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A. L. MAGGENTI
DISPENSING TAP VALVE

1,992,319

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Fig. 1.

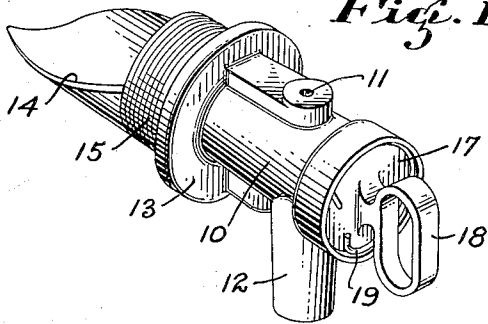


Fig. 6.

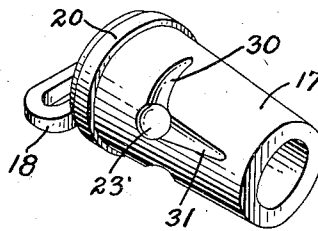


Fig. 2.

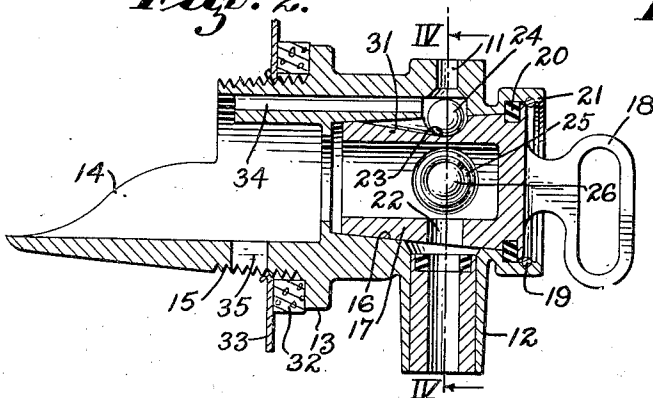


Fig. 4.

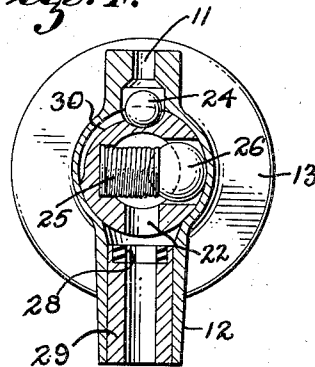


Fig. 3.

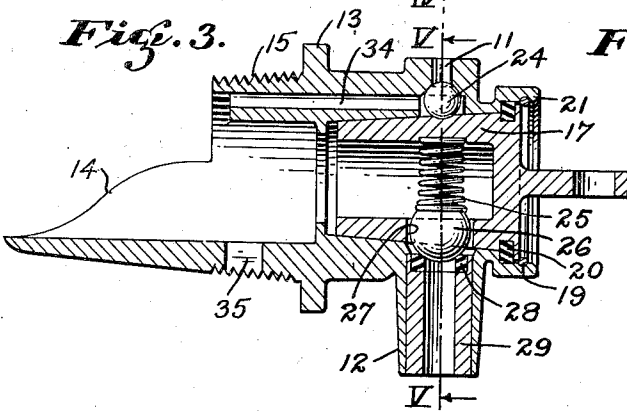
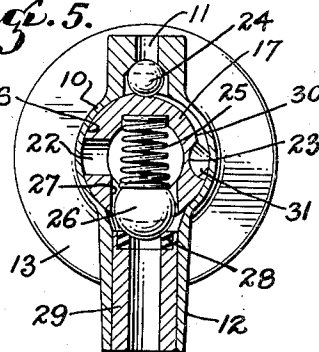


Fig. 5.



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DISPENSING TAP VALVE

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7 Claims. (Cl. 221—23)

My present invention relates to a tap valve for withdrawing liquid from an unvented container, and more particularly to an improved valve means for a vented dispensing tap of the character disclosed in my copending application for Letters Patent Serial Number 661,233, filed March 17, 1933.

An object of my invention is to provide a new and novel form of ball valve for a dispensing tap or other fluid conduit.

Another object of my invention is to provide a new and improved valve means for a tap having a controlled vent.

Other objects and advantages of my invention will be in part evident to those skilled in the art, and in part pointed out in the following description, taken together with the accompanying drawing wherein there is shown, by way of illustration and not of limitation, a preferred embodiment thereof.

