CLAIMS

1. A dental cleaning appliance comprising:

a handle;

a fluid reservoir for storing a working fluid, the fluid reservoir being at least partially delimited by a wall and a movable member which is moveable relative to the wall to vary the volume of the fluid reservoir;

a fluid delivery system for receiving working fluid from the fluid reservoir, and for delivering the working fluid to the teeth of a user; and

an expansion chamber located adjacent to the moveable member and which increases in volume as the volume of the fluid reservoir decreases, through movement of the moveable member relative to the wall, as working fluid is supplied to the fluid delivery system, the expansion chamber being open to the atmosphere to receive ambient air as the volume of the expansion chamber increases;

wherein the moveable member comprises a diaphragm which is expandable in response to a pressure difference across the surfaces thereof, the wall surrounding the diaphragm.

2. An appliance according to claim 1, wherein the wall is formed from relatively rigid material, and the moveable member is formed from relatively flexible material.

3. An appliance according to claim 1 or claim 2, wherein the wall comprises a fluid port through which working fluid is introduced to the fluid reservoir.

4. An appliance according to any preceding claim, wherein the diaphragm is annular in shape.

5. An appliance according to any preceding claim, wherein the diaphragm is tubular in shape.

6. An appliance according to claim 5, wherein the diaphragm has opposite ends which are connected to the wall.

7. An appliance according to claim 6, wherein the wall and the diaphragm extend about a common longitudinal axis.

8. An appliance according to any preceding claim, wherein the moveable member extends about the expansion chamber.

9. An appliance according to claim 8, wherein the moveable member at least partially delimits the expansion chamber.

10. An appliance according to claim 9, wherein the expansion chamber is annular in shape.

11. An appliance according to any preceding claim, wherein the expansion chamber comprises a wall which defines a port through which air enters the expansion chamber.

12. An appliance according to claim 11, wherein the appliance includes a stem and the wall of the expansion chamber extends around the stem.

13. An appliance according to claim 11 or claim 12, wherein the wall of the fluid reservoir is connected to the wall of the expansion chamber.

14. An appliance according to any preceding claim, wherein the wall of the fluid reservoir is an external wall of the appliance.

15. An appliance according to claim 14, wherein the wall of the fluid reservoir has one of a curved, a convex and a faceted shape.

16. An appliance according to claim 15, wherein the wall of the fluid reservoir has a curvature which is one of ellipsoidal, spheroidal and spherical.

17. An appliance according to any one of claims 14 to 16, wherein at least part of the wall of the fluid reservoir is transparent.

18. A cleaning tool for a dental cleaning appliance comprising a handle to which the cleaning tool is detachably connectable, the handle comprising a handle conduit system, the cleaning tool comprising:

a fluid reservoir for supplying a working fluid to the handle conduit system, the fluid reservoir being at least partially delimited by a wall and a movable member which is moveable relative to the wall to vary the volume of the fluid reservoir;

a cleaning tool conduit system for receiving a burst of working fluid from the handle conduit system and for delivering the burst of working fluid to the teeth of a user; and

an expansion chamber located adjacent to the moveable member and which increases in volume as the volume of the fluid reservoir decreases as working fluid is supplied to the handle conduit system;

wherein the moveable member comprises a diaphragm which is expandable in response to a pressure difference across the surfaces thereof, the wall surrounding the diaphragm.

19. A cleaning tool according to claim 18, wherein the wall is formed from relatively rigid material and the moveable member is formed from relatively flexible material.

20. A cleaning tool according to claim 18 or claim 19, wherein the wall comprises a fluid port through which working fluid is introduced to the fluid reservoir.

21. A cleaning tool according to any of claims 18 to 20, wherein the diaphragm is annular in shape.

22. A cleaning tool according to any of claims 18 to 21, wherein the diaphragm is tubular in shape.

23. A cleaning tool according to claim 22, wherein the diaphragm has opposite ends which are connected to the wall.

24. A cleaning tool according to claim 23, wherein the wall and the diaphragm extend about a common longitudinal axis.

25. A cleaning tool according to any one of claims 18 to 24, wherein the moveable member extends about the expansion chamber.

26. A cleaning tool according to claim 25, wherein the moveable member at least partially delimits the expansion chamber.

27. A cleaning tool according to claim 26, wherein the expansion chamber is annular in shape.

28. A cleaning tool according to any one of claims 18 to 27, wherein the expansion chamber comprises a wall which defines a port through which air enters the expansion chamber.

29. A cleaning tool according to claim 28, wherein the wall of the expansion chamber extends around the stem.

30. A cleaning tool according to claim 28 or claim 29, wherein the wall of the fluid reservoir is connected to the wall of the expansion chamber.

31. A cleaning tool according to any one of claims 18 to 30, wherein the wall of the fluid reservoir is an external wall of the cleaning tool.

32. A cleaning tool according to claim 31, wherein the wall of the fluid reservoir has one of a curved, a convex and a faceted shape.

33. A cleaning tool according to claim 32, wherein the wall of the fluid reservoir has a curvature which is one of ellipsoidal, spheroidal and spherical.

34. A cleaning tool according to any one of claims 31 to 33, wherein at least part of the wall of the fluid reservoir is transparent.