

A MIXING HEAD

BACK GROUND TO THE INVENTION

5

[001] The present invention relates to a mixing head and more particularly to a mixing head receivable within a container opening to facilitate dispensing of a supplemental component into a container to achieve a predetermined dilution ratio.

10

[002] Many different styles of caps, lids and closures have been well documented and described in the prior art.

15

[003] They include tamper proof closures, caps that seal the container using a check valve taking advantage of the Squeeze action of a flexible bottle to create the pressure differential to activate the valve, and other devices.

20

[004] Also prior art concerning containers with two compartments, separating two ingredients to be mixed before consumption, exist; but few if any of these containers are commercially available mostly because of complicated parts, difficulty of filling and high manufacturing cost.

25

[005] Many of these devices consist of a piercing tip or cutter that perforates or cuts a foil seal, blister pack or membrane releasing one component into a Supplemental component, usually tablets, granules or powders into a liquid. However, once the foil or membrane is damaged, it cannot be reused, increasing manufacturing costs and limiting recycling of any containers or caps.

[006] Minor differences, consisting mostly of how the piercing tip is activated, differentiate these types of devices. Whether piercing tips or cutters are used to remove the seal between compartments, there is always the danger of having
5 fragments of foil or other residue fall into the mixed components which may pass through the system.

[007] The current invention provides for a reusable mixing head that overcome many of the disadvantages and furthermore allows a user to dispense a
10 substance to achieve an predetermined dilutions ratio, into a supplemented component, such as water.

SUMMARY OF THE INVENTION

15

[008] The invention provides for a mixing head having an elongate body, the elongate body having an first end and an opposite second end, a flange extending circumferentially about the first end to act as a seal arrangement, a cutter integrally connected to the body and protruding from the second end, the
20 elongate body having a plurality of openings positions between the first and second ends.

[009] In a preferred embodiment of the invention, the elongate body may be cylindrical in cross section relative to the opening. The cutter may be position
25 anywhere between the opening and the second end.

[0010] The second end may be partly closed to facilitate better mixing.

[0011] The mixing head may be manufacture from any suitable non corrosive material such as a plastics material and may be reusable.

- 5 [0012] Each opening may be rectangular, square alternatively tri angularly shaped to facilitate mixing.

BRIEF DESCRIPTION OF THE DRAWINGS

10

[0013] The invention is now further described by way of example with reference to the accompanying drawings wherein:

Figure 1 illustrates a plan view of a mixing head according to the invention;

15

Figure 2 illustrates a plan view of the mixing head in use.

DESCRIPTION OF PREFERRED EMBODIMENTS

20

[0014] In the following embodiments individual characteristics, given in connection with specific embodiments, may actually be interchanged with other different characteristics that exist in other embodiments.

- 25 [0015] Figure 1 illustrates a mixing head (10) having an elongate body (12) extending between a first end (14) and an opposing second end (16), a flange (18) extending circumferentially about the outer peripheral of the first end (14)

to define an opening (20) and to act as a seal arrangement, a cutter (22) integrally connected to the body (12) and protruding from near the second end (16), the elongate body (12) having a plurality of openings (24) positioned between the first end (14) and second end (16).

5

[0016] In a preferred embodiment of the invention, the elongate body (12) is cylindrical in cross section relative to the opening (20) .

[0017] IN a second embodiment of the invention, the cutter (22) is position
10 anywhere between the first end (12) and the second end (14).

[0018] The second end (14) is partly closed to facilitate better mixing.

[0019] The mixing head (10) is manufacture from any suitable non corrosive
15 material such as a plastics material and is reusable.

[0020] Each opening (24) may be rectangular, square alternatively tri angularly shaped to facilitate mixing.

20 **[0021]** Figure 2 illustrates the mixing head (10) in use. In general, the mixing head (10) is shaped to complement an opening (28) provided in a container (30) in combination with which the mixing head (10) is to be utilized.

[0022] The mixing head (10) is inserted through the opening provided in the
25 container (30) so that the flange (18) rests on the opening lip (32) extending about the peripheral of opening (28) of the container (30).

[0023] It will be appreciated by those skilled in the art that the flange (18) acts

as a seal arrangement between a cap (34) and the opening (28) of the container (30).

[0024] In use, a supplement, contained in a sachet (not shown) is inserted
5 through the opening (20) into the mixing head (10). The cap (34) is secured in a conventional manner. As the cap (34) is maneuvered closed, the sachet is compressed and cut by the cutter (22) and the supplement released.

[0025] The supplement mixture can now escape through the openings (20) into
10 the container (30) at the correct concentrations.

15

20

25

CLAIMS

1. A mixing head having an elongate body, the elongate body having an first end and an opposite second end, a flange extending circumferentially about the first end to define an opening and act as a seal arrangement, a cutter integrally connected to the body and protruding from near the second end, the elongate body having a plurality of openings positioned along its length between the first and second end.
2. A mixing head as claimed in claim 1 wherein the elongate body is cylindrical in cross section relative to the opening.
3. A mixing head as claimed in any one of claims 1 to 2 wherein the cutter is positioned anywhere between the first end and the second end.
4. A mixing head as claimed in any one of claims 1 to 3 wherein the second end is partly closed to facilitate better mixing.
5. A mixing head as claimed in any one of claims 1 to 4 which is manufactured from any suitable non corrosive material such as a plastics material and is reusable.
6. A mixing head as claimed in any one of claims 1 to 5 wherein each opening is rectangular, square alternatively triangularly shaped to

facilitate mixing.