In the drawing:

Figure 1 is a perspective view of a tap constructed in accordance with my invention,

Figure 2 is a longitudinal sectional view of the tap illustrated in Figure 1, showing the position of the parts when the tap valve is open,

Figure 3 is a view similar to Figure 2, showing the position of the parts when the tap valve is closed,

Figure 4 is a transverse sectional view taken along line IV—IV of Figure 2, looking in the direction of the arrows,

Figure 5 is a view similar to Figure 4, taken along line V—V of Figure 3, and

Figure 6 is a perspective view of the internal valve carrying and controlling member of the tap.

In the drawing I have shown my invention as embodied in a dispensing tap of the type disclosed in the above identified copending application for Letters Patent. The tap illustrated has a body portion 10 with a vent opening 11 in its top and a spout 12 at its lower side. At the base of the body portion 10 there is a flange 13 which is adapted to engage a mounting gasket, and beyond the flange 13 the tap has a cutter 14 and a threaded portion 15, by means of which it can be attached to a metallic container. These latter features are fully described in my copending application and form no part of the present invention.

Upon referring to Figures 2 and 3 of the drawing, it will be seen that the body portion 10 has an inwardly tapering bore 16, into which a tapered valve carrying and operating member 17 projects. The valve carrying and operating member 17 has a handle 18, by means of which it can be rotated and it is held in the body portion 10 by a snap ring 19. A packing gasket 20 is interposed between the end of the body portion 10 and a flange

21 upon the member 17, for the purpose of sealing the outer end of the tap.

The valve carrying and operating member 17 has a port 22 that is adapted to align with the spout 12 when the member 17 is in its open position, and directly opposite the port 22 it has a pocket 23, into which a vent controlling ball valve 24 may repose when the member 17 is in its "open" position. Disposed within and extending transversely to the port 22, the member 17 also has a helical spring 25 which engages a ball valve 26 that is adapted to seal the spout opening of the tap when the valve controlling member is in its "closed" position. The ball valve 26 is located in an opening 27 in the side of the member 17 and is adapted to roll into and out of engagement with a valve seat 28, of rubber or the like, mounted at the inner end of the spout 12. As shown, the valve seat 28 is recessed in the end of a lining tube 29 that is pressed into the spout 12.

Upon referring to Figures 4 and 5 of the drawing, it will be seen that the valve carrying and operating member 17 has an eccentric groove 30 which extends in one direction from the pocket 23 and partially around its outer surface. This groove 30, because of its eccentricity, moves the ball valve 24 into and out of sealing engagement with the vent opening 11, as the valve carrying and operating member 17 is turned to close and/or open the tap.

Upon referring to Figure 6 of the drawing, it will be seen that the member 17 also has a longitudinally extending groove 31 which terminates at the pocket 23. The purpose of the groove 31 is to facilitate an assembly of the tap. When assembling the tap, the body portion 10 is held with the spout 12 extending upward and the ball valve 24 is then placed in the body portion adjacent the vent opening 11. The helical spring 25 can now be placed in the valve carrying and controlling member 17, with the ball valve 26 in the opening 27 at its end. After the latter parts of the tap have been assembled together, as above, the valve carrying and operating member 17 can be inserted into the body portion 10 by holding the ball valve 26 with the thumb so as to compress the helical spring 25, as shown in Figure 4 of the drawing. As the member 17 is inserted into the body portion 10, the groove 31 will provide a clearance for the ball valve 24. When the member 17 has been moved into its final position, the snap ring 19 can be inserted in its seat and the tap will be ready for use.

The operation of my improved tap valve may be described as follows:

If it is assumed that the tap is secured to a sealed container, as shown in Figure 2 of the drawing, wherein the numeral 32 designates a gasket disposed against the external wall of a metallic container 33, into which the threaded

portion 15 of the tap has been inserted, it will be evident that when the valve carrying and operating member 17 is in the position shown, the contents of the container 33 will be free to flow through the port 22 and out through the spout 12.

When the member 17 is in its "open" position, the ball valve 24, adjacent the vent opening 11, will drop down into the pocket 23 and permit air to enter the container through the vent opening 11 and a conduit 34 leading therefrom and connecting with the interior of the container. In order to permit a complete draining of the container 33, the threaded portion 15 of the tap is provided with an opening 35 which will align with the inside surface of the container.

