Dec. 12, 1939. L. D. SOUBIER 2,183,229

SIPHON HEAD

Filed Oct. 14, 1937

Fig-1-

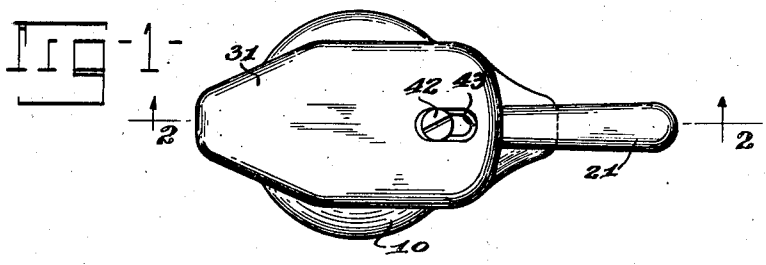


Fig-2-

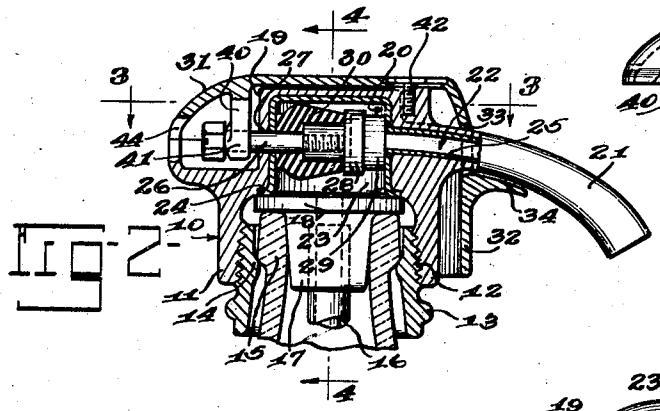


Fig-7-

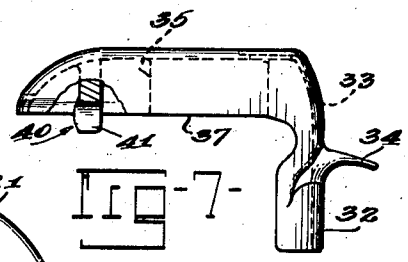


Fig-3-

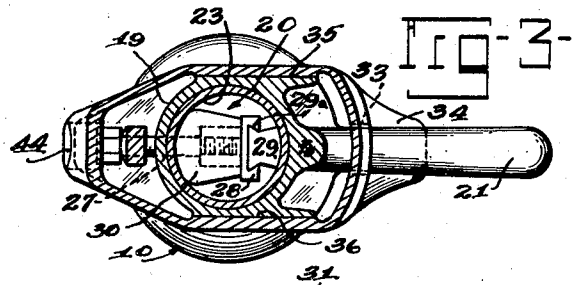
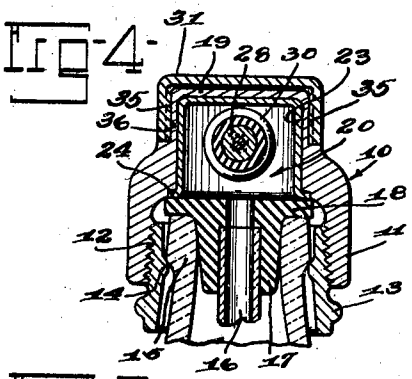


Fig-4-



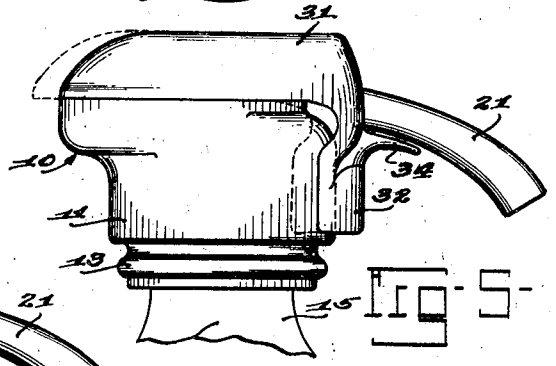
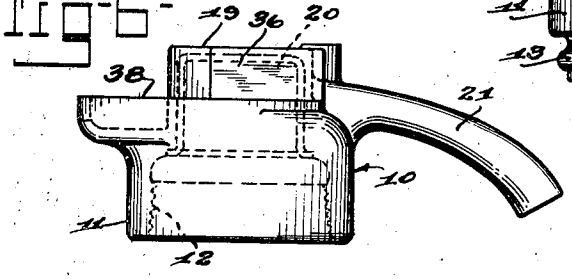


Fig-5-

Fig-6-



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SIPHON HEAD

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9 Claims. (Cl. 215—5)

The present invention relates to improvements in valved dispensing caps or heads for siphon or pressure bottles of the type commonly used for carbonated liquids.

