CLAIMS

1. An invention not claimed in any divisional application~~A humidification apparatus including:~~

~~a humidification chamber having a heater base,~~

~~a compartment having a heater plate and a compartment body that receives the humidification chamber,~~

1. ~~a coupling that acts between the humidification chamber and the body of the compartment, and the coupling is operable to hold the heater base relative to the heater element at a holding force~~.

~~2. The humidification apparatus according to claim 1, wherein the holding force is against biasing.~~

~~3. The humidification apparatus according to claim 2, wherein the biasing is:~~
~~a) in or part of the heater plate, or~~
~~b) in or part of the heater base, or~~
~~c) in or part of the humidification chamber, or~~
~~d) in or part of the compartment body.~~

~~4. The humidification apparatus according to any one of the preceding claims, wherein the coupling holds the humidification chamber relative to the compartment body.~~

~~5.The humidification apparatus according to any one of the preceding claims, wherein the holding force is a pressing force that actively presses the heater base to the heater plate when the humidification chamber is in an operating position in the compartment body.~~

~~6. The humidification apparatus according to any one of the preceding claims, wherein at least part of the coupling is on the humidification chamber and/or at least part of the coupling is on the compartment body.~~

~~7. The humidification apparatus according to claim 4, wherein the part of the coupling on the humidification chamber is complementary and engageable with the part of the coupling on the compartment body.~~

~~8. The humidification apparatus according to any one of the preceding claims, wherein the coupling acts in a direction transverse to direction of insertion of humidification chamber into the compartment body.~~

~~9. The humidification apparatus according to any preceding claim, wherein the coupling has at least one latch to hold the humidification chamber relative to the compartment body.~~

~~10. The humidification apparatus according to any preceding claim, wherein the coupling has at least one recess to hold the humidification chamber relative to the compartment body.~~

~~11. The humidification apparatus according to claim 10 when dependent on claim 9, wherein the at least one latch is on the humidification chamber and the at least one recess is on the compartment body~~

~~12. The humidification apparatus according to any one of claims 9 to 11, further comprising an actuator for the latch.~~

~~13. The humidification apparatus according to claim 12, wherein the actuator is configured to facilitate retracting and extending the latch.~~

~~14. The humidification apparatus according to claim 13, wherein the actuator is configured to be manipulated to retract the latch.~~

~~15. The humidification apparatus according to claim 13, wherein the actuator is configured to extend the latch.~~

~~16. The humidification apparatus according to any one of claims 12 to 15, wherein the actuator is configured to be manipulated to:~~
~~retract the latch to enable insertion of the humidification chamber into the compartment, and/or~~
~~retract the latch from the recess of the at least one compartment wall to remove the humidification chamber from the compartment.~~

~~17. The humidification apparatus according to any one of claims 12 to 16, wherein the latch is a sliding shaft and the actuator is configured to be released to allow the sliding~~

~~shaft to extend into the recess located on the at least one compartment wall to hold the humidification chamber relative to the compartment body.~~

~~18. The humidification apparatus according to any one of claims 12 to 17, wherein the actuator has a biasing member that can move the latch(s) from a retracted position to an extended position.~~

~~19.The humidification apparatus according to claim 11, wherein the at least one latch has a slidable shaft that moves between:~~

~~i) an active position in which the shaft acts between the humidification chamber and the body of the compartment, in which the shaft is received by and engages the recess of the compartment body; and~~
~~ii) an inactive position, in which the shaft is disengaged from the recess and the humidification chamber can be removed from compartment.~~

~~20. The humidification apparatus according to claim 19, wherein the coupling has a finger tab for moving the at least one slidable shaft~~

~~21. The humidification apparatus according to claim 19 or 20, wherein the coupling has a biasing member that can move the shaft from the inactive position to the active position.~~

~~22. The humidification apparatus according to claim 21, wherein the coupling includes two shafts that are active from opposed sides of the humidification chamber and two recesses on the compartment body.~~

~~23. The humidification apparatus according to claim 22, wherein the two shafts each have one of the finger tabs, and the finger tabs and can be operated in one handed of the user so that the finger tabs can be squeezed toward each other to move the shafts into the inactive position, and released to allow the biasing member to move the shafts outward.~~

~~24. The humidification apparatus according to claim 22 or 23, wherein the shafts have a chamfered surface on the underside of outer ends of the shafts that engage the compartment body and move inwardly against the biasing member while the humidification chamber is being inserted into the compartment body, and when the~~

outer ends of the shafts align with the recesses the first biasing can move the shafts into and engage the recesses.