Now should the valve carrying and operating member 17 be rotated into its "closed" position, as shown in Figure 3 of the drawing, the ball valve 24 will be raised by the eccentric groove 30 and close the vent opening 11 and the ball valve 26 will be caused to roll into alignment with the spout 12, where it will engage the valve seat 28 and close the tap. When the ball valve 26 is in this latter position, it will be held firmly against the valve seat 28 by the helical spring 25 and prevent an accidental valve opening movement of the valve carrying and operating member 17.

While I have, for the sake of clearness and in order to disclose the invention so that it can be readily understood, described and illustrated specific devices and arrangements, I desire to have it understood that this invention is not limited to the specific means disclosed, but may be embodied in other ways that will suggest themselves to persons skilled in the art. It is believed that this invention is new and it is desired to claim it so that all changes as come within the scope of the appended claims are to be considered as part of this invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In a fluid controlling valve, the combination of a valve having a body portion adapted to be connected to a fluid supply, said body portion having a discharge opening in one side thereof, a valve operating member disposed in said body portion having a fluid passageway adapted to align with said discharge opening and form a fluid conduit through the body portion, a ball valve adapted to be moved into and out of alignment with said discharge opening by said valve operating member, and a spring means carried by said valve operating member for holding said ball valve into sealing alignment with said discharge opening in said body portion.

2. In a fluid controlling valve, the combination of a valve having a body portion adapted to be connected to a fluid supply, said body portion having a discharge opening in one side thereof, an annular valve seat at said discharge opening, a valve operating member disposed in said body portion having a fluid passageway adapted to align with said discharge opening and form a fluid conduit through the body portion, a ball valve adapted to be moved into and out of engagement with said valve seat by said valve operating member, and a spring means carried by said valve operating member for holding said ball valve into sealing engagement with said valve seat.

3. In a vented tap valve, the combination of a body member adapted to be attached to a fluid supply, said body member having a spout opening in one side thereof and an oppositely disposed

vent opening, a ball valve disposed adjacent the vent opening in said body member, a second ball valve adapted to move into and out of alignment with the spout opening in said body member, and a valve operating member within said body member for simultaneously moving said first ball valve and said second ball valve into sealing engagement respectively with the vent opening and the spout opening in the body member.

4. In a dispensing tap, the combination of a tap body having means for attaching it to a sealed container, a spout opening depending from the lower side of said tap body, an air vent at the top of said tap body communicating with the interior of the container, a ball valve adjacent said air vent, a valve operating member having an eccentric groove for moving said ball valve into and out of sealing engagement with said air vent, said valve operating member also having an opening on one side for the reception of a second ball valve, a second ball valve disposed in the opening in said valve operating member, and a helical spring disposed transversely across the interior of said valve operating member for holding said second ball valve in sealing engagement with the spout opening when the first ball valve is moved into sealing engagement with said air vent.

5. In a fluid controlling valve, the combination of a body member having an outlet port, a valve operating member within said body member adapted to turn upon an axis extending transverse to said outlet port, an opening in the side of said valve operating member having a ball valve therein, and a helical spring disposed behind said ball valve and adapted to hold said ball valve in engagement with the interior surface of said body member and permit said ball valve to roll into and out of sealing engagement with said outlet port when said valve operating member is turned.

6. In a vented tap valve, the combination of a body member having a bore extending there-through and oppositely disposed openings extending from the top and bottom sides of said bore forming respectively a vent and a spout opening, a rotatable hollow plug like member disposed in said bore adjacent said vent and spout openings having a ball valve opening in one side thereof adapted to align with said spout opening, a spring means within said plug like member adjacent said ball valve opening, and a ball valve disposed in the ball valve opening of said plug like member adapted to roll over said spout opening when said plug like member is rotated and be held in sealing engagement therewith by said spring means.

7. In a vented tap valve, the combination of a tap having a body portion adapted to be attached to a fluid supply, said body portion having a spout opening in one side and a vent opening in its opposite side, a valve operating member disposed within said body portion having an eccentric groove which moves adjacent said vent opening and a ball valve holding aperture which moves adjacent said spout opening, a ball valve disposed in the eccentric groove of said valve operating member, and a second ball valve disposed in the aperture of said valve operating member, whereby said first ball valve and said second ball valve will be simultaneously moved into and out of sealing engagement respectively with the vent opening and the spout opening in the body portion.

ALBERTO LOUIS MAGGENTI.