(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 281 567 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
14.02.2018 Bulletin 2018/07

(51) Int Cl.:
A47G 19/12 *(2006.01)* ***A47G 19/22*** *(2006.01)*
B65D 1/06 *(2006.01)*

(21) Application number: **16183278.7**

(22) Date of filing: **08.08.2016**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA MD

(71) Applicant: **RIPRUP Company S.A.**
St. Peter Port GY1 WQ (GG)

(72) Inventor: **SCHUCKER, Josef**
GY 1 1 WG (GG)

(74) Representative: **Wittmann, Günther**
Patentanwaltskanzlei Wittmann
Frans-Hals-Straße 31
81479 München (DE)

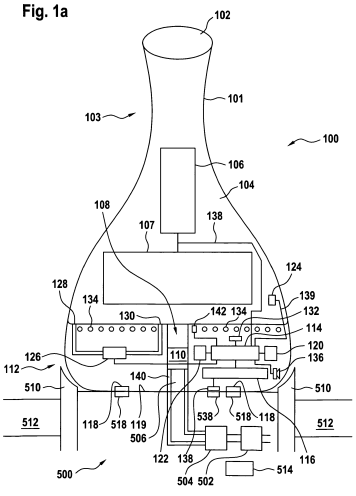
(54) **INTELLIGENT CARAFE**

(57) The invention relates to a carafe, having
- an opening in an upper section;
- a lower section;
- a wall extending from the lower section to the upper section, wherein said walls and lower section define a container, in which a liquid may stored;
- a positioning element for positioning the carafe on a furniture, wherein said positioning element is adapted such that the surface of the furniture is not affected by placing and/or moving the carafe on the surface of the furniture; and
- a valve element positioned in an opening in the lower section, wherein said valve element is configured such that a liquid may flow from underneath the lower section into the container and no liquid must flow from said container through the valve.

The invention also relates to a liquid dispenser adapted to dispense a drinkable liquid, comprising:
- a securing element for securing a carafe therewith;
- a liquid pump element adapted to pump a the liquid; and
- a liquid output opening or nozzle for outputting the liquid to the carafe;

wherein the liquid dispenser is adapted to output the liquid from the output opening or the nozzle into the carafe in an upward direction.

Fig. 1a



EP 3 281 567 A1

(Cont. next page)

Fig. 1b

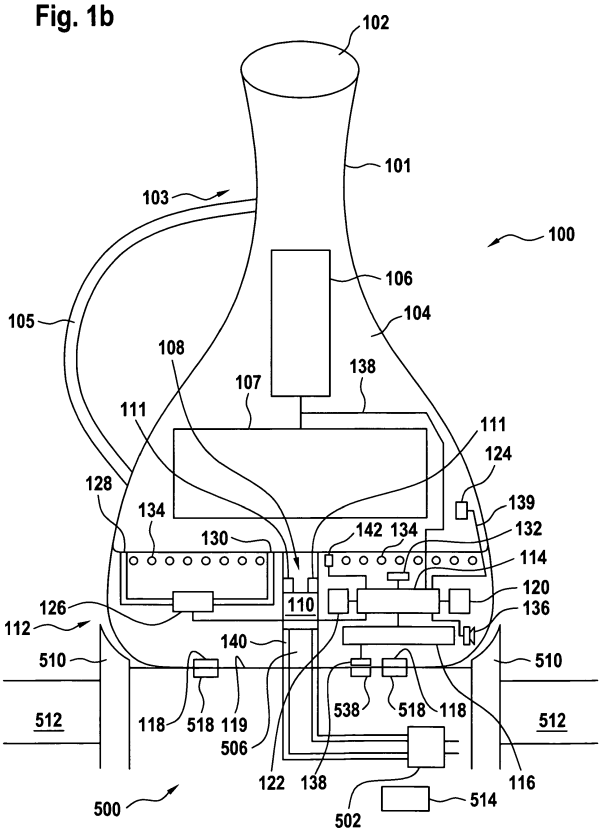
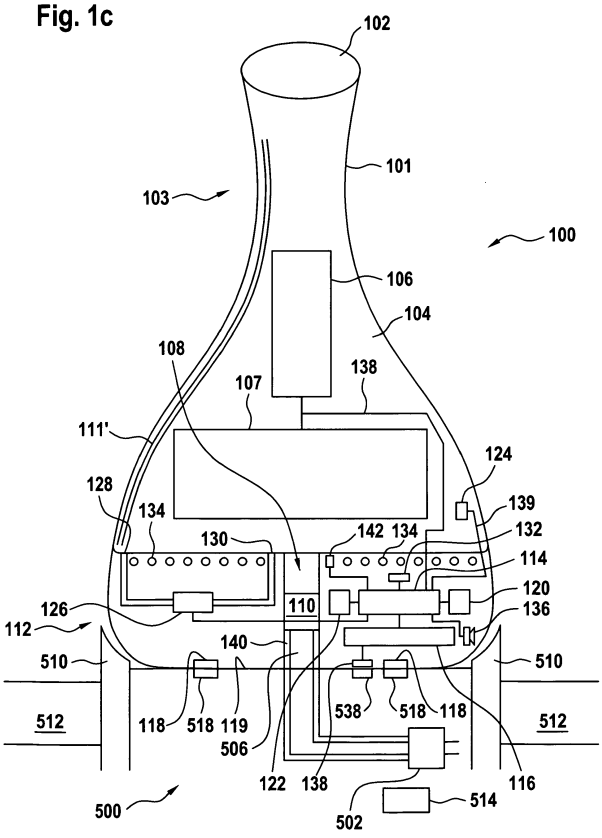

