

March 7, 1967

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3,307,750

BEVERAGE DISPENSER

Filed May 18, 1965

2 Sheets-Sheet 1

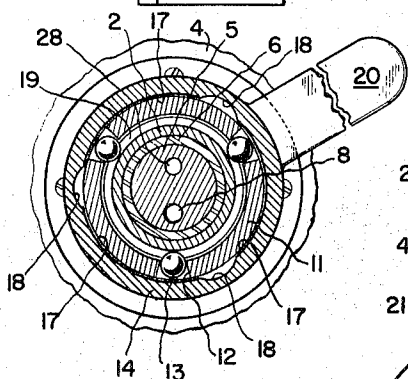
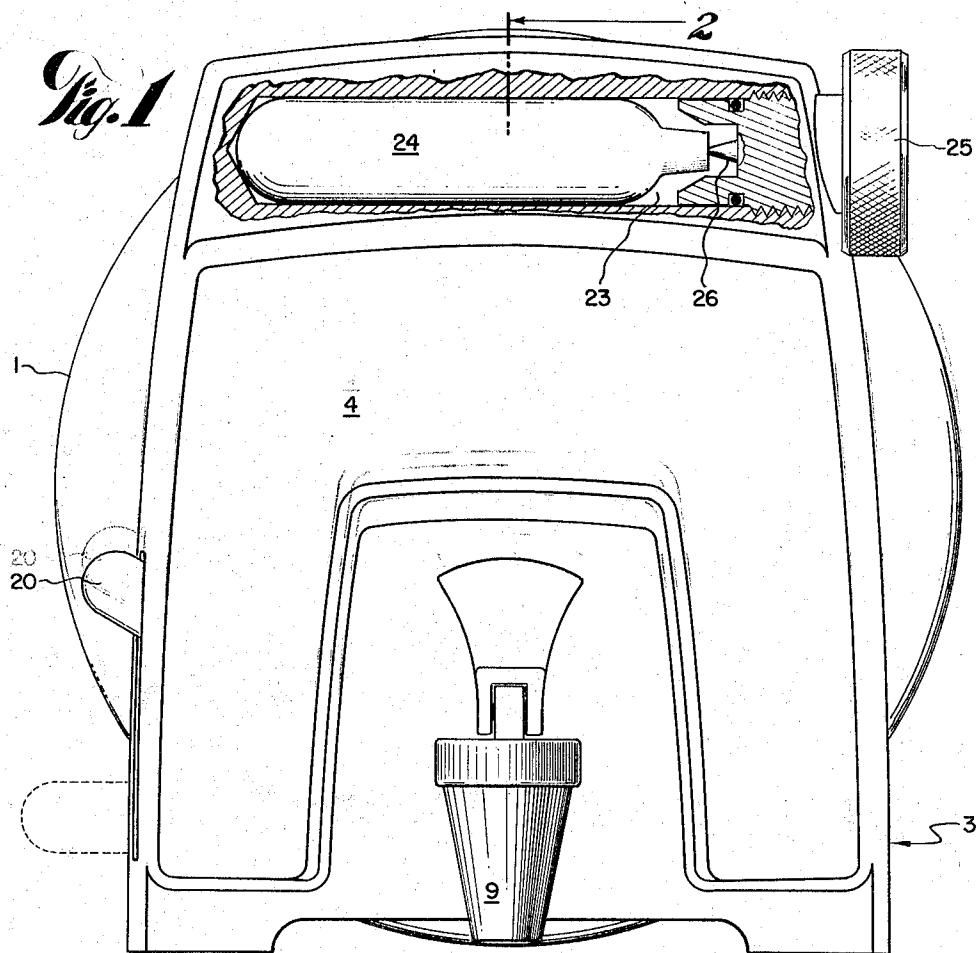


