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(54) Title: MODULAR GALLEY UNIT INCLUDING BEVERAGE MAKER

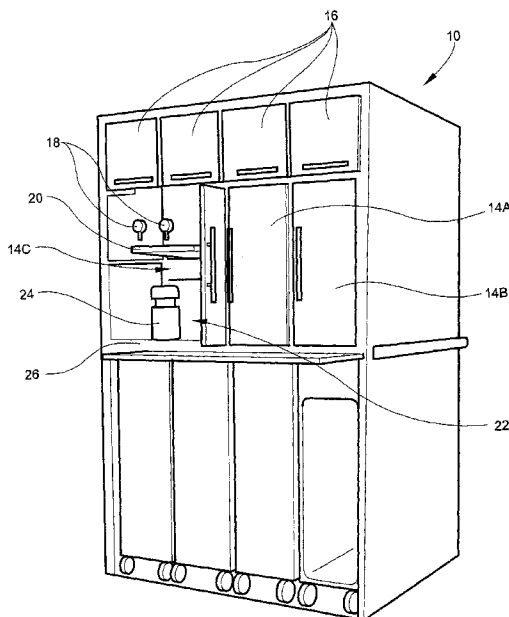


Fig. 1

(57) Abstract: A galley unit comprising a plurality of mid-level modules and a plurality of high-level modules that are assembled together to form a modular galley unit, wherein at least one of the mid-level modules is a beverage maker unit. A combination comprising an aircraft and a modular galley unit, wherein at least one of the modules is a beverage maker unit.

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MODULAR GALLEY UNIT INCLUDING BEVERAGE MAKER

TECHNICAL FIELD AND BACKGROUND OF THE INVENTION

[0001] The present invention relates generally to the interior fittings of vehicles, and more specifically, to a modular beverage maker unit for use with a modular galley unit of a passenger vehicle.

[0002] Passenger vehicles such as trains, buses, and aircraft typically include one or more galley units for storing and preparing food. These units include features such as storage, refrigeration, heating, and liquid-handling in various combinations. The types and quantity of equipment vary depending on the size and configuration of the vehicle. Currently, liquid handling portions of the galley (i.e., beverage makers or coffee carafes) have a different configuration from other portions of the galley unit, which limits the design flexibility of the galley unit, especially if the galley unit has a modular configuration.

[0003] Accordingly, there is a need for a beverage maker which is compatible with a modular galley construction.

[0004] Similarly, there is a need for a beverage maker that itself is modular and contains within its structure all necessary elements to function as needed.

SUMMARY OF THE INVENTION

[0005] Therefore, it is an object of the present invention to provide a beverage maker unit adapted for use with a modular galley unit for a passenger vehicle.

[0006] It is another object of the invention to provide beverage maker unit that includes within its structure all necessary elements to function as needed.

[0007] It is yet another object of the invention to provide a beverage maker that includes a water and power utility connections.

[0008] It is a further object of the invention to provide a beverage maker that includes a nozzle for dispensing hot or cold water.

[0009] It is a further object of the invention to provide a beverage maker that includes a heating element for heating liquid.

[0010] It is a further object of the invention to provide a beverage maker that includes at least one beverage serving container.

[0011] It is a further object of the invention to provide a beverage maker unit for a modular galley unit that has exterior dimensions substantially similar to those of other mid-level units. Accordingly, the beverage maker, whether it be an integral unit or a separate module, is adapted to be mounted in the galley unit using the same dimensions and interface points as the other mid-level units.

[0012] These and other objects of the present invention are achieved in the preferred embodiments disclosed below by providing a beverage maker unit for a modular galley unit. The beverage maker is contained in a space envelope common to other galley function units.