An object of the invention is the provision of a siphon head of attractive design, which readily lends itself to comfortable single handed dispensing operations and further embraces novel features of safety.

Another object of the invention is the provision of a siphon head in which the actuating mechanism is entirely enclosed, thereby eliminating possible premature discharge of the contents.

A further object of the invention is the provision of a siphon head which may be formed of any material suitable for die casting into which portions formed of a non-corrosive metal may be inserted.

A still further object is the provision of a siphon head which is readily demountable, the valve mechanism being rendered easily accessible by removal of the head from the bottle.

Other objects and features of novelty will be in part apparent and in part pointed out during the course of the following description.

In the drawing:

Fig. 1 is a plan view of a siphon head constructed in accordance with the principles of the present invention;

Fig. 2 is a vertical sectional view through the head taken on line 2—2 of Fig. 1;

Fig. 3 is a sectional plan view taken on line 3—3 of Fig. 2;

Fig. 4 is a vertical transverse sectional view taken on line 4—4 of Fig. 2;

Fig. 5 is a side elevational view of the siphon head;

Fig. 6 is an elevational view of the body portion of the head; and

Fig. 7 is an elevational view of the cap member.

The usual siphon head construction embodies a neck-like portion extending above the body of the head and having an outwardly extending operating lever connected thereto. The usual siphon head mechanism receives much hard usage which sometimes damages the relatively soft metal of which the heads are constructed. Filling bottles having weakened heads with highly charged liquids creates the danger of exploding during both filling and using. In the present construction I have provided means for completely enclosing the operating mechanism in a manner to prevent damage thereto. Such construction lends itself readily to easy manipulation.

Referring to the drawing and Fig. 2 in particular, the siphon head comprises a body portion 10 which may be formed of any material suitable for die casting. In general practice siphon heads are manufactured from a material which is impervious to the corrosive effect of the usual content of the bottle. Such material is relatively expensive. With this feature paramount, the present construction provides for only those surfaces in direct contact with the contents having a protecting covering of a more expensive non-corrosive material such as block tin, as will be more fully described presently.

The body portion 10 is provided with a depending annular attaching flange 11 or skirt having internal screw threads 12 adapted to engage an exteriorly threaded split attaching ring 13. The ring 13 is provided on its inner surface with an annular bead 14 for engaging the shouldered finish 15 of the usual siphon bottle. In securing the head to the bottle, the usual delivery tube 16 carried by a stopper 17 is placed within the bottle. An annular flange 18 on the stopper extends over the sealing surface or rim of the bottle and provides a seal when the head is secured in place. The split ring 13 is placed about the neck of the bottle and brought into threading engagement with the threaded flange 11 whereupon rotation of the head and ring in opposite directions causes the bead 14 to be drawn against the shoulder 15, thereby compressing the flange 18 between the rim of the bottle and the siphon head to form a gas-tight seal.

A hollow housing 19 extending upwardly from the body 10 provides a cylindrical chamber 20 within the body in axial alignment with the flange 11 and bottle opening, into which the valve mechanism is fitted. An outwardly and downwardly curved spout 21 formed on one side of the head is provided with a passageway 22 which is in communication with the chamber 20 and serves for filling the bottle and discharging the contents thereof in the usual manner.

A liner 23 formed of block tin or a similar non-corrosive metal in the form of an inverted cup, is forced into the chamber 20, the wall surrounding the open end of said cup being flared outwardly at 24 to form a flange against which the flange 18 of the stopper 17 bears when the head is assembled on the bottle. A liner 25 of similar material within the passageway of the spout is suitably connected to the liner 23, thereby preventing any possible contact of the gas or

liquid with metal which would have an injurious effect thereon.