25. The humidification apparatus according to any one of claims 22 to 24, wherein the recesses are arranged on the compartment body so that as the humidification chamber approaches the operating position within the compartment body, the heater base and heater plate engage and in order for the outer ends of the shafts to be received by the recesses in the active position, the user applies an inward force to the humidification chamber which generates the holding force, and in turn the outer ends of the shafts are aligned with and received by the recesses and the holding force is maintained by the shafts engaging the recesses when the user stops pressing on the humidification chamber.

26. The humidification apparatus according to any one of the preceding claims, wherein the compartment is configured to receive the humidification chamber vertically.

27. The humidification apparatus according to any one of the preceding claims, wherein the humidification chamber has a base wall and a side wall extending from the base wall, and a chamber inlet for supplying the gas stream into the humidification chamber and a chamber outlet, and an insertion clearance is provided between the compartment body and the humidification chamber, and a water spillway is provided between the humidification chamber and the compartment body that has a greater width than insertion clearance, in which the water spillway is located adjacent to the chamber inlet.

28. The humidification apparatus according to claim 27, wherein the water spillway is provided by at least one of:

i) a lower portion of the chamber inlet being set inwardly relative to an upper portion of the chamber inlet; and

ii) the side wall of the humidification chamber below the chamber inlet being set inwardly to form a channel.

29. The humidification apparatus according to any one of the preceding claims, wherein the humidification chamber has an inner top wall and an outer top wall, and an outwardly facing depression is defined by an exposed apart of the inner top wall that faces outwardly and sections of the outer top wall arranged about the exposed part of the inner top wall, and at least part of the coupling is located in the depression.

30. The humidification apparatus according to claim 29 when appended to claim 20, wherein the finger tabs are located in the depression and can operated by a user inserting the fingers into the depression and moving the finger tabs within the depression.

31. The humidification apparatus according to claim 29 or 30, wherein the sections of the outer top wall arranged about the exposed part of the inner top wall define air cavities that face inwardly into the humidification chamber.

31. The humidification apparatus according to claim 27, wherein the humidification chamber has a first passageway extending from a chamber inlet for supplying the gas stream into the humidification chamber to a central inlet, and a second passageway extending from a central outlet to a chamber outlet for discharging the gas stream.

32. A humidification chamber that can be received by a compartment body of a humidification apparatus, in which the humidification chamber includes:

a heater base,

a coupling that acts between the body of the compartment and the humidification chamber when installed in an operating position, and the coupling is operable to hold the heater base to the heater plate at a holding force.

33. A humidification compartment, comprising:

a body having a heater plate, in which the body receives a humidification chamber with a heater base,

a coupling that acts between the body of the compartment and the humidification chamber, and the coupling is operable to hold the heater base relative to the heater plate at a holding force.

34. A humidification apparatus, comprising:

a humidification chamber, comprising:

a heater base,

a latch located in a depression on top of the humidification chamber, the latch comprising:

first and second sliding shafts that extend in opposite directions,

the first and second finger tabs being connected to the shafts,

a spring disposed to bias the finger tabs away from each other,

a compartment body comprising:

a heater plate,

~~a receptacle defined by a side wall and a base wall, the heater plate located on the base wall, and recesses provided in the side wall that receive the shafts when the humidification chamber is received by the compartment body in an operating position.~~

~~35. The humidification apparatus according to claim 34, wherein the shafts and recesses provide a coupling that act between the body of the compartment and the humidification chamber to hold the heater base to the heater plate at a holding force.~~