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DISPENSING APPARATUS

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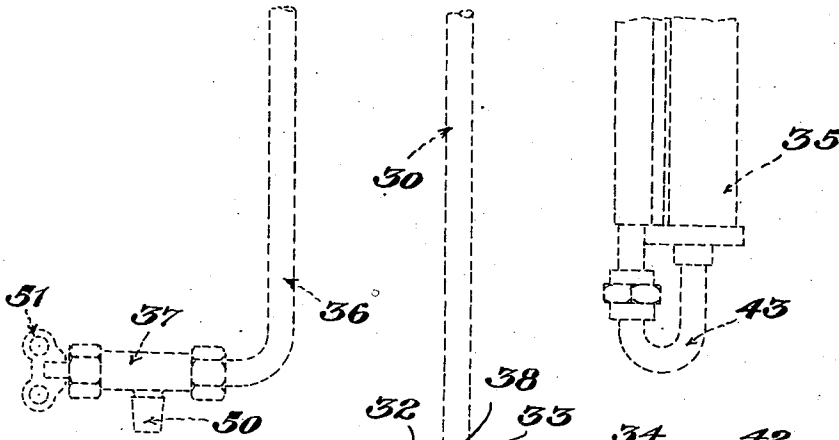


Fig. 1.

Fig. 3.

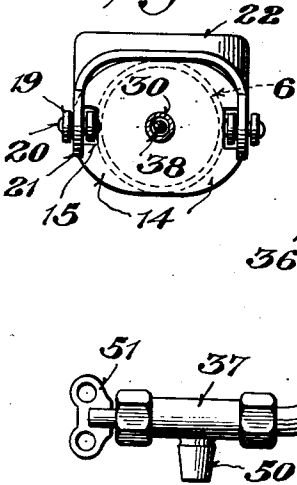


Fig. 2.

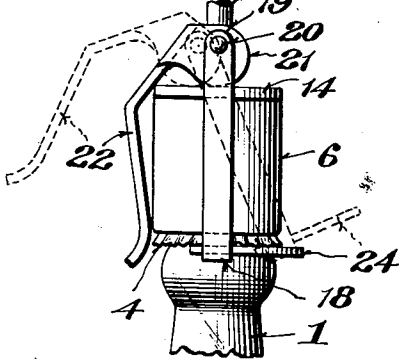
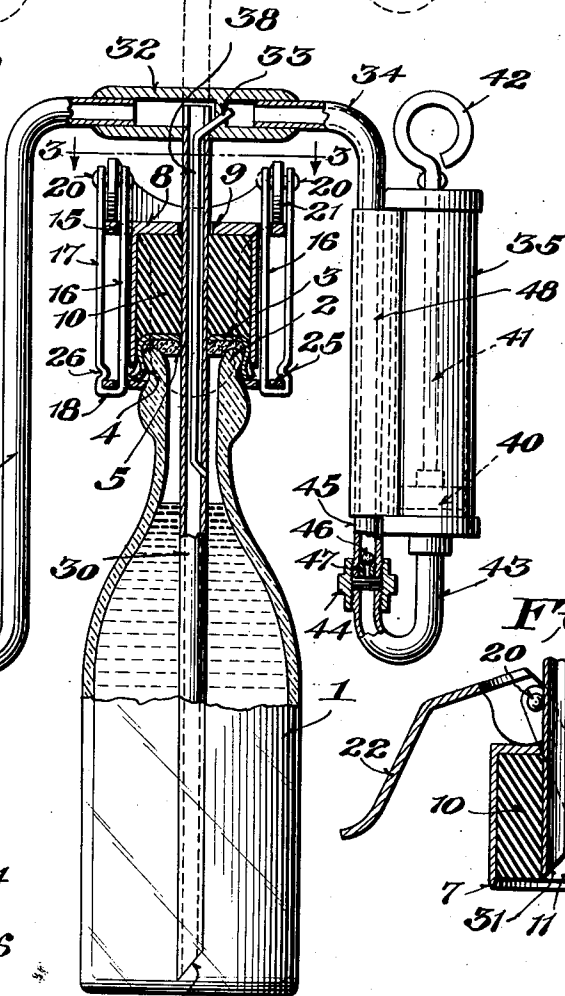
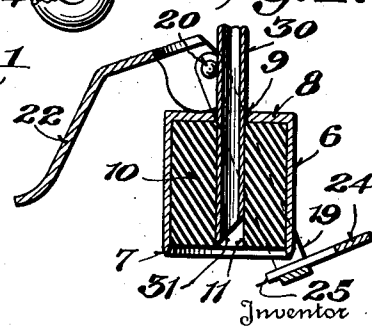


Fig. 4.



