to my invention can-fillers have been made, with floats, projecting valve stems, and valve tripping devices. I therefore do not claim these combinations broadly. Also there are can-fillers in which the valve is raised by a projecting stem, but the valve is closed not by being tripped, but by the whole apparatus being lifted by a large float, thus raising the valve seat slowly against the valve, thus wiredrawing the flow of liquid.

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In a can filler the combination of a valve, a valve supporting piece placed under the valve, constructed and arranged to trip said valve, and a contact piece projecting through the lower end of the water pipe and arranged to automatically raise said supporting piece.

2. In a can filler the combination of a valve, provided with a downwardly projecting valve stem, an automatic contact piece and a lever pivoted to said contact piece and constructed and arranged to automatically raise and trip the valve.

3. In a can filler the combination of a main pipe A, enlargement B, automatic contact piece R, lever G (pivoted to said contact piece and adapted to automatically raise and trip the valve), valve H, connecting rod F, float C, and guard D, substantially as shown and described.

4. In a can filler the combination of a valve, an automatic contact piece projecting through the lower end of the water pipe and an intermediate valve raising and tripping lever provided with means for tripping the valve, said valve and lever being contained entirely within and protected by the water tube.

E. C. HILLYER.

Witnesses:

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