

Oct. 29, 1929.

L. G. AMES

1,733,111

BEVERAGE DISPENSER

Filed Oct. 23, 1928

5 Sheets-Sheet 1

Fig. 1

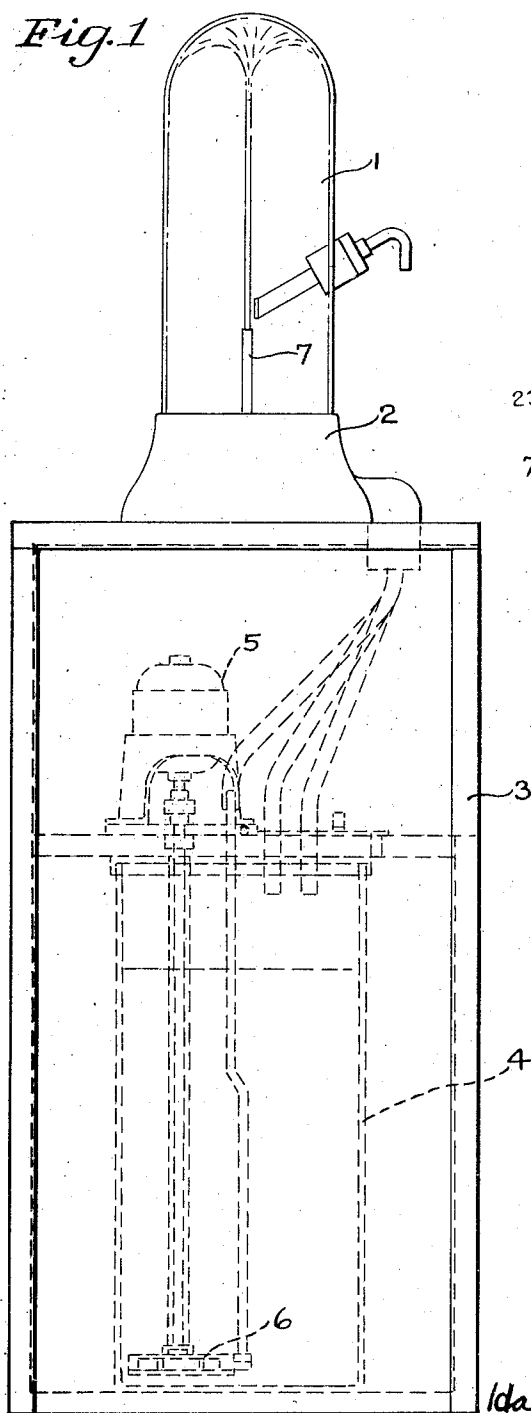
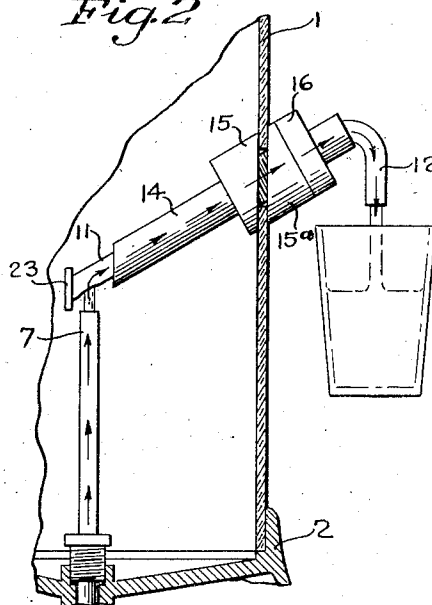