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DISPENSING APPARATUS

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5 Claims. (Cl. 225—22)

This invention relates to a dispensing apparatus for use in connection with bottled beverages and particularly those which have been carbonated or sealed under pressure.

More particularly the invention comprehends an assembly including a clamp for engaging a conventional Crown cap, an eduction tube, a pump and a valve controlled outlet, the eduction tube, pump and outlet being formed as a unit and movable with relation to the clamp to permit the penetration of the eduction tube through the Crown cap for gaining access to the interior of the receptacle.

The present structure also comprehends the use of a rubber plug which is provided with an outer casing and through which there is formed a vertical opening for the movement of the eduction tube, the rubber plug being compressible during the clamping movement of the assembly to bind the plug tightly about the eduction tube to prevent escape of the contents of the receptacle.

Another feature resides in the shape and arrangement of the casing about the rubber plug which during the clamping action engages the peripheral edge of the Crown cap to force the latter tightly about the retaining bead of the receptacle whereby the removal of the cap is prevented during the operation of the parts.

Other objects will be obvious to one skilled in the art by an examination of the following specification, claims and annexed drawing.

Reference will be had to the accompanying drawing forming part of this application and wherein like characters of reference designate corresponding parts throughout the several views, in which

Figure 1 is a side elevation, with parts in section, showing the apparatus applied to a container and in position for dispensing; the dispensing apparatus being illustrated in dotted line position above the main disclosure for illustrating the relative position of the parts before penetration of the cap.

Figure 2 is a side elevation showing the clamp in both open and closed position.

Figure 3 is a top plan view on line 3—3 of Figure 1, and

Figure 4 is a vertical section through the clamp showing the eduction tube in elevated position.

In the disclosure of this application a container in the form of a bottle is illustrated by reference character 1. This bottle is formed with the usual retaining bead 2 at the upper end of the neck for cooperation with the conventional Crown cap,

which latter includes a disk portion 3, the peripheral skirt 4 and the sealing liner 5.

The clamp for securing the assembly on the bottle includes a tubular casing 6 terminating at its open end in a beveled edge 7. The opposite end of the tubular casing 6 is partially closed by means of the end wall 8 formed with a central opening 9. Within the tubular casing 6 there is positioned the rubber plug 10 which at one end terminates short of the tapered end 7 and at the other extremity abuts against the end wall 8. The rubber plug 10 is formed with a longitudinal central opening 11 which registers with opening 9 in the end wall 8 of the casing 6. The end wall 8 as seen from Figure 3 is provided with diametrically oppositely extending ears 14 perforated at 15 for the passage of the inner legs 16 of a pair of stirrups. These stirrups each include two elongated spaced legs 16 and 17, a lower horizontal connecting portion 18 and spaced free upper extremities 19 through which latter extend the rivets 20 which pass through and eccentrically support the cam ears 21 of the clamping lever 22. A clamping yoke 24 has its free ends 25 resting upon the horizontal portions 18 of the stirrups and locked therein by means of the crimped inwardly extending portions 26 formed in the outer legs 17 of the stirrups immediately above the yoke extremities 25.

An eduction tube 30 formed with a cutting edge 31 is positioned in the registering openings formed in the casing wall 8 and plug 10 and terminates at its upper extremity in a coupling 32. The coupling 32 is provided with a central partition 33 forming a discharge chamber and a pump chamber, and connects at one end through a tube 34 with the pump 35 and at the other end through a tube 36 with the faucet 37. The joint between the tubes 34 and 36 and the coupling may be of any desired form. The pump 35 communicates with the eduction tube 30 by means of a smaller conduit 38 which is positioned axially within the eduction tube and terminates at one end within the pump chamber of the coupling at a point between the wall 33 and the adjacent end of the tube 34. The opposite end of the conduit 38 is flared downwardly and extends through the wall of the eduction tube at a point approximately midway of its length, for communication when in operating position, with that portion of the receptacle neck above the liquid line.