[0013] According to a preferred embodiment, the present invention provides a galley unit comprising a plurality of mid-level modules and a plurality of high-level modules that are assembled together to form a modular galley unit, wherein at least one of the mid-level modules is a beverage maker unit.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] The invention may be best understood by reference to the following description taken in conjunction with the accompanying drawing figures in which:

[0015] Figure 1 is a perspective view of a galley unit constructed including a beverage maker according to one aspect of the invention;

[0016] Figure 2 is a front view of a mounting structure which connects to the beverage maker of Figure 1;

[0017] Figure 3 is a perspective view of a galley unit including a beverage maker according to another embodiment of the invention;

[0018] Figure 4 is a perspective view of the beverage maker shown in Figure 3 with one of the carafe trays extended from the galley unit housing; and

[0019] Figure 5 is a perspective view of the beverage maker shown in Figure 3 with the filter tray extended from the galley unit housing;

DESCRIPTION OF THE PREFERRED EMBODIMENT AND BEST MODE

[0020] Referring now specifically to the drawings, wherein identical reference numerals denote the same elements throughout the various views, an exemplary galley unit **10** constructed according to the present invention is illustrated in Figure 1. The galley unit **10** includes a plurality of sub-units that may be constructed as integral parts of the galley unit **10**, or built-up from a selection of modules. In the illustrated example, the galley unit **10** includes a plurality of mid-level units **14A-C**, and a plurality of high-mounted units **16** that are assembled together to form a modular galley unit. The mid-level units **14A-C** are positioned at a convenient working

height, and thus would typically include some functional features. For example, unit **14A** may be an oven which includes heating elements and temperature controls for reheating packaged meals, and unit **14B** may be a refrigerator which includes a cooling system for storing chilled foods at a predetermined temperature. The high-mounted units **16** may be used as storage compartments for foods, condiments, utensils, or the like. A plurality of wheeled carts are preferably stowed beneath the mid-level units and include casters.

[0021] One of the mid-level sub-units is beverage maker **14C**. The beverage maker includes water dispenser nozzles **18**, for dispensing hot, cold, or room-temperature water or other liquid, as well as water heating and/or cooling equipment of a known type (not shown) operatively connected to the nozzles **16**. A slide-out tray **20**, optionally having a drainage provision, can be provided under the nozzles for supporting items or for capturing drips. A compartment **22** is sized and shaped to store one or more beverage serving containers, such as a carafe **24**, and may include conventional brewing equipment for coffee, tea, or other hot beverages. A slide-out tray **26**, optionally having a drainage provision, can be provided about the base of the beverage maker unit for supporting the carafe **24**, and may include heating elements or a heating pad for maintaining a desired temperature of the contents of the carafe **24**.

[0022] The exterior dimensions of the beverage maker **14C** are substantially similar or the same as the other mid-level units **14**. Accordingly, the beverage maker **14C**, whether it be an integral unit or a separate module, can be mounted in the galley unit **10** using the same dimensions and interface points as the other mid-level units **14**. The beverage maker is thus a modular unit that may be a component of a modular galley unit or may also function as a stand-alone unit. The beverage maker **14C** may be replaced by other mid-level units, such as **14A** and **14B**, and the other mid-level units such as **14A** and **14B** may be replaced with another beverage maker **14B** to expand capacity.

[0023] The galley unit **10** or another structure to which the beverage maker **14C** is mounted may include utility connections **28** (see Figure 2) for the beverage maker **14C**, such as an electrical power connector **30**, a potable water supply connector **32**, and a waste water drain **34**. The utility connections **28** are configured with known types of quick-connect fittings that mate with complementary fittings of the module (not shown) as the beverage maker **14C** is pushed into place in the galley unit **10**.

[0024] Referring now to Figures 3, 4 and 5, an alternative embodiment of a beverage maker is shown at broad reference numeral **100**. As with the other embodiments disclosed, the beverage maker **100** includes a housing **102** sized and arranged to slide into and interface with various utility connections. See Figure 2. Beverage maker **100** includes a sink **104** positioned beneath hot and cold water supply spigots **106** and a pair of slide-out carafe trays **108** that support beverage carafes **110**. The carafe trays **108** contain heating elements that maintain desired beverage temperature in the carafes **110**, and are adapted to slide out far enough to allow ready access to the rear carafes **110**. The sink **104** functions to catch drips or splashes from the carafes **110** positioned on the carafe trays **108**, as well as water from the water spigots **106**.

[0025] As is best shown in Figure 5, the beverage maker **100** also includes a slide-out filter tray **112** that includes filter openings **116** to receive coffee filters for brewing coffee and allowing the brewed coffee to drip into the carafes **110** positioned directly below on the trays **108**. Water supplied from a tank **118**, shown schematically, is conveyed to a position above the filter tray **112** and dispensed onto the filter openings **116**. When brewing coffee, the filter **112** is slid out and loaded with filters containing coffee grounds, slid back into position over the carafes **110**, as shown in Figures 3 and 4, and the brewing process initiated at a control panel, not shown.