Fig. 3

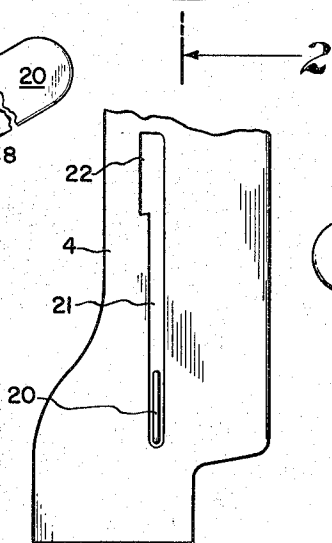


Fig. 5

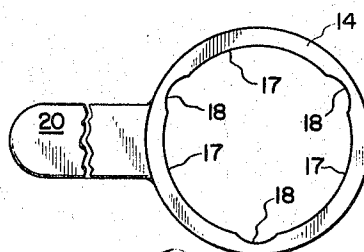


Fig. 4

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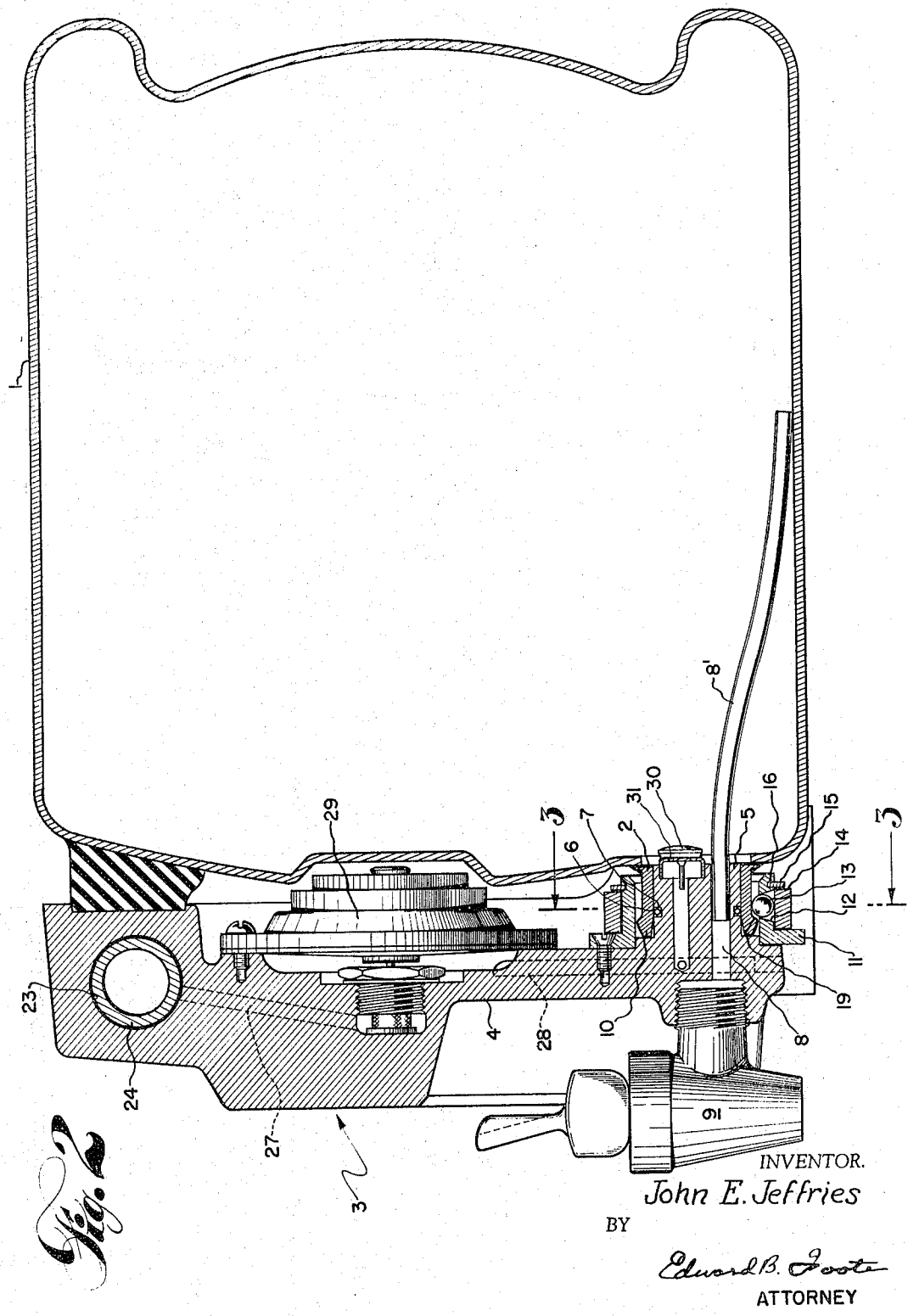
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BEVERAGE DISPENSER