102
101
103
100
106
104
105
108
107
138
111
111
124
128
139
134
130
142
134
132
114
120
126
110
136
112
140
510
510
512
512
118
518
119
538
518
118
506
122
138
116
500
502
514

Fig. 1c


102
101
103
100
106
104
108
107
138
111'
124
128
139
134
130
142
134
132
114
120
126
110
136
112
140
510
510
512
512
118
518
119
538
518
118
506
122
138
116
500
502
514

Description

[0001] The present invention relates to the intelligent houseware. Particularly, the present invention relates to an intelligent carafe. The intelligent houseware may be a container, a carafe and the like.

[0002] Housewares, like container, carafe and the like, are used since thousands of years. Such housewares have not changed despite their long-term of use, except that they are increasingly made of plastic instead of ceramics, glas and metal.

Related art

[0003] Housewares are used for storing food, beverages or the like. Carafes are used for storing beverages. There is an increasing demand for houseware that displays information and to which information may be assigned.

[0004] Further, prior art housewares and carafes cannot inform about properties of the food stored.

[0005] Prior art houseware and carafes are not able to cool or circulate food stored therein.

[0006] Further, prior art carafes have to be filled by apparatus that are at least as high as the carafe. Further, prior art apparatus for filling a carafe require a cantilever arm for supplying the carafe with water.

[0007] It is an object of the present invention to provide a carafe solving the problems of the prior art carafe.

[0008] The object of the invention is solved by a carafe according to claim 1. The depending claims claim preferred embodiments.

[0009] An inventive carafe comprises an opening in an upper section of the carafe and a lower section. The carafe comprises a wall extending from the lower section to the upper section. The walls and the lower section define a container in which a liquid may be stored. The carafe further comprises a positioning element for positioning the carafe on furniture. The positioning element is adapted such that the surface of the furniture is not affected by placing and/or moving the carafe on the surface of the furniture. The positioning means may be adapted to position the carafe in a stable stance on the surface of the furniture. The carafe comprises a valve element positioned in an opening in the lower section. The valve element is configured such that a liquid may flow from underneath the lower section into the container and that no liquid must flow from the container through the valve.

[0010] The carafe may further comprise a gripping section on the wall, wherein a user may hold the carafe at the gripping section. The gripping section may comprise a smaller diameter as the lower section and/or upper section of the carafe. The carafe may comprise vertical walls. The gripping section may be a handle.

[0011] The lower section may comprise a sealing around the valve. The liquid may flow through the opening and valve into the carafe and not out of the carafe.

[0012] The carafe according to the present invention has the advantage that the carafe may be filled from its lower portion and not by its upper opening. Thereby, an apparatus for filling a carafe may be designed smaller and less high. The apparatus for filling a carafe may be mounted underneath a workplate of a kitchen.

[0013] In another embodiment the liquid dispenser may be a on table dispenser that may be placed on the workplate. The liquid dispenser may fill the carafe according to the present invention through the valve in the lower section of the carafe.

[0014] The valve element may comprise a riser pipe extending from the lower section through the container. The riser pipe may act as a valve element, since no liquid may flow out of the carafe through the riser pipe as long as the liquid level in the carafe is lower than the opening of the riser pipe, i.e. the upper opening of the riser pipe.

[0015] In another embodiment the carafe may comprise a check valve. The check valve only allows a liquid flow in one direction. The check valve is mounted such, that the liquid may only flow into the carafe at the lower section and not out of the carafe.

[0016] The carafe may comprise a fastening means that are adapted to interact with complementary fastening means of a liquid dispenser adapted to fill the carafe through the opening in the lower section. The carafe may be rotated such that the fastening means of the carafe and the complementary fastening means of the water dispenser are reasonably locked. The fastening means may comprise bayonet elements

[0017] The liquid may be water. The liquid dispenser may be a water dispenser, soft drink dispenser or any other beverage dispenser.

