CLAIMS

1. A humidification chamber for humidifying gases, comprising:

a water tub that is configured to receive a volume of water;

a lid engageable with the water tub for enclosing the water tub to define the interior volume of the humidification chamber;

a gases inlet for receiving a flow of gases into the interior volume of the humidification chamber;

a gases outlet through which a humidified flow of gases may exit the interior volume of the humidification chamber,

wherein, the water tub is formed of rigid plastic, the water tub comprising:

a base having a heater plate secured into a complementary aperture of the base;

a perimeter wall extending upwardly from the base; and

an engagement portion of the base about a periphery of the aperture, the engagement portion being surrounded by a surrounding portion of the base and the engagement portion of the base having an overall thickness,

wherein, the heater plate comprises:

a main contact surface; and

an outer coupling ledge extending around the periphery of the main contact surface and which is vertically displaced from the main contact surface,

wherein the engagement portion of the base is moulded over at least a portion of the outer coupling ledge about its entire periphery, and

wherein the overall thickness of the engagement portion of the base is larger than a thickness of the surrounding portion of the base.

2. A humidification chamber according to claim 1 wherein the engagement portion comprises an upper portion above the outer coupling ledge of the heater plate and a lower portion below the outer coupling ledge.

3. A humidification chamber according to claim 2, wherein the upper portion of the engagement portion is at least as thick as the thickness of the surrounding portion of the base.

4. A humidification chamber according to claims 2 or claim 3, wherein the lower portion of the engagement portion is at least as thick as the thickness of the surrounding portion of the base.

5. A humidification chamber according to any one of claims 1 to 4, wherein the heater plate further comprises an upright or substantially vertical wall portion that extends around the periphery of the main contact surface.

6. A humidification chamber according to claim 5, wherein the outer ledge portion extends outwardly from the top of the upright or substantially vertical wall portion around the perimeter of the heater plate.

7. A humidification chamber according to any one of claims 1 to 6, wherein the heater plate is circular.

8. A humidification chamber according to any one of claims 1 to 7, wherein the complementary aperture in the base surface of the water tub is circular.

9. A humidification chamber according to any one of claims 1 to 8, wherein the main contact surface is circular.

10. A humidification chamber according to any one of claims 1 to 9, the main contact surface protrudes or extends beyond the surrounding portion of the base of the water tub.

11. A humidification chamber according to any one of claims 1 to 10, wherein the heater plate is metallic.

12. A humidification chamber according to claim 11, wherein the heater plate is aluminium.

13. A humidification chamber according to claim 11 or claim 12, wherein the heater plate is pressed or shaped from sheet metal.

14. A humidification chamber according to any one of claims 1 to 13, wherein the main contact surface is flat.

15. A humidification chamber according to any one of claims 1 to 13, wherein the main contact surface is outwardly domed or convex.

16. A humidification chamber according to any one of claims 1 to 13, wherein the main contact surface is configured to, in use, contact a heater pad of a humidifier.

17. A humidification chamber according to claim any one of claims 1 to 14, wherein the lid is hingedly coupled to the water tub, and is moveable between a closed position in which the water tub is closed by the lid and an open position in which the water tub is open.

18. A humidification chamber according to claim 15, further comprising one or more operable clips for securing the lid in the closed position.

19. A humidification chamber according to any one of the preceding claims, wherein the lid and water tub are hingedly coupled by a living hinge and are integrally formed as a single item.

20. A humidification chamber according to any one of the preceding claims, wherein the gases inlet and gases outlet are provided on the lid.

21. A humidification chamber according to claim 20, wherein the gases inlet and gases outlet are provided on opposite sides of the lid.

22. A system comprising:

a humidification chamber according to any one of the preceding claims; and

a respiratory assistance device configured to provide a heated and humidified gases stream, wherein the respiratory assistance device comprises:

a device gases inlet configured to receive a supply of gases;

a blower configured to generate a pressurised gases stream from the supply of gases;

a humidifier configured to heat and humidify the pressurised gases stream;

a device gases outlet for the heated and humidified gases stream; and

a flow path for the gases stream through the respiratory device from the device gases inlet though the blower unit and humidification unit to the device gases outlet,

wherein the humidifier comprises a humidification compartment that is configured to removeably receive and retain the humidification chamber.

23. A system according to claim 22, wherein the humidification compartment comprises a heater pad upon which the humidification chamber sits.

24. A system according to claim 22 or claim 23, wherein the device is a CPAP respiratory device.

25. A system according to any one of claims 22 to 24, further comprising a gases conduit in fluid communication with the device gases outlet.

26. A system according to claim 25, further comprising a user interface in fluid communication with the gases conduit, the user interface configured to deliver the flow of gases to a patient.

27. A system according to claim 26, wherein the user interface is a nasal mask.

28. A system according to claim 26, wherein the user interface is a nasal cannula.