The valve mechanism comprises a stem 26 or headed bolt which projects into the chamber 20 at right angles to the vertical axis thereof through an opening 27 in the wall of the housing 19 and liner 23 diametrically opposite the passageway 22 of the spout. The inner end of the stem is provided with a head 28 threaded thereon which carries a seating member 29 for closing the passage 22. The member 29 is secured to the head 28 by a beveled tongue and groove connection 29a and is readily removable should it become worn and fail to properly close the passage 22. The valve head is maintained in seating position by means of a spring member 30 shown as being formed of resilient rubber and disposed about the stem 26 between the head and wall of the chamber. The rubber further serves as a gasket around the opening 27 and prevents the escape of pressure therethrough.

Means for operating the valve mechanism comprises a cover 31 or hollow shell shaped longitudinally to conform with the body portion and substantially rectangular in cross-section. Figs. 1, 5 and 7 illustrate the general conformation of the cover. The cover is provided at one end with a depending apron 32 having an aperture 33 near its upper end for the reception of the spout 21. The lower end of the apron is curved horizontally to conform generally with the diameter of the skirt 11 and provides a finger gripping surface whereby the valve may be operated. When the valve is in closed position the apron is spaced from the body of the head to permit sufficient operating movement. A filet 34 formed on the apron beneath the opening 33 extends outwardly in the direction of the spout and provides a finger guard which prevents pinching the fingers between the apron and spout as the cover returns to the closed position.

The cover 31 is adapted for limited sliding movement longitudinally of the spout and is provided with a pair of vertically disposed parallel bearing surfaces 35 within the cover on each side thereof adapted to bear against corresponding surface 36 formed on either side of the housing 19. The bottom edge 37 of the downwardly extending sides of the cover 31 lies in matched relation with an upwardly facing surface 38 formed on the body 10. The meeting line of the surfaces 37 and 38 lies in the plane of the valve stem 26, the juncture of body 10 and cover 31 on the side opposite the spout forming a well to permit free movement of the outer end of the valve stem. The valve is actuated by means of a lug 40 extending downwardly into the path of the stem 26 and having a bifurcated end 41 or fork which straddles said stem and bears against the head thereof.

The cover 31 is held in place by a retaining screw 42, threaded into a boss formed on the body 10, and a slot 43 in the cover 31. An opening 44 is provided opposite the head of the valve stem, and in alignment therewith to permit easy adjustment thereof.

When it is desired to discharge the contents of the bottle the bottle may be grasped around the neck, the fingers overlying the apron beneath the spout and sufficient pressure exerted to move the apron toward the flange 11. This movement of the cover 31 causes the valve stem 26 to be drawn outwardly, thus placing the chamber 20 in communication with the spout 21. Such movement of the cover is illustrated by dotted lines in Fig. 5.

It will be noted that the valve member 29 may be readily removed and replaced without dismantling the head or removing other parts thereof. Further, the entire valve unit may be replaced without disturbing the cover. These and other features produce a simple and economic article embodying a wide margin of safety by the elimination of the usual projecting operating lever.

Modifications may be resorted to without departing from the scope of the appended claims.

I claim:

1. In a siphon head of the character described, a casing having a vertically disposed cylindrical chamber therein adapted to register with the filling and discharge opening of a siphon bottle, a spout formed on said casing extending laterally therefrom and having a discharge passage opening into said chamber at right angles to the axis thereof, a valve disposed horizontally within the chamber and adapted to close said passage, a safety cover enclosing at least the upper end of said casing and mounted for sliding movement in a direction parallel with the valve, and means connecting the valve and cover, whereby movement of the latter actuates the valve.

2. In a siphon head of the character described, a casing having a vertically disposed cylindrical chamber therein adapted to register with the filling and discharge opening of a siphon bottle, a spout formed on said casing extending laterally therefrom and having a discharge passage opening into said chamber at right angles to the axis thereof, a valve disposed horizontally within the chamber, a stem carrying the valve and extending through the wall thereof, said valve being provided with a replaceable member for closing said discharge passage, a cover enclosing the upper end of the casing and projecting portion of the valve, and means connecting the valve and cover, whereby movement of the latter actuates the valve.