[0018] The carafe may comprise an active cooling element adapted to cool the liquid in the carafe. In one embodiment, the active cooling element may be a Peltier element. The active cooling element may be based on adsorption refrigeration, absorption refrigeration, such as a system based on zeolite.

[0019] In one embodiment the carafe may comprise a phase change material adapted to cool the liquid in the carafe. Phase change materials are known to the person skilled in the art. Phase change materials change from the liquid aggregate state to the solid aggregate state, if the phase change material is cooled. If the phase change material cools the liquid in the container, the aggregate state of the phase change material changes from solid to liquid.

[0020] The carafe may comprise at least one insulation element insulating the container from the outer surface of the carafe. The insulation element may be a vacuum portion arranged between the outer and inner wall of the container of the carafe.

[0021] The carafe may comprise recharge means. The carafe may comprise at least one rechargeable accumulator to supply onboard electronics with electricity. In one embodiment the recharge means may comprise electric contacts, preferably arranged at the bottom section. The

recharge means may also comprise an inductive coupling element, preferably arranged at the bottom section.

[0022] The carafe may comprise a communication element for transmitting data. The communication element may transmit the data wirelessly to a receiver, such as a smart phone. The communication element may transmit the data via Bluetooth, an IP network, WLAN (IEEE 802.11) or the like. The communication element may also be adapted to receive data. The data sent by the carafe may be displayed on a portable device having the receiver. The electronic device may also transmit data to the carafe.

[0023] The carafe may comprise a sensor for measuring at least one property of a good in the container. The sensor may measure the temperature of the good in the container, preferably measure the temperature of a liquid in the container.

[0024] In one embodiment the active cooling element may be controlled by the sensor measuring the temperature of the good in the container. The control may be a closed loop control.

[0025] The carafe may comprise a touch sensitive layer for displaying information. The touch sensitive layer for displaying information may be arranged on the walls of the carafe. The touch sensitive layer may display information to a user and a user may select and/or input information on the touch sensitive layer. The touch sensitive layer for displaying information may be a so-called epaper. The information may be information relating to the good in the container. In one embodiment the information may relate to the temperature of the goods in the container. In another embodiment the information may relate to the temperature of the liquid in the container. In still another embodiment the information may be received by a receiver of the carafe. The information may be received from a personal electronic device or from the liquid dispenser. The information may be an image or a property of the goods stored in the container. The information may also be input by the touch sensitive layer.

[0026] In one embodiment the touch sensitive layer may receive user input for configuring the properties of the display. The display surface may display data input by the touch sensitive layer, such as a text or symbols.

[0027] In one embodiment the carafe comprises a touch sensitive layer adapted for inputting data. The touch sensitive layer may be a so-called epaper or a touch screen. Such touch sensitive layer is known by the person skilled in the art.

[0028] The carafe may further comprise a circulation element adapted to circulate the content of the container. The circulation element may be adapted to circulate the liquid, preferably water, in the container. The circulation element may comprise an electric motor driven by an accumulator. The circulation element and the accumulator may be arranged in the lower section of the carafe.

[0029] The carafe may comprise a receiver and a loudspeaker coupled to the receiver. The loudspeaker is configured to output audio received by the receiver. The loudspeaker may be coupled by an amplifier with the receiver.

[0030] The display surface may also be adapted to output an image or video received by the receiver. The audio or video media may be transmitted to the receiver by a personal electronic device such as a smart phone.

[0031] The invention also discloses a liquid dispenser adapted to dispense a drinkable liquid, comprising a securing element for securing the carafe therewith, a liquid pump element adapted to pump the liquid and/or to generate a pressure in the liquid, and a liquid output opening or nozzle for outputting the liquid to the carafe. The liquid dispenser is adapted to output the liquid from the output opening or nozzle into the carafe in an upward direction.

[0032] The invention also discloses an intelligent houseware comprising a housing, a container for storing food and a touch sensitive layer. The touch sensitive layer may be arranged on the surface of the housing, wherein the touch sensitive layer is adapted to receive data input by a user and/or display information to a user.

[0033] The carafe may also comprise the features described below with respect to the houseware.

[0034] In one embodiment the display surface may display the temperature of the food in the container. In another embodiment the display surface may change its color depending on the temperature of the good in the container.

[0035] In still another embodiment the color displayed by the display surface may be merely for decorative purposes and be selected by a user. The color displayed by the display surface may change automatically, such as in a pseudo-random manner or in a manner preselected by a user.

[0036] The housing may comprise a lid. The touch sensitive layer may also be arranged on the lid.

