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VALVED DISPENSING HEAD WITH AUXILIARY NOZZLE VALVE.

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FIG. 1

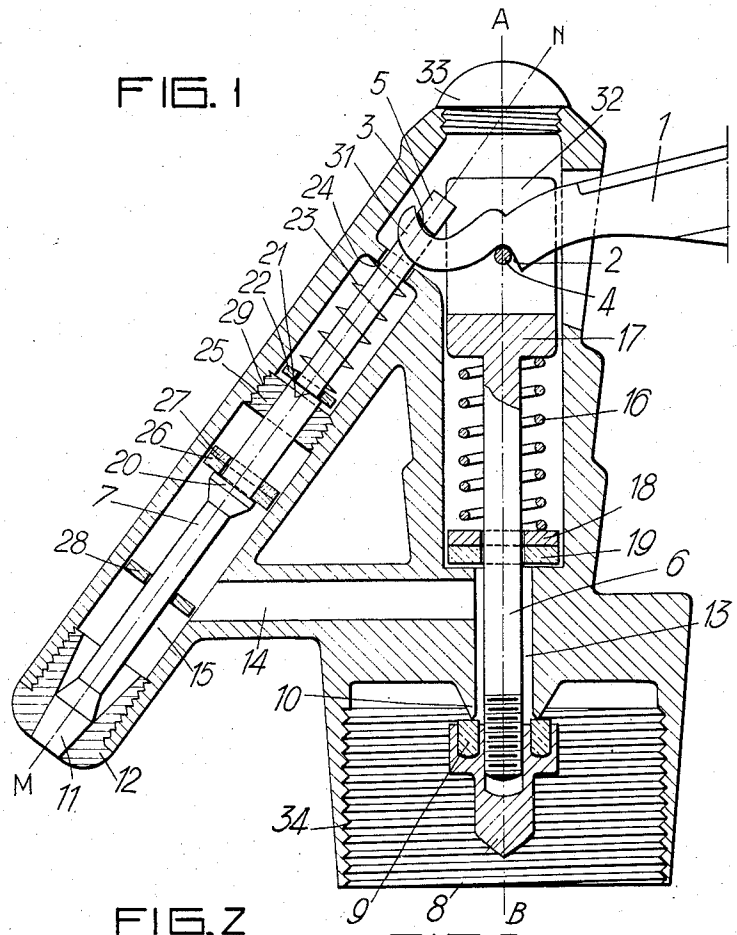


FIG. 2

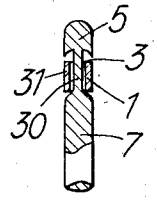
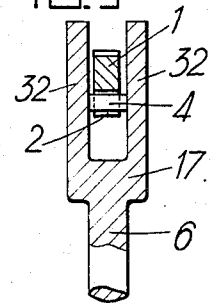


FIG. 3



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VALVED DISPENSING HEAD WITH AUXILIARY NOZZLE VALVE

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8 Claims. (Cl. 222—545)

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This invention relates to valved dispensing heads for siphon-bottles containing a carbonated beverage or other liquid under pressure.

An object of this invention is to provide a dispensing head or cap for a siphon-bottle formed with a discharge spout and provided with valved means sealing the open end of the spout when liquid is not being discharged.

A further object of this invention is to provide a discharge or dispensing head for a siphon-bottle which head is formed with a discharge spout and includes a first valve controlling the discharge of liquid, and a second valve for sealing the open end of the spout to prevent the entrance of foreign matter during non-use.

A still further object of this invention is to provide a head for a siphon-bottle having a valve controlling the liquid discharge and another valve for sealing the open end of the discharge spout during non-use, and including valve operating structure for opening both valves by the actuation of a single lever.

The particularities of the new mechanism may be better described and will be apparent with reference to the accompanying drawing, which represents by way of example an embodiment of the invention.

In the said drawing:

Fig. 1 is a vertical section of the whole of an improved "syphon" top through its plane of symmetry, and

Figs. 2 and 3 are sections through M—N and A—B of Fig. 1 showing details of the two articulations of the operating-lever.

In this new mechanism, the operating-lever 1 presents two grooves 2 and 3 which, respectively, fit into the cross-bar 4 that forms part of the head 17 of the rod 6 carrying the valve 8, 9 which shuts off the inside passage 13 for the liquid, and with the head or hook 5 of the upper end of the rod 7 which carries the cone or closing element 11 of the mouthpiece of the outlet spout.

The rod 6 is urged upwardly by a strong spring 16 that tends to press the washer 9 against the valve seat 10, and bears at its upper end against a head 17 formed on the rod 6 and split so as to form a kind of fork 32, 32 (Fig. 3) between which the lever 1 is loosely received.

The rod 7 presents three sections or parts determined by two respective projections 20 and 21. On the first is mounted a metal ring 26 and a washer 27, and on the second a metal ring 22. Between this ring and the inside projection 24, a relatively weak spring 23 is located which forces the rod 7 down. In the tube itself of the mouthpiece is mounted the inside screw-nut 25 which is threadedly engaged in the internal threads 29. This piece forms a stop-block against which the washer 27 abuts when the rod 7 moves up to thereby limit such movement of the rod 7.

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The upper hook of the rod 7 is formed as shown in Fig. 2, that is, by means of a flattening 30 of the same, which is introduced in the groove 3 formed by the prongs 31 at the end of the lever 1.

The mouth of the outlet tube has screwed inside it the mouthpiece or orifice 12 provided with an inner conical bore, against which the closing cone 11 may seat. The rod 7 is guided in its movement, apart from the elements already mentioned, by the wings or ribs 28 fixed to it.