Fig. 2



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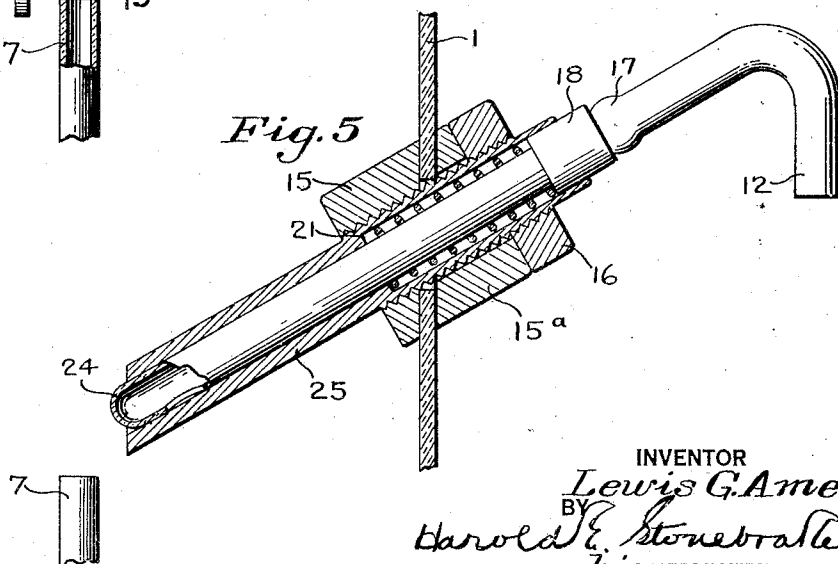
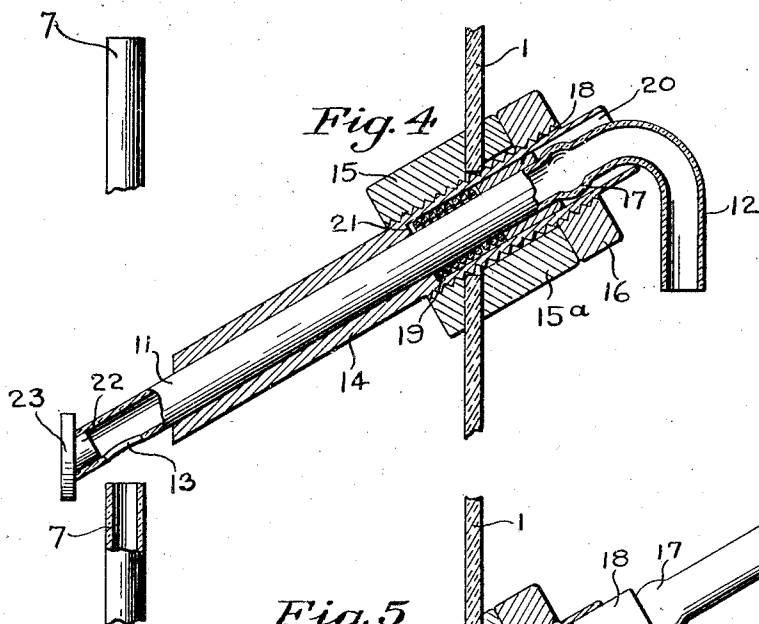
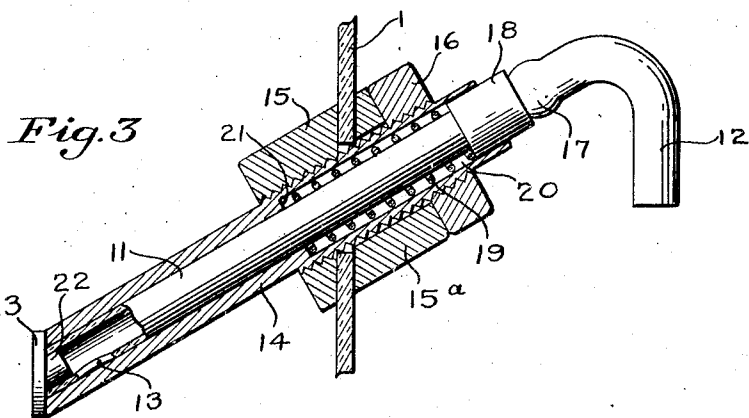
