

Shown in an exploded view in FIG. 2 is an alternate embodiment of the invention. In this embodiment a flavoring device 28 includes an outlet conduit 30, an intake conduit 32 and a flavoring chamber 34. Chamber 34 is divided into four compartments, 36, 38, 40 and 42, respectively, to which four different types of flavoring material can be added. Passing longitudinally through flavoring chamber 34 is a conduit 44 and provided in the walls of conduit 44 are inlet and outlet apertures 46 and 48, respectively. Although not shown, each of the remaining flavoring compartments 36, 38 and 40 are likewise provided with similar pairs of apertures. Intake conduit 32 is provided with inlet and outlet apertures 50 and 52, respectively, and is of a diameter smaller than flavoring conduit 44 to permit insertion therein such that when inserted into conduit 44, apertures 50 and 52 are adapted to mate or register with one of the pairs of apertures communicating with each of the flavoring compartments, e.g., apertures 46 and 48. Unidirectional means such as ball valve 54 is provided in conduit 32 below aperture 50 to prevent liquid from returning to a liquid supply receptacle once the liquid has been withdrawn therefrom. Outlet conduit 30, like conduit 32, is of a diameter such that it can be inserted into conduit 44, the combination of the three conduits providing a drinking straw-like apparatus for withdrawing liquid from a supply to a drinker's mouth.

In operation the three component parts of the flavoring device are fitted together and the flavoring chamber 34 is rotated to bring the apertures of the desired flavoring compartment into register with the apertures into conduit 32 to permit liquid communication into and out of the flavoring compartment and prevent communication with the non-selected compartments. The user then draws on outlet conduit 30 causing liquid to be drawn up conduit 32 and through intake apertures 50 and 46, respectively. The liquid circulates briefly in compartment 42 and is withdrawn through outlet apertures 52 and 48, respectively, and thence up intake conduit 30 to the outlet from the flavoring device.

A self-contained flavoring device according to the present invention is illustrated in FIGS. 3, 4, 5, 6, and 7. As shown in the plan view of FIG. 3, a flavoring device 56 is provided which includes a liquid receptacle 58, a plurality of flavoring compartments, 60, 62, 64, and 66. An outlet conduit 68, similar to a drinking straw, extends from the top of receptacle 58 to the outlet from the flavoring device.

In FIG. 4, a sectional view taken along lines 4-4 of FIG. 3, further details of device 56 are illustrated. Liquid receptacle 58 is provided with a sizeable chamber 70 for holding a supply of liquid to be flavored. An intake conduit 72 extends from near the bottom of chamber 70 to an inlet channel 74 which is in liquid communication with conduit 72 through a one way flutter valve 76. As will be discussed in more detail subsequently, inlet channel 74 communicates with inlet apertures to the various flavoring compartments. Flutter valve 76 is located in a housing 78 in which the flavoring chambers are mounted. Valve 76 is provided to prevent liquid withdrawn from chamber 70 from returning due to gravity flow or a siphon effect. An outlet channel 80 communicates with the outlet apertures of the flavoring chambers and thence with outlet conduit 68 to the outlet 82 from the flavoring device.

As shown in FIGS. 5, 6, and 7, flavoring chambers 60, 62, 64 and 66 are provided with inlet apertures 84, 86, 88 and 90, respectively, and outlet apertures 92, 94, 96 and 98, respectively. In FIGS. 6 and 7, flavoring chamber 60 is illustrated in detail and is representative of the structure of the flavoring chambers of the device. This chamber, as well as the other flavoring chambers, is a small, hollow cylinder or vial adapted to receive flavoring material. Inlet channel 74 is horizontally disposed as shown in FIG. 6 and communicates between valve 76

and the various inlet apertures. Likewise, outlet channel 80 as shown in FIG. 5 is horizontally disposed and communicates with the various outlet apertures and outlet conduit 68.

As shown in these figures, chamber 60 is closed by a cap 100 having a vertical turning tab 102, a horizontally disposed lid 104 and a valving member 106 extending from the side of lid 104 opposite tab 102 into the interior of chamber 60. Valving member 106 is chosen of a diameter such that it is friction fitted within chamber 60 by means of annular rings 108 and 110 which are raised from the surface of the member. Rings 108 and 110 are located on the surface of member 106 so as to bracket a pair of apertures 112 and 114 in member 106. By turning tab 102 through an angle of 90°, apertures 112 and 114 can be alternately brought into and out of communication with inlet and outlet apertures 84 and 98, respectively, to bring the flavoring material in chamber 60 into communication with liquid supplied from receptacle 58.

In operation the flavoring device of the present invention performs as follows: Liquid to be flavored, such as water, is placed in chamber 58 and a flavoring material, e.g., artificial citrus flavoring, is placed in each of the flavoring chambers. The flavoring chambers are then closed by caps, e.g., cap 100, and the turning tabs, e.g., tab 102, on the caps adjusted to bring one or more of the chambers into liquid communication with the inlet and outlet channels of the device. When the desired flavoring has been selected, the user draws on the outlet conduit 68 in the same manner as drawing on a drinking straw and liquid is caused to be drawn up through conduit 72 through valve 76 and channel 74 to fill the channel and thence penetrate into one or more of the flavoring chambers depending upon the setting of the turning tabs. The liquid drawn into the flavoring chambers passes over and circulates through the flavoring material and then is withdrawn through the outlet aperture of the chamber through outlet channel 80 and thence through outlet conduit 68.

The caps for the flavoring chambers can all be positioned out of communication with the supply receptacle when it is desired to carry the device without the danger of spillage. It is contemplated that frequently at least two chambers will be simultaneously connected to the supply liquid to permit the mixing of flavors by the user. The embodiments described above and illustrated in the drawings are representative of the flavoring device of the present invention and include a presently preferred embodiment. Illustration of three embodiments is not intended as limiting and other variations on the structures disclosed will be obvious to those skilled in the art without departure from the scope of the invention.

What is claimed is:

1. A self-contained flavoring device comprising:

- a receptacle for liquid to be flavored;
- a flavoring chamber having a plurality of flavoring compartments, each compartment having an inlet and an outlet aperture;
- an inlet channel in said flavoring chamber communicating with each of said inlet apertures;
- an outlet channel in said flavoring chamber communicating with each of said outlet apertures, said outlet channel being sealed against liquid communication with inlet channel;
- first conduit means communicating between said liquid receptacle and said inlet channel;
- second conduit means communicating between said outlet channel and an outlet from the device;
- one way valve means located between the liquid receptacle and the inlet channel to prevent the return of liquid to the receptacle subsequent to withdrawal therefrom; and
- valve means in each of said flavoring compartments for selectively connecting said compartments with said inlet and outlet channels.