This invention relates to what are generally known as drinking straws although in fact such devices are usually composed of tubes of paper or cellophane in some cases treated with a protective coating or impregnating agent, particularly when composed of paper. The normal function of drinking straws is, of course, for consuming drinks by sucking the liquid through the straw. The object of the present invention is to provide an improved drinking straw which serves as sterile carrier for a soluble flavouring material, and in which the said material is accommodated within a substantially annular cross-section space between an outer tube which, pending use of the straw may be temporarily sealed at both ends, and an inner suction tube, so that the inner tube has an uninterrupted through bore in which the drilled fluid by the said material can be drawn by the consumer when the drinking straw is inserted at its lower end in a consumable liquid.

Various ways of sealing the ends of the outer tube can be employed, a preferred way with straws composed of impregnated, e. g. wax-proofed paper or sterilised plastic material being to fit a cap of like material over each end of the outer tube, or to fit a plug in the upper end and a cap over the lower end.

Embodyments of the invention are illustrated in the accompanying drawings, wherein—

Figures 1 and 2 are broken sectional elevations showing alternative methods of retaining the inner tube in position, and also show alternative sealing means for the upper end of the straw.

Referring to the drawings, in each embodiment shown the arrangement is such that the consumable contents of the tube 1 flow readily into the liquid in the cup or other drinking vessel whilst enabling the resulting mixture to be sealed at the other end of the tube 1 so that the tube 1 is preferably of larger diameter than an ordinary drinking straw, e. g. about half an inch and has fitted axially along it a relatively restricted bore tube 2 which can be held in position by providing two limbs 4 at one end of the tube 2 by splitting the tube 2 at such end and spreading out or folding back the resulting limbs so that they spring against the wall of the tube 1. Alternatively as shown in Figure 2 the restricted tube 2 can be gripped by the adjacent pinched-in neck part 5 of the tube 1.

In Figure 1 the sealing means for the top of the straw is shown in the form of a plug 6 of cork, wood or other suitable material, the lower end being closed by a cap 3, and in Figure 2 is shown how caps 3 can be fitted to both ends of the tube 1. The tube 1 can be composed of waterproofed paper, cellophane or the like of circular cross-section, and the closely fitting caps 3 may be of the same material. The tube 1 is charged with a water soluble flavouring agent 9 which may be in solid or powdery form or a liquid and powder mixture in such proportion that the mixture will flow smoothly out of the tube. If the material comprising the tube 1 is a wax proofed paper the cap or caps 3 will, if closely dimensioned, effectively seal the open end or ends of the tube 1 so that the contents of the straw are protected pending use of the straw. Such use comprises removing the plug 6 or upper cap 3 to leave a suction end open for holding in the mouth, with the tube 2 thus exposed for use as a suction tube by the removal of the cap 3 at the lower end of the straw and insertion of the lower end of the tube 2 into a vessel of water.

The provision of caps such as 3 has the advantage that they can be long enough to afford a convenient means for picking out filled straws from a bundle containing several straws, the caps being pre-assembled. Any liquid or powder mixture contacting the straws, and the base faces of the caps can bear a designation of the contents of the straw. The top end of the tube 2 is kept below the upper end of the tube 1 so as not to be engaged by the lips when using the straw during drinking, this also minimizing risk of the top of the tube 2 being pinched when removing the top closure means of the straw.

We claim:

1. A drinking straw comprising an outer tube of non-consumable material, an inner tube spaced from and extending axially along the outer tube and having an uninterrupted through bore, means integral with one of said tubes engaging locating and retaining in relation to itself the other tube in position to maintain an annular chamber between the two tubes extending for a major portion of the length of the straw, and a filling of soluble flavouring material in said annular chamber.

2. A drinking straw according to claim 1 wherein temporarily closure means is fitted to each end of the outer tube and also wherein the upper end of the inner tube is spaced axially inwardly from the top of the said outer tube so that upon removal of the temporary closure means the freely open upper end of the inner tube is exposed.

3. A drinking straw unit for the reception of a soluble flavouring material comprising two straight axis stiff tubes each of a non-consumable but deformable material, one extending axially along the major portion of the interior of the other and spaced concentrically therefrom, thus providing a compartment for the reception of the said soluble flavouring material and means maintaining the inner tube against falling out of the outer tube, said means comprising a deformation of one of the tubes for a relatively very short part of its length into engagement with the other tube.

4. A drinking straw according to claim 3 wherein the inner tube at one end is spread out to contact the outer tube.

5. A drinking straw according to claim 3 wherein the outer tube is pinched into a neck part gripping the adjacent end part of the inner tube.

6. A drinking straw according to claim 5 wherein the inner tube is foreshortened relatively to the upper end of the outer tube above said neck and engages with the outer tube near the upper end of said outer tube, a detachable closure sealing the upper end of the outer tube and being spaced above the upper end of the inner tube.

7. A drinking straw comprising a stiff suction tube of non-consumable material and open at both ends, a quantity of soluble flavouring material packed about the exterior of said suction tube, an outer stiff tube enclosing the packing of soluble flavouring material, means temporarily sealing the ends of the outer tube and removable to expose both ends of the suction tube, the upper end of the suction tube communicating freely with the interior of the upper end of the outer tube above the top of said packing of soluble material, the upper end part of the suction tube fitting snugly in the and being supported and located by the immediately ambient part of the outer tube.

8. A drinking straw comprising a stiff suction tube of non-consumable material and open at both ends, a quantity of soluble flavouring material packed about the ex-
terior of said suction tube, an outer stiff tube enclosing the packing of soluble flavouring material, means temporarily sealing the ends of the outer tube and removable to expose both ends of the suction tube, the upper end of the suction tube communicating freely with the interior of the upper end of the outer tube above the top of said packing of soluble material, the upper end part of the suction tube fitting snugly in the and being supported and located by the immediately ambient part of the outer tube, above the top level of said soluble material with the upper end of the suction tube spaced inwardly axially from the said sealing means.

References Cited in the file of this patent

UNITED STATES PATENTS

1,254,115 Brand 2018-01-22
1,931,765 Leever 1933-10-24
1,996,203 Hollingsworth 1935-04-02
2,102,920 Savage 1937-12-21
2,128,448 Wright 1938-08-30
2,245,738 Taylor 1941-06-17

FOREIGN PATENTS

661,398 Great Britain 1951-11-21