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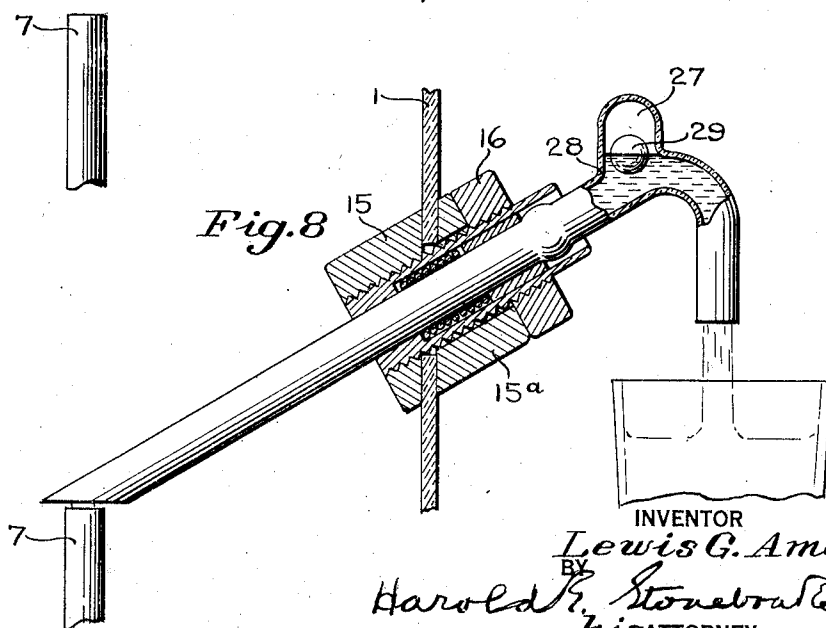
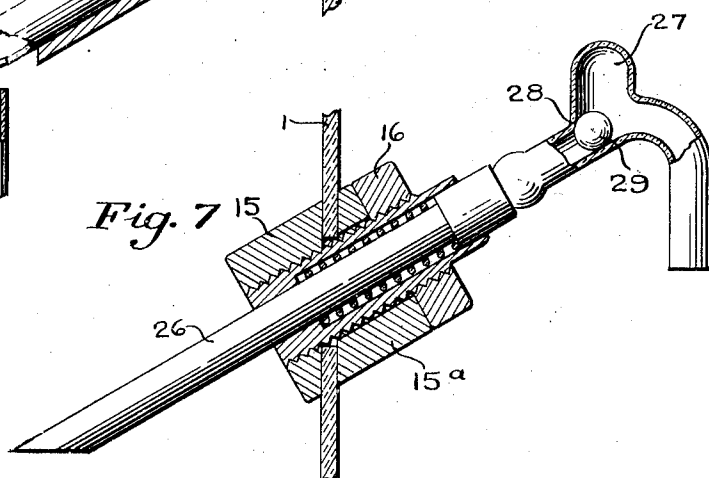
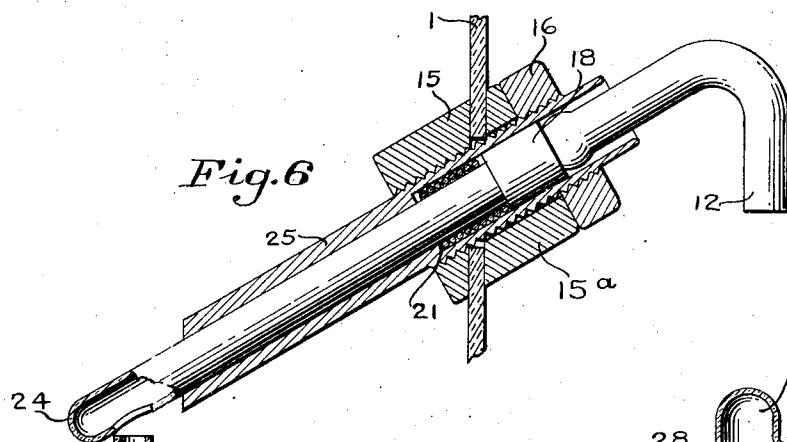
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BEVERAGE DISPENSER