3. In a siphon head of the character described, a casing having a vertically disposed cylindrical chamber therein adapted to register with the filling and discharge opening of a siphon bottle, a spout formed on said casing extending laterally therefrom and having a discharge passage opening into said chamber at right angles to the axis thereof, a valve disposed horizontally within the chamber, a stem carrying said valve and extending through the wall thereof, said valve being provided with a replaceable member for closing the discharge passage, a cover enclosing the upper end of the casing and projecting portion of the valve, said cover provided with a depending apron at the end adjacent the spout to provide a gripping surface substantially concentric with the casing, and means connecting the valve and cover, whereby movement of the latter actuates the valve.

4. In a siphon head of the character described, a casing having a vertically disposed cylindrical chamber therein adapted to register with the filling and discharge opening of a siphon bottle, a spout formed on said casing extending laterally therefrom and having a discharge passage opening into said chamber at right angles to the axis thereof, a valve disposed horizontally within the chamber, a stem carrying the valve and extending through the wall thereof, said valve being provided with a replaceable member for closing the discharge passage, a safety cover enclosing the upper end of said casing and mounted for

sliding movement in a direction parallel with the valve stem, said cover provided with a depending apron at the end adjacent the spout to provide a gripping surface substantially concentric with the casing, and means connecting the valve and cover, whereby movement of the latter actuates the valve.

5. A siphon head comprising a casing, a spout formed on the casing and extending laterally therefrom, said casing having a cylindrical vertically disposed chamber therein adapted to register with the filling and discharge opening of a siphon bottle, said spout providing an outlet passage from the chamber, a liner for said chamber and spout formed of a non-corrosive metal, a valve including a stem extending through a wall of the chamber in alignment with the outlet passage, a head on said stem adapted to close said outlet, a cover enclosing the upper half of said casing and with the casing forming a cavity around the outer end of the valve stem, a substantially semi-circular depending apron on that end of the cover adjacent the spout, said apron having an aperture through which the spout projects, and means formed on the cover for operatively engaging the outer end of the valve stem within the cavity.

6. A siphon head comprising a casing, a spout formed on the casing and extending laterally therefrom, an annular depending attaching flange forming a part of said casing and adapted to engage the neck of a siphon bottle, said casing further having a cylindrical chamber in axial alignment with said flange and extending upwardly substantially above the spout, said chamber forming a communicating passage between the bottle and spout, a liner for said spout and chamber formed of a non-corrosive material, a valve for controlling the flow of liquid through the chamber including a stem extending through one wall thereof in horizontal alignment with the spout, a head on said stem, compressible means on said stem between the head and wall of the chamber for maintaining said head in closed position over the opening of the spout, said means further acting as a gasket for the stem, a cover slidably mounted on the upper end of the casing, and means connecting said cover and the outer end of the valve stem for causing operation thereof upon movement of said cover.

7. A siphon head comprising a casing, a spout formed on the casing and extending laterally therefrom, an annular depending attaching flange forming a part of said casing adapted to engage the neck of a siphon bottle, said casing further provided with a cylindrical chamber in axial alignment with said flange and extending upwardly substantially above the spout, said chamber forming a communicating passageway between the bottle and spout, a liner for said spout and chamber formed of a non-corrosive material, a valve for controlling the flow of liquid through the chamber comprising a stem extending through one wall thereof in horizontal alignment with the spout, a head on said stem, compressible means on said stem between the head and wall of the chamber for maintaining said head in closed position over the opening of the spout, said means further acting as a gasket for the stem, a cover enclosing the upper half of said casing and with the casing forming a cavity around the outer end of the valve stem, a substantially semi-circular depending apron on that end of the cover adjacent the spout, said apron having an aperture through which the spout projects, and means formed on the cover for operatively engaging the outer end of the valve stem within the cavity.

8. A siphon head comprising a body having a cavity therein, means for attaching the body to the neck portion of a pressure bottle, a discharge spout formed on and projecting from the body and communicating with the cavity, a cover slidably mounted on the body and partially enclosing the latter, there being an aperture in said cover through which the spout projects, a valve disposed in the cavity and normally closing the discharge spout, a valve stem secured to the valve for actuating the same, and means connecting the cover and valve stem.

9. A siphon head comprising a body having a cavity therein, means for attaching the body to the neck portion of a pressure bottle, a discharge spout formed on and projecting from the body and communicating with the cavity, a cover slidably mounted on the body and partially enclosing the latter, a valve disposed in the cavity and normally closing the discharge spout, a valve stem secured to the valve for actuating the same, means connecting the cover and valve stem, and a finger-piece formed on the cover and directly underlying the discharge spout.

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