[0026] The modular galley unit is preferably installed within an aircraft, train, bus or any other vehicle including a passenger compartment and a passenger servicing compartment.

[0027] A galley unit with a beverage maker is described above. Various details of the invention may be changed without departing from its scope. Furthermore, the foregoing description of the preferred embodiment the invention and the best mode for practicing the invention are provided for the purpose of illustration only and not for the purpose of limitation.

What is claimed is:

1. A galley unit comprising a plurality of mid-level modules and a plurality of high-level modules that are assembled together to form a modular galley unit, wherein at least one of the mid-level modules is a beverage maker unit.
2. The galley unit according to claim 1, wherein the galley unit includes an electrical utility connection and a water supply utility connection, and the beverage maker unit connects to electrical utility connection and the water supply connection of the galley unit.
3. The galley unit according to claim 1, wherein the beverage maker unit includes at least one nozzle for dispensing a liquid.
4. The galley unit according to claim 1, wherein the beverage maker unit includes at least one carafe tray, at least one carafe, at least one filter tray and at least one heating pad for heating the at least one carafe.
5. The galley unit according to claim 1, wherein the beverage maker unit includes a sink and a waste water drain.
6. The galley unit according to claim 1, wherein the beverage maker unit includes a water supply tank.

7. The galley unit according to claim 1, wherein the beverage maker unit defines a compartment for storing at least one carafe therein.

8. A combination, comprising:

an aircraft including a passenger servicing compartment; and

a modular galley unit installed within the passenger servicing compartment, the modular galley unit including a plurality of mid-level modules and a plurality of high-level modules that are assembled together to form the modular galley unit, wherein at least one of the mid-level modules is a beverage maker unit.

9. The combination according to claim 8, wherein the galley unit includes an electrical utility connection and a water supply connection for connecting the beverage maker unit thereto.

10. The galley unit according to claim 8, wherein the beverage maker unit includes a nozzle for dispensing a liquid, a carafe, a carafe tray, a filter tray, a coffee maker, a heating pad, a sink, a waste water drain, and a compartment for storing the carafe therein.

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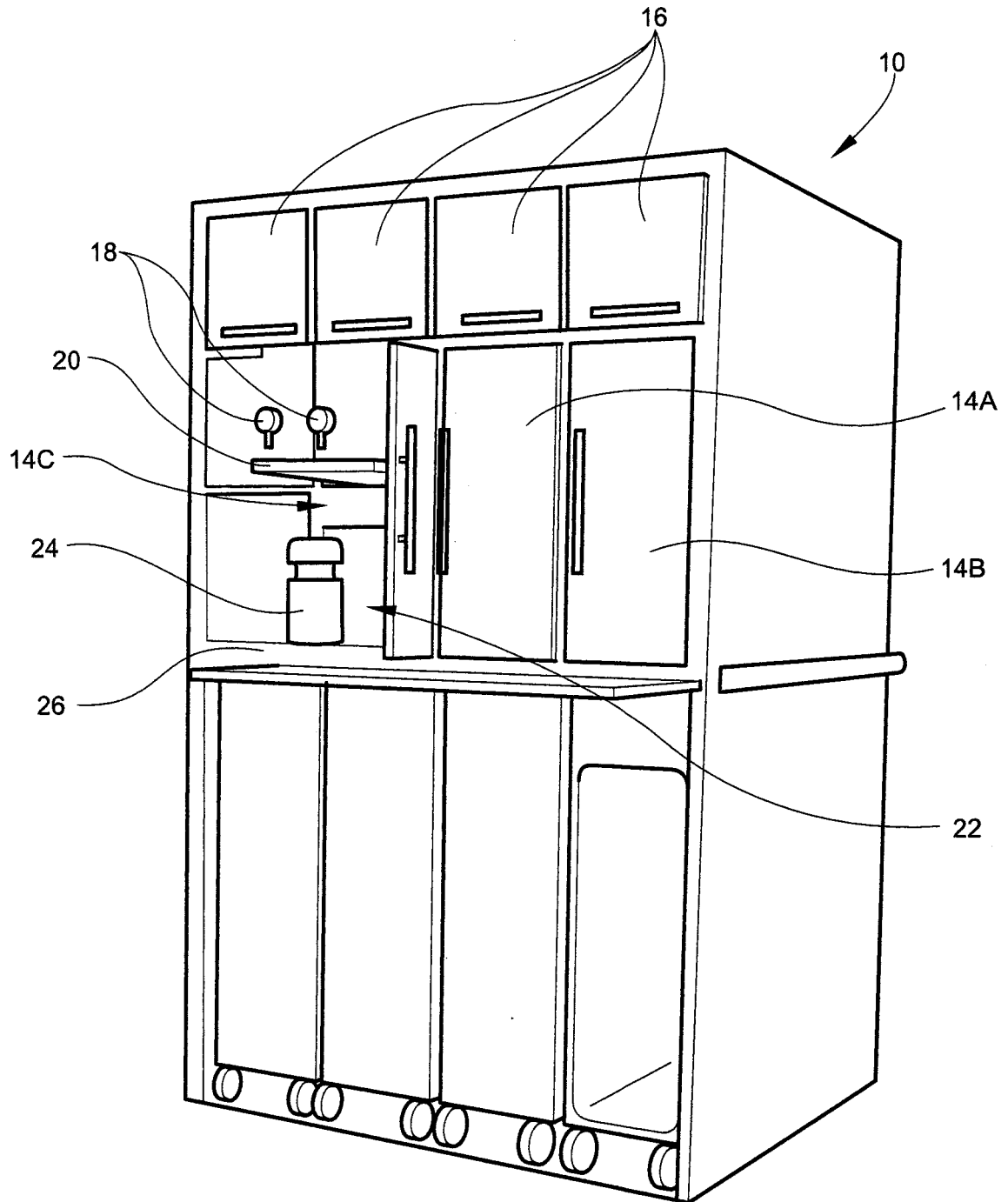