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3 Claims. (Cl. 222-399)

This invention relates to apparatus for dispensing beverages, and relates particularly to beverage dispensers consisting of a container and a detachable unit for withdrawing beverages from the container.

In beverage dispensers for use in household refrigerators and consisting of a container for a number of glassfuls of a beverage, and mechanism for withdrawing the beverage, it is desirable that the container and the withdrawal mechanism be separable, permitting use of the withdrawal mechanism with successive beverage containers which—when empty—may be returned for refilling.

It is an object of this invention to provide an improved beverage dispenser suitable for household use, consisting of a container and a beverage withdrawal unit detachably joined to the container by easily operated locking means.

The invention is illustrated in the accompanying drawings, in which:

FIG. 1 is a front elevation, partly in section, of a beverage dispenser constructed in accordance with the invention;

FIG. 2 is a view, mainly in vertical section, taken on the line II—II of FIG. 1;

FIG. 3 is a fragmentary sectional view taken on the line III—III of FIG. 2;

FIG. 4 is a detail drawing of part of the apparatus, and

FIG. 5 is a side elevation of a portion of the dispenser.

Referring to the drawings, the beverage dispenser consists, in general, of a beverage container 1 having an annular neck 2 projecting or upstanding from one end thereof, and a dispensing head 3, detachably connected to the neck 2. The dispensing head 3 comprises a housing 4 having an integral cylindrical insert or conduit 5 projecting therefrom and extending into the neck 2. A compressible O-ring 6 seated in a groove 7 in the conduit 5 provides a tight seal between the conduit and the inner wall of the neck 2. A passage 8 in the conduit 5, and a tube 8' forming an extension thereof, communicate with the interior of the container 1 and with a conventional tap 9 attached to the housing 4, whereby liquid in the container may be withdrawn through tube 8' and passage 8 upon opening the tap. The neck 2 is provided with a bead 10 adjacent the mouth thereof. Attached to the housing 4 is a fixed ring 11 having spaced, tapered apertures 12 extending therethrough, in each of which is seated a rotatable ball 13, the minimum transverse dimension of the aperture being smaller than the diameter of the ball, but large enough to permit a portion of the ball to project beyond the inner edge of the aperture.

A rotatable cam ring 14 is mounted on the fixed ring 11 and is retained thereon by a washer 15 seated in a groove 16 in the fixed ring. Cam ring 14 is provided with spaced cams 17 and intervening recesses 18 (FIGS. 3 and 4), such cams and recesses being registerable with the apertures 12 by rotation of the cam ring around the fixed ring. When the cams 17 register with the apertures, they engage the balls and cause them to project beyond the inner edge of the aperture and into alignment with the shoulder 19 of the bead 10 as indicated in FIGS. 2 and 3, whereby the projecting portions of the balls are engageable by the shoulder 19 to prevent removal of the head 3 from the neck 2. However, the recesses 18 are suffi-

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ciently deep that when they register with the apertures 12 the balls can be pushed outwardly into those recesses by the bead 10 sufficiently far to permit the balls to pass over the bead.

The ring 14 is provided with a handle 20 which extends through a slot 21 located in a flange at one side of the housing (see FIG. 5), there being a recess 22 at the upper end of the slot into which the handle may be inserted to prevent rotation of the ring 14 and lock it in place when the cams 17 are in registration with the apertures 12 and engage the balls 13.