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5 Sheets-Sheet 3



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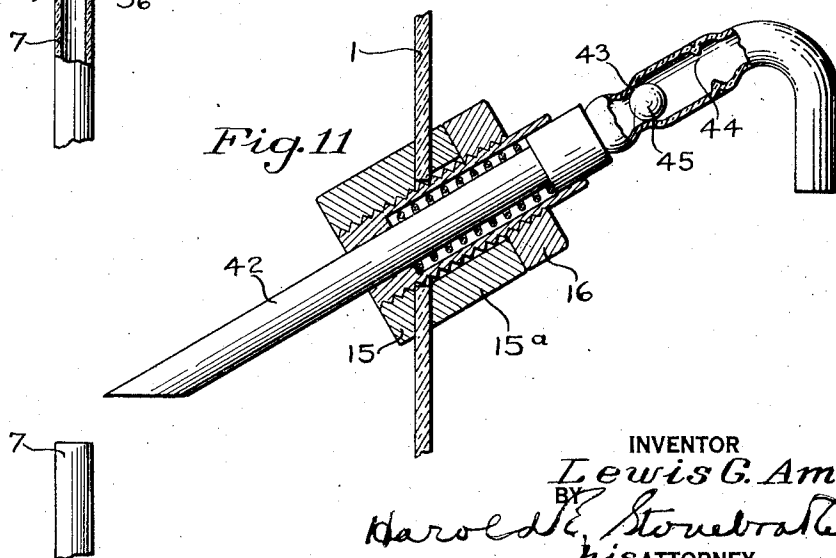
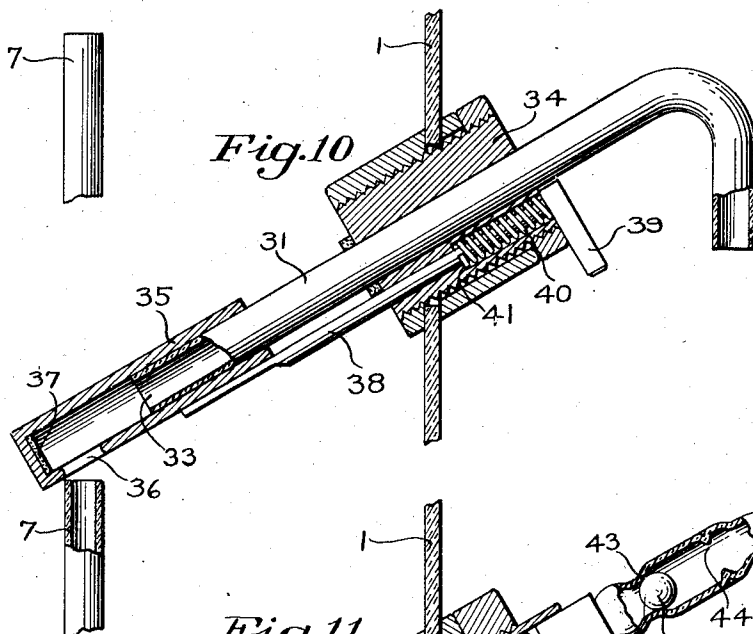
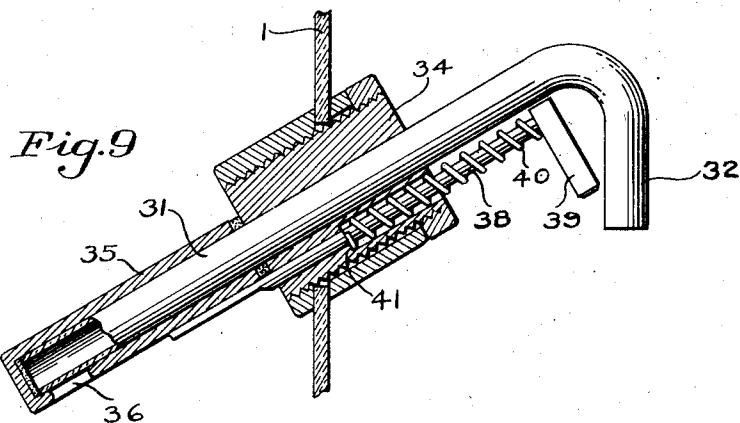
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BEVERAGE DISPENSER