The pump 35 may be of any desired design and includes in the present illustration a cylinder in which is arranged the piston 40 provided with

piston rod 41 and handle 42. The lower end of the pump communicates through U-shaped connection 43 connected by means of coupling 44 with the vertical tube 45 in which is arranged the downwardly seating check valve 46 which cooperates with the perforated seat 47. The vertical tube 45 is fixed to and aligned with the pump 35 by means of a tubular casing 48. The tubular casing 48 is secured to the pump cylinder 35 and the tube 45 extends therethrough holding the parts in the desired relative position. The upper end of the tube 45 is bent at substantially right angles and terminates within the pump chamber of the coupling 32 heretofore mentioned. The faucet 37 may be of any desired design and includes a union having a down spout 50 through which the fluid is to flow. A valve 51 controls the passage of fluid through the spout. The construction of this valve forms no part of the present invention and the details thereof are accordingly omitted.

In applying the assembly the eduction tube 30 is withdrawn within the rubber plug 10 to approximately that position shown in Fig. 4. The casing 6 is now positioned concentrically with the Crown cap 3, this centering of the parts being facilitated by the projecting edge 7 of the casing. With the parts centered the yoke shaped member 24 of the clamp is swung beneath the skirt of the Crown cap, this movement of these parts being illustrated clearly in Fig. 2. With the yoke properly positioned beneath the skirt of the cap the handle 22 of the clamp is swung downwardly against the casing. This movement of the handle 22 due to the eccentric mounting at 20 of the ears 21 causes a compression of the rubber and forces the sharpened extremity of the casing 6 downwardly to engage the edge of the skirt of the Crown cap forcing the latter into closed contact with the bottle immediately below the retaining bead on the upper extremity of the neck of the bottle. The operation of the handle obviously also results in a compression of the packer 10 thus effectually seating against leakage. With these parts firmly clamped in position, pressure is applied to the coupling 32 and the assembly including the discharge portion, the pump and the eduction tube move downwardly, the sharpened extremity 31 of the eduction tube penetrating the Crown cap and moving downwardly within the container a suitable distance. The positioning of these parts in this manner exposes the contents of the receptacle to immediate discharge through the eduction tube 30, pipe 36 and faucet 37. In handling receptacles containing carbonated beverages or beverages retained under pressure the discharge of the fluid will be automatic. In instances where the fluid is not under pressure or where the pressure has been reduced so that the entire contents of the receptacle cannot be discharged the pump 35 is utilized. The operation of the pump 35 forcing compressed air through the U-shaped connection 43, vertical pipe 45 and conduit 38, to that space above the beverage thus creating pressure above the beverage

and forcing its discharge through the eduction tube 30.

It will be noted that the present apparatus eliminates certain undesirable features including a possible removal of the Crown cap, the escape of the liquid or gas in the receptacle and the degassing of the contents of the receptacle. As will be obvious the possible accidental removal of the Crown cap of the bottle is avoided by use of the casing 6 to force the skirt of the cap tightly beneath the retaining bead of the bottle. The escape of the gas or liquid in the bottle along the outside of the eduction tube is avoided by compression of the rubber plug or packing 10 within the casing 6 and the degassing of the liquid within the bottle is prevented by introducing the gas from the pump above the liquid rather than within the liquid body.

What I claim is:

1. A dispensing apparatus for a receptacle using Crown caps, said apparatus including a discharge means, a compressed air supply, means for connecting the compressed air to said receptacle, packing means for the connecting and discharge means, a casing enclosing said packing and having a skirt portion directly engaging the cap skirt to prevent expansion of the latter, and means carried by said casing and engaging the cap for shifting said casing to compress the packing against the cap for sealing the apparatus.

2. A dispensing apparatus for a receptacle using Crown caps formed with flared skirt portions, said apparatus including a discharge means, a compressed air supply, means for connecting the compressed air supply to said receptacle, packing means for the discharge and air connecting means, a casing for the packing means, and means carried by said casing and engaging said cap for shifting said casing into engagement with the flared skirt portion of the cap to prevent movement of the latter.

3. A dispensing apparatus for a receptacle using Crown caps formed with flared skirt portions, said apparatus including a discharge means, a compressed air supply, means for connecting the compressed air supply to the receptacle, packing means for the discharge and air connecting means, a casing enclosing the packing means, and means carried by said casing and engaging said cap for shifting said casing into engagement with said flared skirt portion of the cap to prevent the expansion of the latter and to compress said packing for sealing the apparatus.

4. The substance of claim 3 characterized in that the means carried by the casing for shifting the same includes a yoke engaging beneath said cap, stirrups supporting said yoke, cam means for adjusting said stirrups, and means for locking said cam in adjusted position.

5. The substance of claim 3 characterized in that the means for shifting said casing includes a yoke engaging beneath the cap, stirrups supporting said yoke, guide means for stirrups, and cam means for adjusting said stirrups.

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