The working of the mechanism is clear and simple:

Normally the conduits 13 and 15 are closed respectively by the valve 8—9 and the cone 11 pressed by the springs 16 and 23, respectively.

On pushing down the lever 1, the two following actions take place:

(*a*) The lever 1 turns round the cross-bar 4, which appears as a fixed point owing to the strength of the spring 16, and the rod 7 is raised opening the outlet hole of the mouthpiece 12, until the washer 27 reaches or touches the screw-nut 25.

(*b*) The rod 7 then remains motionless and its end 5 becomes a turning centre, the principal rod 6 being then obliged to descend, opening the valve 8—9. In this way, the passageway 13—14—15 from the inside of the syphon to the outside is opened, while the washers 19 and 27 prevent the liquid from passing to the upper part of the top. The liquid in the siphon-bottle, being under pressure, will then be discharged through the orifice, or mouthpiece 12.

Afterwards, on releasing the lever 1, a reverse action is effected, i. e. the inner valve 8—9 is closed first and after this is closed the cone 11 of the mouth of the outlet spout, both of them being pressed by their respective springs 16 and 23.

It must be noted that the whole of the mechanism is dismountable, for which purpose it is only necessary to unscrew first the cap 33 and the mouthpiece 12 and after this to take out the lever 1 by lifting it out of its links or connections; afterwards, if it is desired, the whole of the mechanism of the valve 8—9 may be removed after having unscrewed it from its rod 6. Finally the rod 7 is simply drawn out downwards as it is already free, and then the screw-nut 25 is unscrewed, thus freeing at the same time the spring 23 and the ring 22. In order to mount the

mechanism or put the pieces together again, the reverse process or order is to be followed.

It will be obvious to those skilled in the art that details in the structure of the new device may be varied within reasonable limits without departing from the spirit of this invention as defined in the appended claims.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

1. A dispensing head for siphon-bottles comprising a body for engagement over a siphon-bottle opening, a hollow discharge spout formed integral with said body, a passageway formed in said body opening downwardly at one end for receiving the pressurized liquid in the bottle and communicating at the other end with said discharge spout, a valve seat formed at said one end of said passageway, a second valve seat formed at the outlet end of said discharge spout, a first valve member in said body seating upwardly against said first valve seat, a second valve member in said spout seating downwardly against said second valve seat, spring means urging each of said valve members to seated position under different seating forces, and a rockable lever operatively connected to each of said valve members to exert equal opening forces thereon when rocked, so that the valve member urged to seated position by the lesser of said seating forces is initially opened.

2. A dispensing head for siphon-bottles according to claim 1, wherein said spring means includes a relatively strong spring urging said first valve to seated position, and a relatively weak spring urging said second valve to seated position.

3. A dispensing head for siphon-bottles according to claim 1, including a valve stem extending from said first valve and a valve stem extending from said second valve, and wherein said lever is rockably connected intermediate its length to said first valve stem, and rockably connected at one end to said second valve stem whereby depressing the other end of said lever will exert an upward force on said second valve stem and a downward force on said first valve stem.

4. A dispensing head for siphon-bottles according to claim 3, wherein said spring means includes a relatively strong spring urging said first valve upwardly to seated position and a relatively weak spring urging said second valve downwardly to seated position whereby depressing said other end of said lever will effect initial upward movement of said second valve with said first valve stem acting as a stationary fulcrum for the rocking of said lever.

5. A dispensing head for siphon-bottles according to claim 4, including stop means limiting the upward movement of said second valve whereby depressing said lever after said stop means are active to prevent further upward movement of said second valve will effect the downward movement of said first valve with said second valve stem acting as a stationary fulcrum for the further rocking of the lever.

6. A dispensing head for siphon-bottles according to claim 5, wherein said stop means includes an apertured plug secured in said discharge spout through which said second valve stem slidably extends, and a sealing washer fixed on said second valve stem below said plug and movable upwardly against the latter to limit the upward movement of said second valve stem and to prevent the passage of liquid above said plug.

7. A dispensing head for siphon-bottles comprising a body for engagement over the opening of a siphon-bottle, a hollow discharge spout inclined downwardly from said body, a vertical bore in said body opening through the bottom of the latter, a valve seat formed on said bottom of the body about the opening of said bore, a first valve stem slidable in said bore, a first valve on said stem adapted to seat upwardly against said valve seat, a relatively strong spring constantly urging said valve into seated position, a passageway communicating said bore with said discharge spout, a discharge nozzle secured in the discharge end of said spout, said nozzle being formed with an inwardly facing conical seat, a second valve stem slidable in said discharge spout, a second valve on said second stem adapted to seat downwardly against said conical seat, an apertured plug in said discharge spout disposed above the communicating end of said passageway and slidably receiving said second stem, a sealing washer fixed on said second stem and engageable with said plug to limit the upward movement of said second valve and to prevent the passage of liquid above said plug, relatively weak spring means constantly urging said second valve into seated position, and a lever rockably connected intermediate its ends to said first valve stem and rockably connected at one end to said second valve stem whereby depressing the other end of said lever will initially unseat said second valve; and when said washer engages said plug, further depression of said other end of the lever will effect unseating of said first valve.

8. A dispensing head for siphon-bottles according to claim 7, wherein said lever is formed with a downwardly opening notch intermediate the ends thereof, and said first valve stem includes a bifurcated upper end supporting a horizontal pin adapted to be received in said notch, and wherein said one end of said lever is bifurcated, and said second valve stem is formed with a reduced thickness portion adapted to engage in said bifurcated end of said lever.

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