Fig. 1

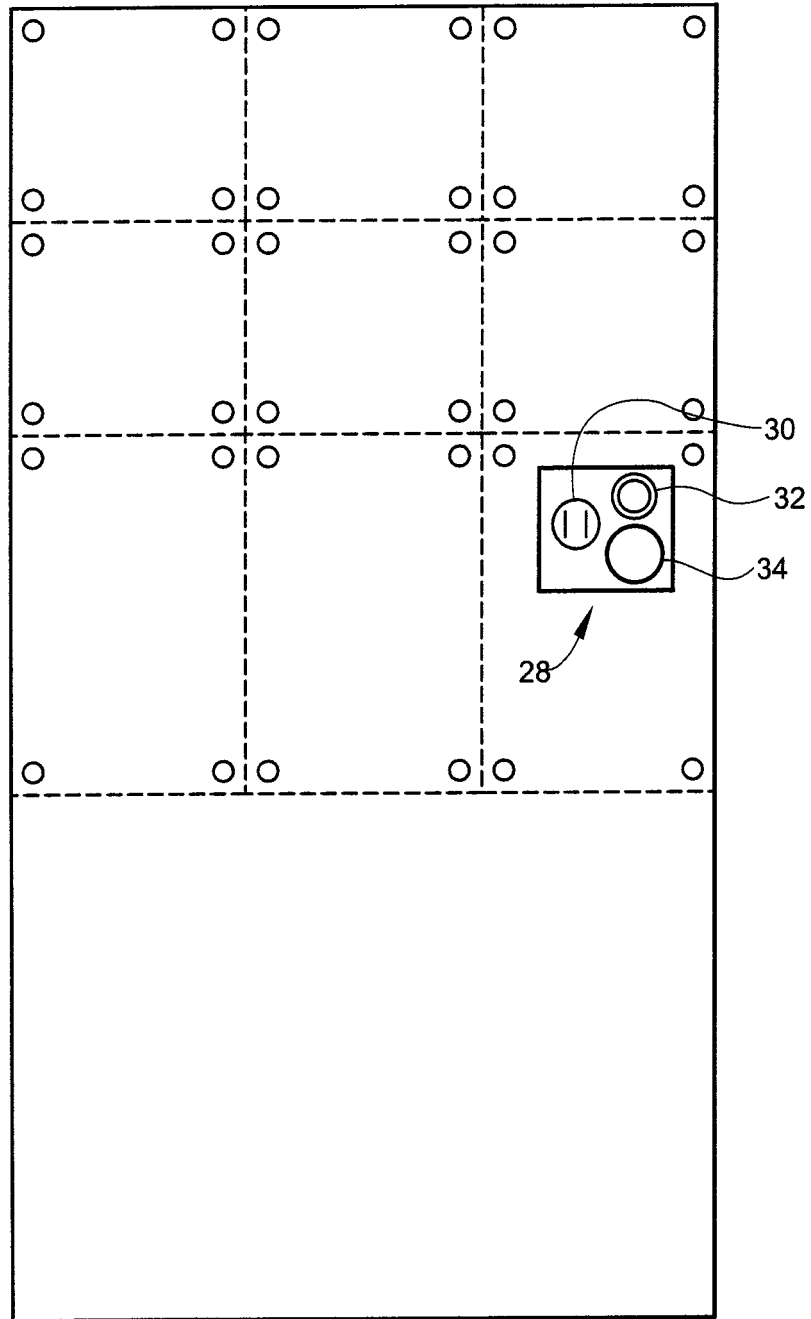