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5 Sheets-Sheet 4



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BEVERAGE DISPENSER

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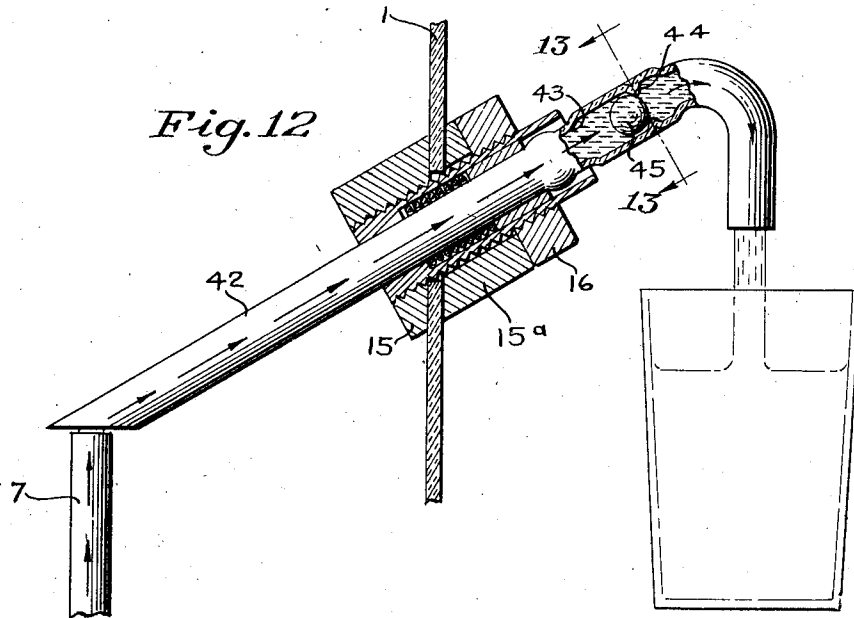


Fig. 13



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UNITED STATES PATENT OFFICE

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BEVERAGE DISPENSER

Application filed October 23, 1928. Serial No. 314,343.

This invention is in the nature of improvements on the apparatus disclosed in Patent No. 1,708,212 to Leon L. Benham, for beverage dispenser, and relates to a beverage dispenser, with particular reference to the type of apparatus comprising a transparent display receiver into which beverage may be continuously discharged and a dispensing tube extending through a wall of the transparent receiver and provided with an inlet opening that is movable into the path of the beverage so as to divert it from a point within to a point outside the receiver, and it has for its principal object to afford means for preventing passage of air through the dispensing tube to the interior of the display receiver when the tube is out of dispensing position.

In a more specific aspect, the invention has for its purpose to provide a simple, practicable, and efficient form of dispensing tube which may be of glass or similar material, and has in cooperation therewith a valve-like member or closure that functions automatically to close the passage through the dispensing tube when the latter is out of dispensing position so as to prevent drawing air into the interior of the display receiver during the time when the beverage is circulating and not being dispensed.

To these and other ends the invention consists in the construction and arrangement that will appear from the following description when read in conjunction with the accompanying drawings, the novel features being pointed out in the claims following the description.

In the drawings:

Figure 1 is a side elevation of a beverage dispenser showing one embodiment of the invention applied thereto and with the dispensing tube out of dispensing position;

Figure 2 is an enlarged side elevation with parts broken away and illustrating the dispensing tube in its innermost or dispensing position;

Figure 3 is an enlarged sectional view through the dispensing tube when out of dispensing position, as shown in Figure 1;

Figure 4 is a similar view of the dispensing

tube when in dispensing position, as in Figure 2;

Figure 5 is a sectional view of a modified form of dispensing tube, out of dispensing position;

Figure 6 is a similar sectional view of the structure shown in Figure 5 with the dispensing tube in dispensing position;

Figure 7 is a similar view of a further modified arrangement of dispensing tube when out of dispensing position;

Figure 8 is a view similar to Figure 7 with the dispensing tube in dispensing position;

Figure 9 is a similar sectional view of another modification with the dispensing tube out of dispensing position;

Figure 10 is a view similar to Figure 9 with the dispensing tube in dispensing position;

Figure 11 is a similar view of a further modification with the dispensing tube out of dispensing position;

Figure 12 is a view similar to Figure 11 with the dispensing tube in dispensing position, and

Figure 13 is a sectional view on line 13—13 of Figure 12.