[0037] The intelligent houseware may be carried by a person and stored in a refrigerator or cupboard. The intelligent houseware may be placed on furniture, such as for displaying the food stored therein. The intelligent houseware may be placed on a table during a meal. The intelligent houseware may store a quantity of food that may be suited for preparing a meal for an average household. The houseware can store food without any further packing of the food. Generally, one type of food is stored in a houseware at the same time, such as butter, sausage, cream, chees, different kinds of cheese, different kinds of sausage or the like.

[0038] The expression intelligent houseware does not include containers that are placed by a crane on a vehicle such as a lorry, ship or plane. The expression intelligent houseware does not include portable cooling boxes.

[0039] The intelligent houseware may further comprise a sensor for measuring at least one property of a good in the container. The sensor may be a temperature sensor for measuring the temperature of the good in the container. The good may be a liquid, such as water. The sensor may determine the filling level of the liquid and/or of the good in the container, wherein the filling level may be displayed by the touch sensitive layer.

[0040] The intelligent houseware may further comprise a communication means for transmitting data. The communication means may transmit the data wirelessly, such as by using the Bluetooth protocol, WLAN (IEEE 802.11), IP protocol or the like. The communication means may also comprise a receiver for receiving data. The data may be transmitted to a personal electronic device or received from a personal electronic device. The data may relate to the properties of the goods in the container that are sensed by the sensor. The data may relate to the temperature of the good in the container. The data transmitted by the intelligent houseware may be displayed on the personal electronic device.

[0041] In another embodiment the personal electronic device may transmit data to the intelligent houseware. The data may be displayed on the intelligent houseware.

[0042] The surface for displaying information may be a so-called epaper. The information may be information relating to the good in the container. In one embodiment the information may relate to the temperature of the goods in the container. In another embodiment the information may relate to the temperature of the liquid in the container. In still another embodiment the information may be received by a receiver of the intelligent houseware. The information may be received from a personal electronic device. The information may be an image or a property of the goods stored in the container. The information may also be input by the touch sensitive layer. The information may relate to the filling level of the good in the container.

[0043] The intelligent houseware may further comprise the circulation element for circulating the content in the container.

[0044] In one embodiment the intelligent houseware may comprise an active cooling element adapted to cool the food in the container. The active cooling element may be a Peltier element. The active cooling element may be based on adsorption refrigeration, absorption refrigeration, such as a system based on zeolite.

[0045] In another embodiment the intelligent houseware may comprise a phase change material adapted to cool the food in the container. Phase change materials are known to the person skilled in the art. Phase change materials change from the liquid aggregate state to the solid aggregate state, if the phase change material is cooled. If the phase change material cools the liquid, the aggregate state of the phase change material changes from solid to liquid.

[0046] The circulation element may circulate a liquid, such as water, or gases, such as air.

[0047] The intelligent houseware may comprise a receiver and a loudspeaker coupled to the receiver. The loudspeaker may be coupled by an amplifier with the receiver. The loudspeaker is configured to output audio received by the receiver.

[0048] The intelligent houseware may also display a video on the touch sensitive layer, wherein the video was received by the receiver. The intelligent houseware may further comprise the recharge means.

[0049] The intelligent houseware may comprise at least one insulation element insulating the container from the outer surface of the carafe. The insulation element may be a vacuum portion arranged between the outer and inner wall of the container of the carafe.

[0050] The intelligent houseware may comprise a recharge means. The intelligent houseware may comprise at least one rechargeable accumulator to supply onboard electronics with electricity. In one embodiment the recharge means may comprise electric contacts, preferably arranged at the bottom section of the intelligent houseware. The recharge means may also comprise an inductive coupling element, preferably arranged at the bottom section of the intelligent houseware.

[0051] The intelligent houseware may comprise a communication element for transmitting data. The communication element may transmit the data wirelessly to the receiver, such as a smart phone. The communication element may transmit the data via Bluetooth, a IP network or the like. The communication element may also be adapted to receive data. The data sent by the houseware may be displayed on a portable device having the receiver. The electronic device may also transmit data to the intelligent houseware.

[0052] The invention is now described under further reference to the enclosed figures showing exemplary and non limiting embodiments of the present invention, wherein

Figure 1a shows a cross section of the first embodiment of the present invention;

Figure 1b shows a cross section of the second embodiment of the present invention;

Figure 1c shows a cross section of the third embodiment of the present invention;

Figure 2 shows a fourth embodiment of the present invention;

Figures 3 shows further details of the first and second embodiment of the present invention; and

Figure 4 shows a fifth embodiment of the present invention.

[0053] Figure 1 a shows a first embodiment 100 of the carafe according to the present invention. The carafe embodying the intelligent houseware comprises an upper opening 102, a sidewall 101 and a lower section 112. The carafe 100 may be held at a gripping section 103 having a smaller diameter than the lower section 112 and the circumference of the opening 112. The bottom 119 comprises a flat and smooth surface, such that the carafe 100 may be positioned on furniture such as a cupboard, table or the like. The smooth bottom surface 119 allows

that the carafe 100 may be moved on the furniture without scratching the surface of the furniture.

