This invention relates generally to fluid dispensers, and more particularly it pertains to a valve arrangement for serving beverages from containers having narrow necks. This application is a continuation of U.S. patent application Serial No. 10,655, filed by applicants on February 23, 1960, for "Beverage Dispenser and Pump" now abandoned.

The serving of portions of beverages from large capacity containers is good economy. However, unless a stopper is replaced after dispensing a portion of the beverage, the remainder soon becomes flat and is wasted. There is an unsatisfied demand for a soda fountain or barman's type of dispenser which can be used in the home and which can be left attached to the container with assurance that none of the freshness of the contents will be lost and which is ready for instant use.

Accordingly, it is a generally object of this invention to provide a dispenser for fluids which can be readily attached to the mouth of a container and which will discharge its contents in any quantity from an upright position.

Another object of this invention is to provide a cock arrangement for a fluid dispensing spout which has a minimum of parts and is economical to manufacture.

And another object of this invention is to provide a fluid dispensing stopper for beverage containers which can be pressurized and which will hold pressure for a long time.

These and other objects and attendant advantages of this invention will become more readily apparent and understood from the accompanying specification and single set of drawings which:

FIG. 1 is a perspective view of a beverage dispensing arrangement showing the dispenser attached to a bottle and including a view of a pressurizing air pump;

FIG. 2 is a side elevation of the air pump of FIG. 1;

FIG. 3 is a cross section of the air pump viewed in the direction of the arrows 3-3 of FIG. 2;

FIG. 4 is an enlarged front elevation of the dispenser according to this invention; and

FIG. 5 is a vertical cross section of the dispenser viewed in the direction of the arrows 5-5 of FIG. 4 and showing the closed position of the dispensing valve in phantom.

Referring now to the details of the drawings, and especially FIGS. 4 and 5 thereof, there is shown generally a beverage dispenser 10. The beverage dispenser 10 consists of a body 12 which can be molded in mirror image halves or otherwise according to well-known technique for ease of fabrication and assembly.

Within the body 10, a cylindrical valve plug 14 is snugly fitted yet with freedom to rotate when oscillated by a valve handle 16. The valve handle 16 has an arm 18 which enters the body 12 through an arcuate slot 20 and is secured to the valve plug 14.

A spout 22, which is part of body 12, is provided with an orifice 24 which terminates against the valve plug 14. In the open or dispensing condition of the dispenser 10, a curved passage 26 formed in the valve plug 14 communicates this orifice 24 of spout 22 with a fluid conduit 28 in a stem 30 which depends from the body 12. In the closed or non-dispensing position of the dispenser 10, shown by the phantom lines, the communication of conduit 28 with orifice 24 is cut off.

The lower portion of stem 30 is tapered in the manner of a bottle cork and has a formed cap flange 32 having an annular recess 34 for engaging the usual bottle mouth, as shown best in FIG. 1.

An air passage or conduit 36 rises vertically within the cork-like end of the stem 30 parallel to the fluid conduit 28 and then deviates to the rear where it enters a valve chamber 38. The valve chamber 38 includes a cap 42 captive therein, which is spring-loaded against a hole 44 by a compression coiled spring 40. The hole 44 communicates with a tapered socket 46 in the end of a boss 48.

A spring type air pump 50 for dispensing the beverage from a container, is shown in FIGS. 1, 2, and in detail in FIG. 3. The pump 50 consists of a flap-valved piston 52, which can be reciprocated in a pump cylinder 56 by means of piston rod 54. A tapered nozzle 58 is provided in the end of the cylinder 56 and it is dimensioned to fit with the previously mentioned socket 46.

Inserted within the fluid conduit 28, there is provided a length of tubing 62 as shown in FIGS. 4 and 5. In use, this tubing 62 is adjusted, as shown in FIG. 1, to reach nearly to the bottom of the bottle or can container 60 when the cap flange 32 of the dispenser 10 is seated on the container mouth.

In the case of effervescent beverages, sufficient self-pressurizing of the beverages may exist to force the fluid up the tubing 62 and out the spout 22 when the handle 16 is brought forward into the open or discharge position. In the event of insufficient self-pressurizing of the beverage or in the case of non-effervescent liquids the air pump 50 can be used. Its nozzle 58 is inserted in socket 46 to force air around valve ball 42 and through conduit 36. Pressurized air is thus stored against the surface of the liquid within the container 60 to provide the required energy head to pressurize the beverage.

Obviously many modifications and variations of the present invention are possible in light of the above teachings. It is, therefore, to be understood that within the scope of the appended claim the invention may be practiced otherwise than as specifically described.

What is claimed is:

A fluid dispenser for a container having a mouth provided therein for dispensing a beverage therethrough from said container, comprising, a unitary structure consisting of a body, an adjustable cork type stem extending downwardly from said body and adapted to be fitted in said mouth of said container and having a formed cap flange fitting over the mouth of said container, and a spout extending from said body angularly with respect to said stem, said spout and said stem each having a respective concentric passage, a cylindrical valve plug rotatably mounted in said recess and having a curved re-entrant passageway therein, said spout and stem having their respective passageways terminating at said valve plug, said curved re-entrant passageway being arranged to communicate with the respective passageways in said spout and stem so as to form a smooth continuation one of the other when said valve plug is in an operative position in said fluid dispenser, handle means connected to said valve plug and extending through the slotted opening in said body for rotating said valve plug, the opposite ends of said slotted opening stopping said handle means when said valve plug is in said operative position and in an inoperative position, respectively, a pressure supply passageway extending through said stem and terminating at a point on the exterior of said body, means including a pump for pressurizing fluid in said container through
said pressure supply passageway, and check valve means
arranged within said pressure supply passageway to main-
tain pressure within said container, whereby when the
curved re-entrant passageway of said valve plug is ar-
ranged as a continuation of the respective passageways in said spout and stem, fluid is dispensed in a smooth
flow from said container.

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