The main embodiments of My Earlier Breath Actuated, Kink Valve Dispenser included a piston acted on by a differential breath induced pressure. The resultant force generated is generally sufficient to operate the dispenser by drawing the piston towards the dispenser's mouthpiece and extending and opening the kink valve. Nevertheless, I feel that the dispenser is susceptible of some improvement.

The object of the present invention is to provide improved breath actuated, kink valve dispensers, in particular having spring assistance to open the kink valve.

According to the invention I provide a dispenser for a gaseous, gas borne or droplet substance contained in a source thereof, the dispenser including ~~in common with My Earlier Breath Actuated, Kink Valve Dispenser~~:

- a body with a mouthpiece;
- a junction in the body for the substance source; and
- a breath actuable valve, for controlling the release of the gas or liquid containing or comprising the substance, the valve comprising:
    - a flexible tube for receiving the said gas or liquid, the tube extending from a value inlet connected to the junction and having a portion which is kinkable for closure of the valve and movable to an open position in which the tube is un-kinked for opening of the valve; and
    - an outlet member arranged for movement in the body on inhalation to un-kink the valve;
- the tube being kinked to an obturating extent when the outlet movable member is in a ready position and un-kinked when the outlet moveable member is moved on inhalation for release of the gas or liquid;
- a spray nozzle at the end of the flexible tube which is directed in accordance with the angle of the outlet member

the dispenser also including:

- a sear to hold the outlet movable member in the ready position closing of the tube by kinking prior to inhalation and

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- a breath actuable flap arranged in the body for movement on inhalation to release the sear and allow the outlet movable member to move for release of the gas or liquid.

CLAIMS:

1. A dispenser for a gaseous, gas borne or droplet substance contained in a source thereof, the dispenser including:

- a body with a mouthpiece;
- a junction in the body for the substance source; and
- a breath actuable valve, for controlling the release of the gas or liquid containing or comprising the substance, the valve comprising:
    - a flexible tube for receiving the said gas or liquid, the tube extending from a value inlet connected to the junction and having a portion which is kinkable for closure of the valve and movable to an open position in which the tube is un-kinked for opening of the valve; and
    - an outlet member arranged for movement in the body on inhalation to un-kink the valve;
- the tube being kinked to an obturating extent when the outlet movable member is in a ready position and un-kinked when the outlet moveable member is moved on inhalation for release of the gas or liquid;
- a spray nozzle at the end of the flexible tube which is directed in accordance with the angle of the outlet member

the dispenser also including:

- a sear to hold the outlet movable member in the ready position closing of the tube by kinking prior to inhalation and
- a breath actuable flap arranged in the body for movement on inhalation to release the sear and allow the outlet movable member to move for release of the gas or liquid.

2. A dispenser as claimed in claim 1, wherein the junction is movably arranged in the body for limited movement with the source on depression thereof for release of the substance, the body preferably having grooves in which protrusions on the junction engage.

3. A dispenser as claimed in claim 2, including a spring acting between the junction and the body for resisting source-depression movement of the junction.

4. A dispenser as claimed in claim 1, claim 2 or claim 3, wherein the junction is a receptor integrally moulded with the flexible tube and the outlet member, the moulding including a living hinge connecting the receptor and the outlet member.

5. A dispenser as claimed in any preceding claim, wherein the moulding has resilient bias of the outlet member towards an un-kinked condition of the flexible tube.

6. A dispenser as claimed in any preceding claim, including a spring for biasing the outlet member towards the un-kinked condition of the flexible tube.

7. A dispenser as claimed in claim 6, wherein the spring is integrally moulded with the body.

8. A dispenser as claimed in claim 4 or any of claims 5 to 7 as appendant to claim 4, wherein the body includes at least one abutment member for pivoting the outlet member on source depression movement of the receptor.

9. A dispenser as claimed in claim 8, wherein the outlet member has an opening or openings through which a finger on the abutment member(s) can pass after pivotal movement of the outlet member caused by abutment of the abutment members with the outlet member, the arrangement being such that the finger(s) engage on an opposite side of the outlet member on return movement of the receptor.

10. A dispenser as claimed in any preceding claim, wherein the breath actuatable flap is pivotably mounted in the body.

11. A dispenser as claimed in claim 8, wherein the breath actuatable flap includes a resilient member biasing the flap to a movable-member-engaging position, the flap being arranged to engage a formation in the body.

12. A dispenser as claimed in any preceding claim, wherein the outlet member has a respective nib for engaging the sears on the flap.

13. A dispenser as claimed in any preceding claim, wherein the flap is U shaped to allow an outlet stem of the source to pass the flap.

14. A dispenser as claimed in any preceding claim, wherein its springs are in a relaxed state when the source is not depressed to dispensing of a dose.