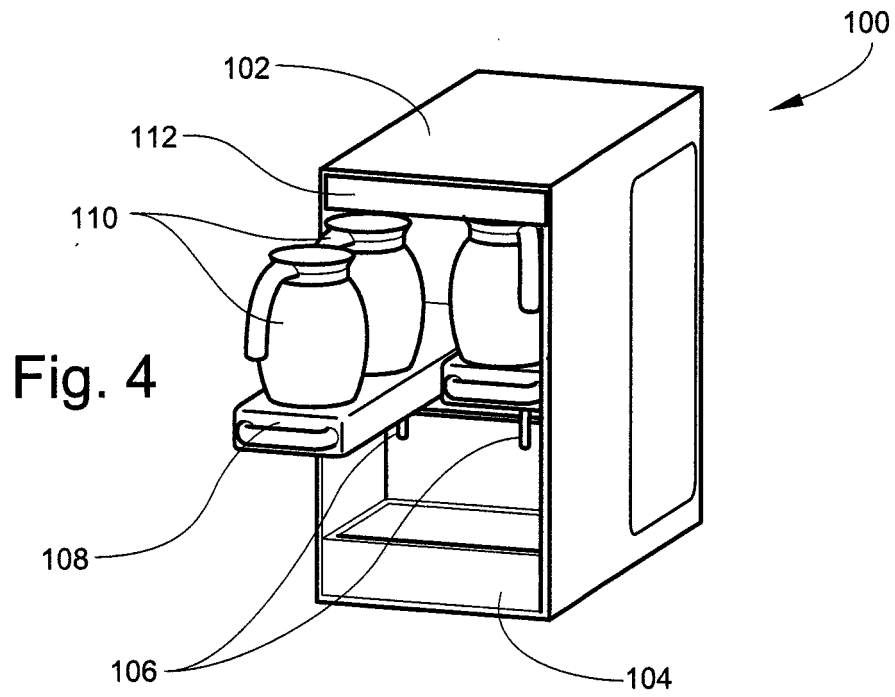
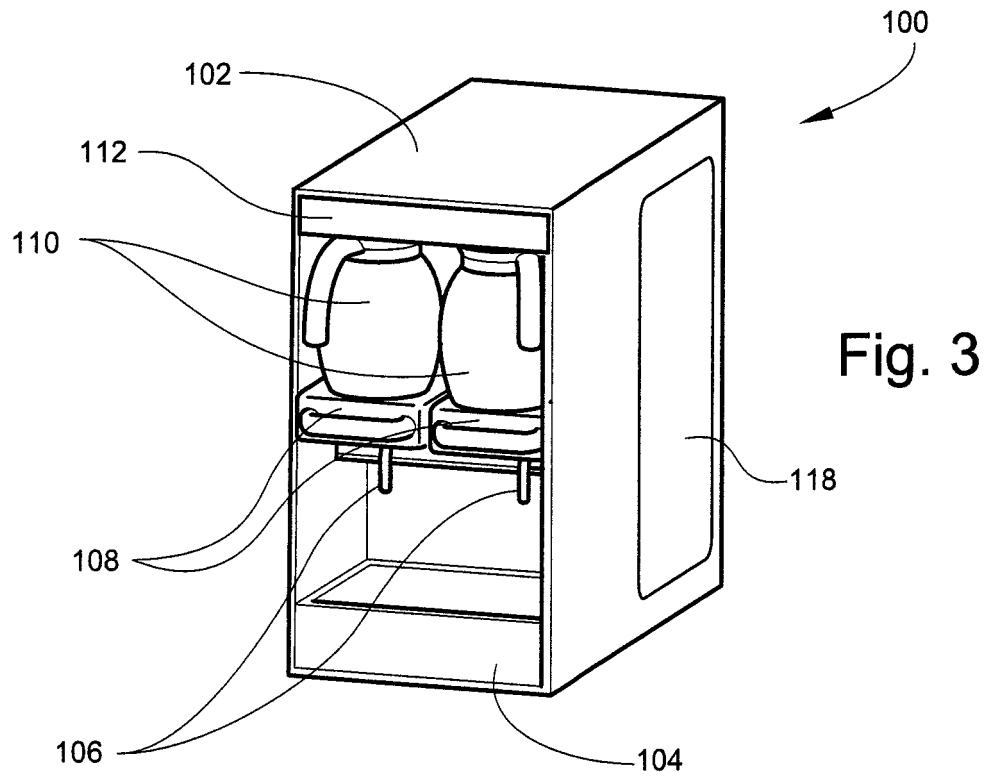