Referring more particularly to the drawings in which like reference numerals throughout the several views indicate the same parts, 1 designates a transparent display receiver suitably mounted in the base 2 which is supported on a cabinet 3, while 4 is a beverage reservoir located and adapted to be refrigerated within the cabinet 3. 5 is a motor operating a pump 6 to force the beverage from the reservoir through a suitable conductor and the discharge pipe 7 into the display receiver preferably with a fountain effect, as shown, although the beverage may be otherwise discharged into the display receiver from which it feeds back by gravity through another conductor to the reservoir 4, thus maintaining a continuous circulation between the reservoir and the receiver.

Mounted in a wall of the transparent receiver 1 is the dispensing tube that is movable into the path of the stream of beverage, to thereby divert the same to a point outside the receiver. Referring in detail to the arrangement shown in Figures 1 to 4 inclusive,

11 designates the dispensing tube having an outlet 12, and an inlet opening 13 adjacent to its inner end. The dispensing tube is slidable endwise in a housing 14 that is secured to a wall of the transparent receiver by suitable threaded collars 15 and 16. The dispensing tube, which may be of glass or other similar material, is formed with an enlargement at 17, and 18 is a collar arranged on the tube adjacent said enlargement 17 which limits outward movement of the collar.

A spring 19 is arranged in the recess 20 of the housing 14 and engages the inner end of the collar 18 at one end and a shoulder 21 at the opposite end, thereby acting to normally hold the dispensing tube in its outermost position, as shown in Figure 3, where it is out of dispensing position. At its inner end, the dispensing tube is provided with a plug 22 which carries a head or flange 23 adapted to make contact with the end of the housing 14, as shown in Figure 3, when the dispensing tube is out of dispensing position, and thus effect a closure of the housing, the inlet opening 13 being then arranged within the housing. In this manner passage of air inwardly through the dispensing tube to the interior of the display receiver is effectually prevented when the latter is out of dispensing position.

In some cases, the dispensing tube may be constructed as shown in Figures 5 and 6, in which the dispensing tube is formed with its inner end closed, as shown at 24, and arranged to form a sufficiently tight engagement with the housing 25 so that when the tube is out of dispensing position, as in Figure 5, the passage of air through the tube to the interior of the display receiver in any substantial amount is effectually prevented.

In Figures 7 and 8 there is illustrated another embodiment of the invention wherein the dispensing tube 26 is formed with a chamber 27 and a seat 28, while 29 designates a ball valve that engages said seat 28 and closes the passage to prevent ingress of air when the dispensing tube is out of dispensing position, as shown in Figure 7, and when moved into dispensing position, pressure of the beverage forces the valve 29 outwardly and it floats in the chamber 27 during the dispensing operation, as shown in Figure 8.

In Figures 9 and 10 there is illustrated an additional modified arrangement that includes a stationary dispensing tube 31 having an outlet 32 and open at its inner end, as designated at 33, see Figure 10. The tube 31 is held within a bushing 34, and 35 designates a housing slidably arranged upon the inner end of the dispensing tube and including an inlet opening 36 positionable in the path of the beverage discharge and a gasket 37 for engaging and closing the opening 33

at the inner end of the dispensing tube, as shown in Figure 9, when moved out of dispensing position. In this instance, the operation of dispensing a beverage is brought about by sliding the housing 35 inwardly from the position shown in Figure 9 to that shown in Figure 10. To accomplish this, the housing has attached thereto a suitable extension or rod 38 carrying at its outer end a handle 39, while 40 is a spring cooperating between the handle 39 and the bottom of a pocket 41 in which the spring is mounted, and operating to normally hold the housing in its outermost position as in Figure 9. When dispensing, the operator presses the handle 39 inwardly against the action of spring 40, the parts then assuming the position shown in Figure 10, and upon releasing the handle 39, spring 40 returns the housing to normal position in which the dispensing tube is closed and passage of air to the interior of the display receiver is prevented.