[0054] According to the present invention the carafe 100 comprises an opening 108 in the bottom section 112. Through the opening 108 a liquid, such as water, may be supplied by a liquid dispenser 500.

[0055] The liquid dispenser 500 may comprise a nozzle 506 supplying water into the opening 108. The nozzle 506 is guided and sealed by a sealing 140 secured in the opening 108. The sealing 140 may be secured with the bottom section 112 of the carafe 100. A valve, such as a check valve 110, is arranged in the opening 108. The valve 110 can ensure that liquid is only supplied into a container 104 of the carafe 100 and not flowing out of the container 104.

[0056] The liquid dispenser 500 comprises a controller 514 for controlling a pump element 502 and for receiving a pressure value sensed by the pressure sensor 504. By sensing the pressure in the container 104 of the carafe 100 it is possible to determine the liquid level in the carafe 100 such that no liquid flows out of the upper opening 102 during filling the carafe 100. Further, by sensing the pressure in the container 104 it may be ensured that the carafe 100 is refilled up to a predetermined level. The pressurizing element 502 may be a pump pumping liquid from a liquid reservoir (not shown) through the pressure sensor 504 the nozzle 506, the opening 108 into the container 104.

[0057] The carafe 100 may comprise a controller 114 connected with an accumulator 116. The controller 114 is connected with a sensor 124, such as a temperature sensor. The sensor 124 may sense at least one property of a liquid in the container 104 such as the temperature of water in the container 104. Depending on the temperature of the liquid in the container 104 the controller 114 may control a cooler 132 connected to a pipe system 134 that is thermally coupled with the container 104. The cooling system may be a Peltier element or any other suitable cooling system. The carafe 100 may keep the liquid in the container 104 of the carafe 100 at a predetermined temperature level.

[0058] The carafe may comprise at its outer surface at least one display 106, 107 that may be a touch sensitive film (layer) such as an epaper. The controller 114 may be adapted to change the color displayed by the display 106, 107 depending on the temperature sensed by the sensor 124. The controller 114 may request a user by an image or text displayed by the display 106, 107 to enter a set temperature, target temperature or the like. The controller 114 may be adapted to control the cooler 132 such that the liquid in the container 104 has an actual temperature corresponding to the set temperature.

[0059] The controller 114 is also connected to a circulator 126 circulating the liquid in the container 104. The circulator 126 may comprise a pump forcing the liquid to enter a opening 128, flowing through the circulator 126 and returning to the container via the opening 130. By this circulation the liquid in the container 104 can be held more fresh during a longer period of time.

[0060] The controller may also be connected to a receiver 120. The receiver may be connected to the personal electronic device, such as a smart phone (not shown). The receiver 120 may receive a set temperature for the liquid in the container 104, text, an image or video to be displayed on the display 106, 107 and/or audio to be output by a loudspeaker 136 connected to the controller 114. The circulator may comprise a propeller arranged in the container, wherein the propeller is driven inductively or by magnet force generated by an actor in the bottom section 112.

[0061] The carafe may also comprise a transmitter 122 connected with the controller 114. The transmitter may transmit the property sensed by the sensor, such as the temperature of the liquid in the container 104, the fluid level in the container 104 or the like.

[0062] The controller 114 may also be connected to an illuminator 142 that may comprise at least one light emitting diode. The color and/or intensity of the light emitted by the illuminator 142 may depend from the property of the liquid sensed by the sensor 124, the audio received by the receiver 120, by a random value generated by the controller 114 and the like. In another embodiment the light emitted by the illuminator may be for decorative purposes.

[0063] The accumulator 116 supplies the controller 114, the receiver 120, the transmitter 122, the cooler 132, the illuminator 142, the circulator 126, the display 106, 107 and the sensor 124 with electric energy. The accumulator 116 may be recharged by a recharge means 138 of the carafe 100 and complimentary recharge means 538 of the liquid dispenser 500. The recharge means 138 and the complimentary recharge means 538 may be an electric contact, an inductive transmission means, such as a coil, or the like.

[0064] The carafe 100 may comprise fastening means 118 engaging with complementary fastening means 518 of the liquid dispenser 500. For engaging the carafe 100 with the liquid dispenser the carafe may be rotated by a predetermined angle in order to have the fastening means 118 and the complementary fastening means 518 to engage with each other. The liquid dispenser 500 may comprise a guide 510 at its circumference guiding the carafe 100 and ensuring that the carafe may not be inadvertently moved from its filling and/or recharging position.