Fig. 2

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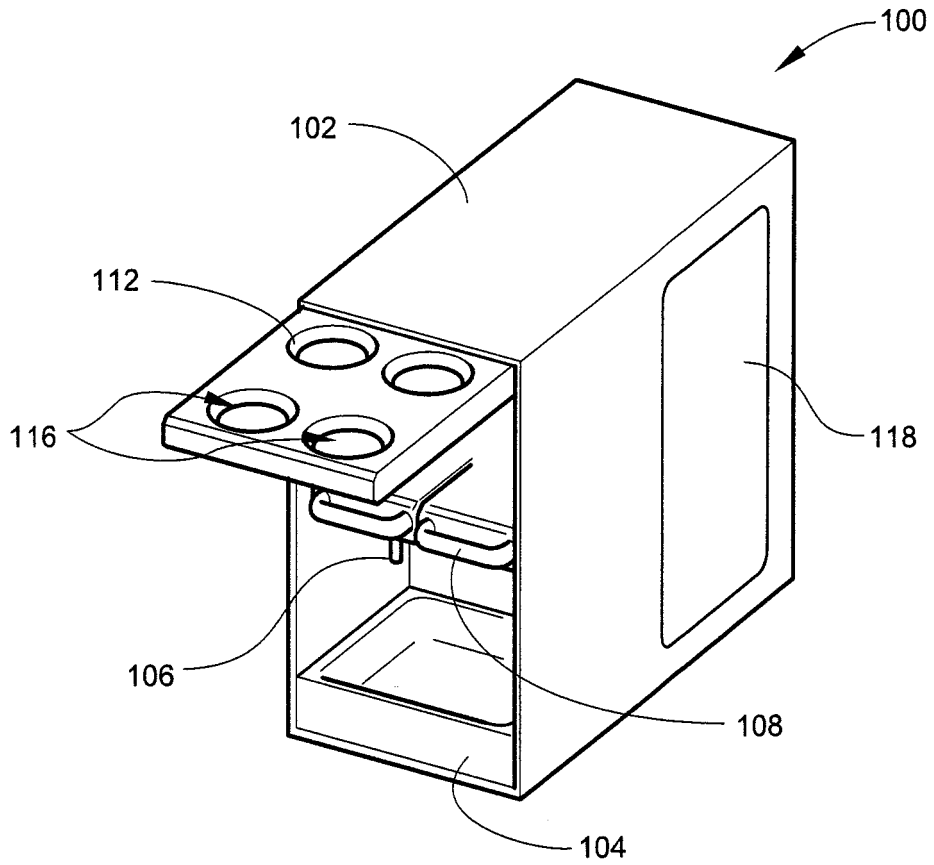


Fig. 5