Figures 11 to 13 disclose another type of construction employing a gravity controlled valve, and in this modification, 42 designates the dispensing tube that is formed with an inwardly extending annular portion affording a seat 43 and inward projections 44 for retaining the ball 45 within the tube. When out of dispensing position, as in Figure 11, the ball 45 engages seat 43 and closes the passage, and when the dispensing tube is moved inwardly, as in Figure 12, beverage flowing outwardly through the tube moves the ball 45 away from the seat 43 and passes thence outwardly around the ball, the latter being limited in its outward movement by the inward projections 44.

While the invention has been herein disclosed with reference to certain detailed arrangements, it is not confined to the particular structures herein set forth, and this application is intended to cover such other departures or changes as may come within the intent of the improvements or the scope of the following claims.

I claim:

1. A beverage dispenser comprising a transparent display receiver and a beverage reservoir, means for circulating beverage between the reservoir and the receiver, a dispensing tube extending through a wall of the reservoir and movable into the path of the beverage as it is discharged into the receiver to divert it to a point outside the receiver, and valve means acting automatically to shut off passage of air through the dispensing tube when the latter is moved away from dispensing position.

2. A beverage dispenser comprising a transparent display receiver and a beverage reservoir, means for circulating beverage between the reservoir and the receiver, a dispensing tube extending through a wall of the receiver and having an inlet opening posi-

tionable in the path of the beverage as the latter enters the receiver, and a housing within which the dispensing tube is movable, said housing being arranged so that when the dispensing tube is out of dispensing position, the aforementioned inlet opening is positioned within the housing thereby closing the tube against passage of air therethrough into the receiver.

3. A beverage dispenser comprising a transparent display receiver and a beverage reservoir, means for circulating beverage between the reservoir and the receiver, a dispensing tube extending through a wall of the receiver and movable into the path of the beverage as it is discharged into the receiver to divert it to a point outside the receiver, said dispensing tube being closed at its inner end and having an inlet opening on its underside adjacent said closed end, and a housing within which the tube is movable, the aforementioned inlet opening being positioned within the housing when the dispensing tube is out of dispensing position and thereby closing the tube against passage of air to the interior of the receiver.

4. A beverage dispenser comprising a transparent display receiver and a beverage reservoir, means for circulating beverage between the reservoir and the receiver, a dispensing tube extending through a wall of the receiver and movable into the path of the beverage as it is discharged into the receiver to divert it to a point outside the receiver, the dispensing tube having a head at its inner end and an opening in its lower wall adjacent said head, a housing within which the dispensing tube is movable, the aforesaid inlet opening being positioned within the housing when the dispensing tube is out of dispensing position and thereby acting to close the latter against passage of air into the receiver, the said head at the inner end of the dispensing tube contacting with the inner end of the housing when the dispensing tube is in its outermost position and thereby effecting a closure for the housing.

5. A beverage dispenser comprising a transparent display receiver and a beverage reservoir, means for circulating beverage between the reservoir and receiver, a dispensing tube extending through a wall of the receiver, and a housing cooperating with said dispensing tube, one of said parts having a beverage inlet and being movable relatively to the other so as to position said inlet in the path of the beverage as it is discharged into the receiver, said inlet being closed when the part containing it is moved away from dispensing position, thus preventing passage of air to the interior of the receiver.

6. A beverage dispenser comprising a transparent display receiver and a beverage reservoir, means for circulating beverage between the reservoir and the receiver, a dis-

pensing tube having a beverage inlet and movable to bring said inlet into the path of the beverage as it is discharged into the receiver so as to divert it to a point outside the receiver, and a closure for said beverage inlet that automatically covers the latter when the dispensing tube is moved out of dispensing position.

7. A beverage dispenser comprising a transparent display receiver and a beverage reservoir, means for circulating beverage between the reservoir and the receiver, a dispensing tube having a beverage inlet and movable to bring said inlet into the path of the beverage as it is discharged into the receiver so as to divert it to a point outside the receiver, a housing in which said tube is movable and arranged to close said inlet when the tube is out of dispensing position, and resilient means for moving the tube out of dispensing position.

In witness whereof, I have hereunto signed my name.

LEWIS G. AMES.