[0065] As depicted in figure 1 a the liquid dispenser 500 may be integrated in a workplate 512 of a kitchen. It is to be understood that the liquid dispenser 500 may also be placed atop of the cupboard, workplate 512 or the like.

[0066] The controller 114 and/or the accumulator 116 may be coupled with the components described above by essentially transparent conductors 139, e.g. formed by silver nano wires or carbon nano tubes or graphene.

[0067] Figure 1b shows a second embodiment of a carafe 100' of the present invention essentially correspond-

ing to the first embodiment of the carafe 100. In the second embodiment the pressure sensor is not comprised by the liquid dispenser 500 but the carafe 100'. The pressure sensor 111 is located on the lower section 112 of the carafe 100', such as in the opening 108. The pressure sensor 111 may be a pressure cell, a piezo sensor or the like. The pressure sensor may measure the pressure of the liquid located above the sensor and thereby determine the filling level and liquid level, respectively of the liquid in the container 104.

[0068] Further, the carafe 100' may comprise a handle 105 for grasping the carafe by a user.

[0069] Figure 1c shows a third embodiment of the carafe 100" of the present invention that essentially corresponds to the second embodiment. The carafe 100 " third embodiment comprises a capacitive pressure sensor for determining the fluid level and liquid level, respectively in the container 104.

[0070] Reference is made to figure 2 showing a fouth embodiment of the carafe 200 according to the present invention. The fourth embodiment of the carafe 200 essentially corresponds to the first to third embodiment of the carafe 100, 100', 100" shown in figures 1a to 1c and as described above. In the fourth embodiment 200 the check valve 110 has been replaced by a riser pipe 210. The riser pipe can ensure that liquid may only flow from underneath the carafe into the carafe and not flowing out of the carafe as long as the fluid level is lower than the upper opening 211 of the riser pipe. The level of the fluid in the riser pipe may be controlled by the pressure sensor 504 or a sensor described with respect to figures 1b or 1c.

[0071] Reference is made to figure 3 showing more details of the carafe 300. The details shown in figure 3 with respect to the carafe 300 may apply to any embodiment 100, 100', 100", 200 of the inventive carafe described above. The carafe 300 according to the present invention may comprise an inner shell 301 and an outer shell 302. Between the inner shell 301 and the outer shell 302 a vacuum section may be arranged. Thereby, the outer shell is insulated from the inner shell. The outer shell 302 and the inner shell 301 may comprise the opening 108, by which the carafe 300 is filled.

[0072] On the outer shell 302 the display layer 106, more particularly the touch sensitive display layer may be arranged. Generally, the touch sensitive display layer 106 may be a transparent film, such as a transparent and flexible film arranged on the carafe.

[0073] The touch sensitive display layer 106 may be a film comprising carbon nano tube as it is commercially available as CNB at Canatu Oy. The touch sensitive display layer 106, 107 may also be a screen-printed thermomoldable film with electroluminescence. Alternatively, the touch sensitive display layer 106 may be a flexible transparent polymer sheet that contains embedded LEDs. The touch sensitive display layer 106 may comprise graphene-based LEDs.

[0074] The display 106 may be interconnected by transparent conductors 139, tracks or the like. The conductors 139 may be formed by silver nano wires or carbon nano tubes or graphene. Such conductors are essentially transparent. The display 106, the sensor 124 or any other component may be connected by the transparent conductors 139 with the controller 114 and/or accumulator 116.

[0075] Reference is made to figure 4 showing a fifth embodiment of the present invention. Figure 4 shows an intelligent houseware 400 comprising a container 404. The intelligent houseware 400 comprises a plurality of walls 401 and a bottom section 412 defining the container 404. The intelligent houseware 400 may comprise a lid 405 having fastening means 409 engaging with complementary fastening means 407 configured on the outer walls 401. A display 406 is arranged at the outer wall 401. The display 406 may also be arranged on the lid 405. The display 406 may be connected to the controller 414.

[0076] The intelligent houseware 400 may comprise a controller 414 connected with an accumulator 416. The controller 414 is connected with a sensor 424, such as a temperature sensor. The sensor 424 may sense at least one property of a good in the container 404 such as the temperature of a liquid and/or any good in the container 404 and/or the filling level. Depending on the temperature of the good (food) in the container 404 the controller 414 may control a cooler 432 connected to a pipe system 434 that is thermally coupled with the container 404. The cooling system may comprise a Peltier element or any other suitable cooling system. The intelligent houseware 400 may keep the liquid and/or any good in the container 404 of the intelligent houseware 400 at a predetermined temperature level.

[0077] The intelligent houseware may comprise at its outer surface at least one display 406 that may be in touch sensitive film such as an epaper. The controller 414 may be adapted to change the color displayed by the display 406 depending on the temperature sensed by the sensor 424 and/or the filling level sensed by a suitable sensor such as the pressure sensor or capacitive sensor described above.