As indicated in the drawings, the dispensing head may also include means for feeding gas under pressure to the beverage container, as is desirable with carbon dioxide containing beverages, such as beer. For that purpose, the housing 4 is provided with a chamber 23 for holding a cartridge 24 containing liquid carbon dioxide. The chamber 23 has a threaded closure 25 having a sharp inner end 26 for piercing the end of the container 24 to release gas therefrom. The chamber 23 communicates with the container 1 via passages 27 and 28, which are separated by a conventional pressure-regulating valve 29. A check valve 30 at the end of passage 28 controls the flow of gas to the container 1 through apertures 31 in response to reduction in gas pressure in the container.

The dispensing head may be connected to the container 1, following removal of a closure (such as a crown cap) from the bead 10, by rotating the cam ring 14 by means of the handle 20 to a position in which the recesses 18 register with the apertures 12, and inserting the conduit 5 into the neck 2. In that position, the recesses 18 permit the rotatable balls 13 to clear the bead 10, after which the ring 14 is rotated to bring the cams 17 into registration with the apertures 12, whereupon the cams engage the balls 13 and cause them to project under the bead 10, thereby preventing withdrawal of the neck from the clamping mechanism. Insertion of the handle 20 into the recess 22 locks the cam ring in the latter position.

When it is desired to disconnect the dispensing head from the container 1, the cam ring is rotated to return it to a position in which the apertures 12 register with the recesses 18, whereupon the bead 10 can push the balls outwardly into those recesses upon withdrawal of the conduit 5 from the neck 2.

I claim:

1. In a beverage dispenser consisting of a liquid container having an integral, upstanding neck with an outlet therein for said container, and a liquid dispensing head detachably secured to the said neck, said dispensing head comprising a tap and means for feeding gas under pressure into said container; the improvement comprising an insert extending from said head into said outlet and having a passage therethrough communicating with said tap and with the interior of said container, said insert also having a passage therethrough communicating with said pressure means and the interior of said container; sealing means encircling the side wall of the said insert and effecting a seal between the said insert and the inner wall of the said neck, and means carried by said head for detachably connecting the said head to the said neck, the said connecting means consisting of a ring fixedly attached to said dispensing head encircling the said neck and having spaced apertures therethrough, locking members reciprocable in the said apertures into and out of locking engagement with the said neck, and a cam ring rotatable around the first-mentioned ring, the said cam ring having spaced recesses therein which are registerable with the said apertures and having inwardly disposed cam surfaces intermediate the said recesses and engageable with the said locking members upon rotation of the cam ring to press

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the said locking members into locking engagement with the said neck.

2. In a beverage dispenser in accordance with claim 1, in which the said locking members consist of balls rotatable in the said apertures.

3. In a beverage dispenser consisting of a liquid container having an integral, upstanding neck with an outlet therein for said container, and a liquid dispensing head detachably secured to the said neck, said dispensing head comprising a tap and means for feeding gas under pressure into said container; the improvement comprising an insert extending from said head into said outlet and having a passage therethrough communicating with said tap and with the interior of said container, said insert also having a passage therethrough communicating with said pressure means and the interior of said container; sealing means encircling the side wall of the said insert and effecting a seal between the said insert and the inner wall of the said neck, a wall spaced laterally from said neck and having an elongated slot extending through said wall and having a recess at one end thereof, and means carried by the said head for detachably connecting the said head to the said neck, the said connecting means consisting of a ring fixedly attached to said head, encircling the said neck and having spaced apertures therethrough, locking members reciprocable in the said apertures into and out of locking engagement with the said neck, and a cam ring rotatable

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around the first-mentioned ring, the said cam ring having spaced recesses therein which are registerable with the said apertures and having inwardly disposed cam surfaces intermediate the said recesses and engageable with the said locking members upon rotation of the cam ring to press the said locking members into locking engagement with said neck, and said cam ring having a handle extending laterally therefrom through said slot for effecting such rotation of said cam ring.

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