U.S. NON-PROVISIONAL PATENT APPLICATION

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TITLE: GRILL PROVIDING RECYCLED CONDENSATE FOR HEATED APPARATUS

RELATED APPLICATIONS

This patent application claims the priority of provisional patent application serial number 62/366,876, filed July 26, 2016, the contents of which are incorporated herein.

BACKGROUND OF THE INVENTION

This invention relates to redirecting condensate formed in an operating device generating heat and a rising vapor and a grill thereabove which allows the vapor to pass therethrough but generates condensation thereon due to the temperature difference between the heat generating device and the vapor as compared to the grill. The grill has a lower center than its outside perimeter, and the condensate migrates toward the center, thereby dropping thereon being reheated and reused,

A preferred embodiment of this invention comprises a heating plate, a mat or pad carrying a liquid ingredient and a grill thereabove where the mat is heated to evaporate the liquid ingredient to form the rising vapor which causes condensate to form on the grill.

Prior art grills generally have a convex shape formed of ribs through which the evaporated liquid or rising vapor passes. An example of such prior art is shown in W097/04817. Some rising vapor passes therethrough, and condensate forms mostly on the surface of the ribs facing the heating plate. This condensate drips onto the outer portions or periphery of the device causing potential damage. The grill is provided to keep the user's fingers away from the heating plate.

CLAIMS:

1. A device (10) for dispensing a volatile substance, comprising an operating device configured to generate heat to create a rising heated vapor passing through a grill located above said operating device,

   said heated vapor passing through said grill,
   said grill (12) comprising a plurality of openings, an outer periphery (30) and a center (53),

   characterized in that said center of said grill (12) is formed below the outer
   periphery (30) of said grill (12), such that condensate formed on said grill (12) when said rising heated vapor passes therethrough migrates toward the center (53) of said grill (12).

2. A device according to claim 1, wherein said grill (12) is formed by a plurality of openings allowing said rising heated vapor to pass therethrough.

3. A device according to claim 1, wherein said grill (12) is formed of a plurality of ribs (28).

4. A device according to claim 3, wherein said plurality of ribs (28) form geometric shapes.

5. A device according to claim 1, wherein said grill (12) has a concave shape so that said center (53) is below said periphery (30).

6. A device according to claim 1, wherein said periphery (30) of said grill (12) comprises a round shape (60).

7. A device according to claim 1, wherein said periphery (30) of said grill (12) is substantially rectangular (12).

8. A device according to claim 6, wherein said periphery (30) of said grill (12) comprises two pairs of opposite sides of which one pair is curved and the other is straight.

9. A device according to claim 2, wherein said plurality of openings are formed as rows (64).

10. A device according to claim 1, wherein said grill comprises a high temperature nylon.

11. A device according to claim 1, wherein said operating device (10) comprises

a heating plate (14),

an impregnated mat (16) on top of said heating plate carrying a liquid, and said heating plate (14) heating said mat (16) to volatilize said liquid to form said rising heated vapor.