[0078] The controller 414 may request a user by an image or text displayed by the display 406 to enter a set temperature, target temperature or the like. The controller 414 may be adapted to control the cooler 432 such that the liquid in the container 404 has an actual temperature corresponding to the set temperature.

[0079] The controller 414 is also connected to a circulator 426 circulating the liquid in the container 404. The circulator 426 may comprise a pump forcing the liquid to enter a opening 428, flowing through the circulator 426 and returning to the container via the opening 430. By this circulation the good in the container 404 can be held fresher during a longer period of time.

[0080] The controller may also be connected to a receiver 420. The receiver may be connected to the personal electronic device, such as a smart phone (not shown). The receiver 420 may receive a set temperature

for the good in the container 404, text, an image or video to be displayed on the display 406 and/or audio to be output by a loudspeaker 436 connected to the controller 414.

[0081] The carafe may also comprise a transmitter 422 connected with the controller 414. The transmitter may transmit the property sensed by the sensor, such as the temperature of the liquid in the container 404, the fluid level in the container 404 or the like.

[0082] The controller 414 may also be connected to an illuminator 442 that may comprise at least one light emitting diode. The color and/or intensity of the light emitted by the illuminator 442 may depend from the property of the liquid sensed by the sensor 424, the audio received by the receiver 420, by a random value generated by the controller 414 and the like.

[0083] The accumulator 416 supplies the controller 414, the receiver 420, the transmitter 422, the cooler 432, the illuminator 442, the circulator 426, the display 406 and the sensor 424 with electric energy. The accumulator 416 may be recharged by a recharge means 438 of the intelligent houseware 400 and complimentary recharge means of a charger. The recharge means 438 and the complimentary recharge means may be an electric contact, an inductive transmission means, such as a coil, or the like.

[0084] The controller 414 and/or the accumulator 416 may be coupled with the components described above by conductors 439 formed by silver nano wires or carbon nano tubes or graphene, essentially being transparent.

[0085] It is to be understood that all embodiments and all features of the embodiments may be arbitrarily combined.

[0086] The present invention has the advantage that the carafe may be filled by an opening on the bottom of the carafe. Thereby, a dispenser may be designed less high.

[0087] The present invention achieves an intelligent houseware and an intelligent carafe displaying information, such as information about the properties of the good stored therein.

Claims

1. A carafe, having

- an opening in an upper section;
- a lower section;
- a wall extending from the lower section to the upper section, wherein said walls and lower section define a container, in which a liquid may stored;
- a positioning element for positioning the carafe on a furniture, wherein said positioning element is adapted such that the surface of the furniture is not affected by placing and/or moving the carafe on the surface of the furniture; and
- a valve element positioned in an opening in the lower section, wherein said valve element is configured such that a liquid may flow from underneath the lower section into the container and no liquid must flow from said container through the valve.

2. The carafe according to claim 1, wherein the valve element comprises a raiser pipe extending from the lower section through the container.

3. The carafe according to claim 1 or 2, wherein the valve comprises a check valve.

4. The carafe according to any one of claims 1 to 3, further comprising fastening means that are adapted to interact with complementary fastening means of a liquid dispenser adapted to fill said carafe though the valve in the lower section.

5. The carafe according to any one of claims 1 to 4, further comprising an active cooling element adapted to cool the liquid in the carafe.

6. The carafe according to any one of claims 1 to 5, further comprising a phase change material adapted to cool the liquid in the carafe.

7. The carafe according to any one of claims 1 to 6, further comprising at least one thermal insulation element insulating the container from the outer surface of the carafe.

8. The carafe according to any one of claims 1 to 7, further comprising a circulation element for circulating the food in the container.

9. The carafe according to any one of claims 1 to 8, further comprising recharge means, wherein the recharge means may be at least any one of:

- electric contacts;
- electric contacts arranged at the lower section;
- an inductive coupling element;
- an inductive coupling element arranged at the lower section.

10. The carafe according to any one of claims 1 to 9, further comprising a communication element for transmitting data.

11. The carafe according to any one of claims 1 to 10, further comprising a sensor for measuring at least one property of a good in the container.

12. The carafe according to any one of claims 1 to 11, further comprising a touch sensitive layer adapted for inputting data.

13. The carafe according to any one of claims 1 to 12, further comprising a display surface for displaying information, wherein the information displayed may be at least one of:

- information relating to the good in the container;
- information relating to the temperature of the good in the container;
- information relating to the temperature of the liquid in the container;
- information received by a receiver of the carafe;
- information input by the touch sensitive layer;
- information relating to the filling level of the liquid in the container.

14. The carafe according to any one of claims 1 to 12, further comprising a receiver and a loudspeaker coupled to the receiver, wherein the loudspeaker is configured to output audio received by the receiver.

15. Liquid dispenser adapted to dispense a drinkable liquid, comprising:

- a securing element for securing a carafe therewith;
- a liquid pump element adapted to pump the liquid and/or to generate a pressure in the liquid; and
- a liquid output opening or nozzle for outputting the liquid to the carafe;

wherein the liquid dispenser is adapted to output the liquid from the output opening or the nozzle into the carafe in an upward direction.

Fig. 1a

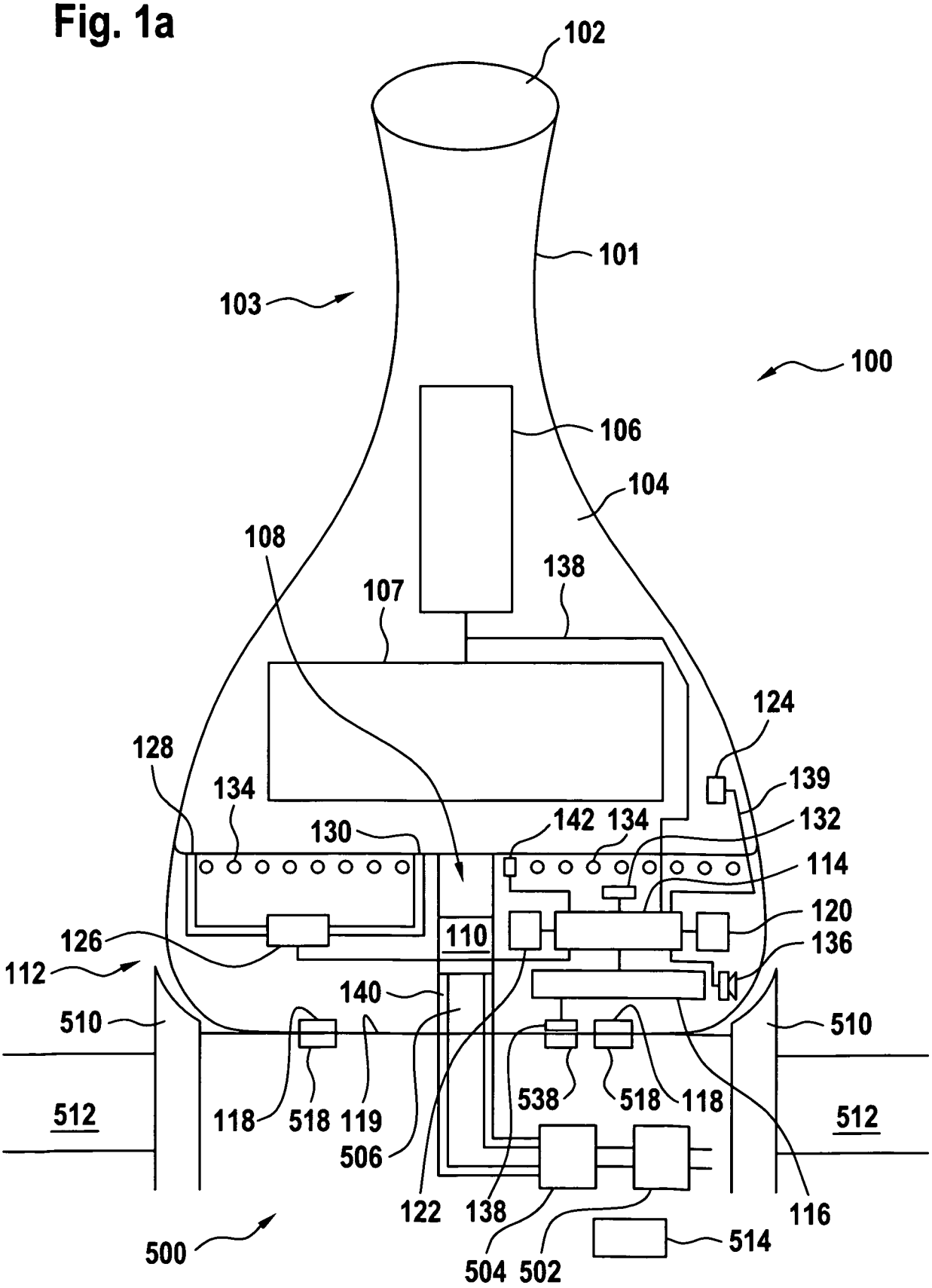

102
101
103
100
106
104
108
107
138
124
128
139
134
132
142
134
130
114
120
126
110
136
112
140
510
510
512
512
118
518
119
538
518
118
506
122
138
116
500
514
504
502

Fig. 1b

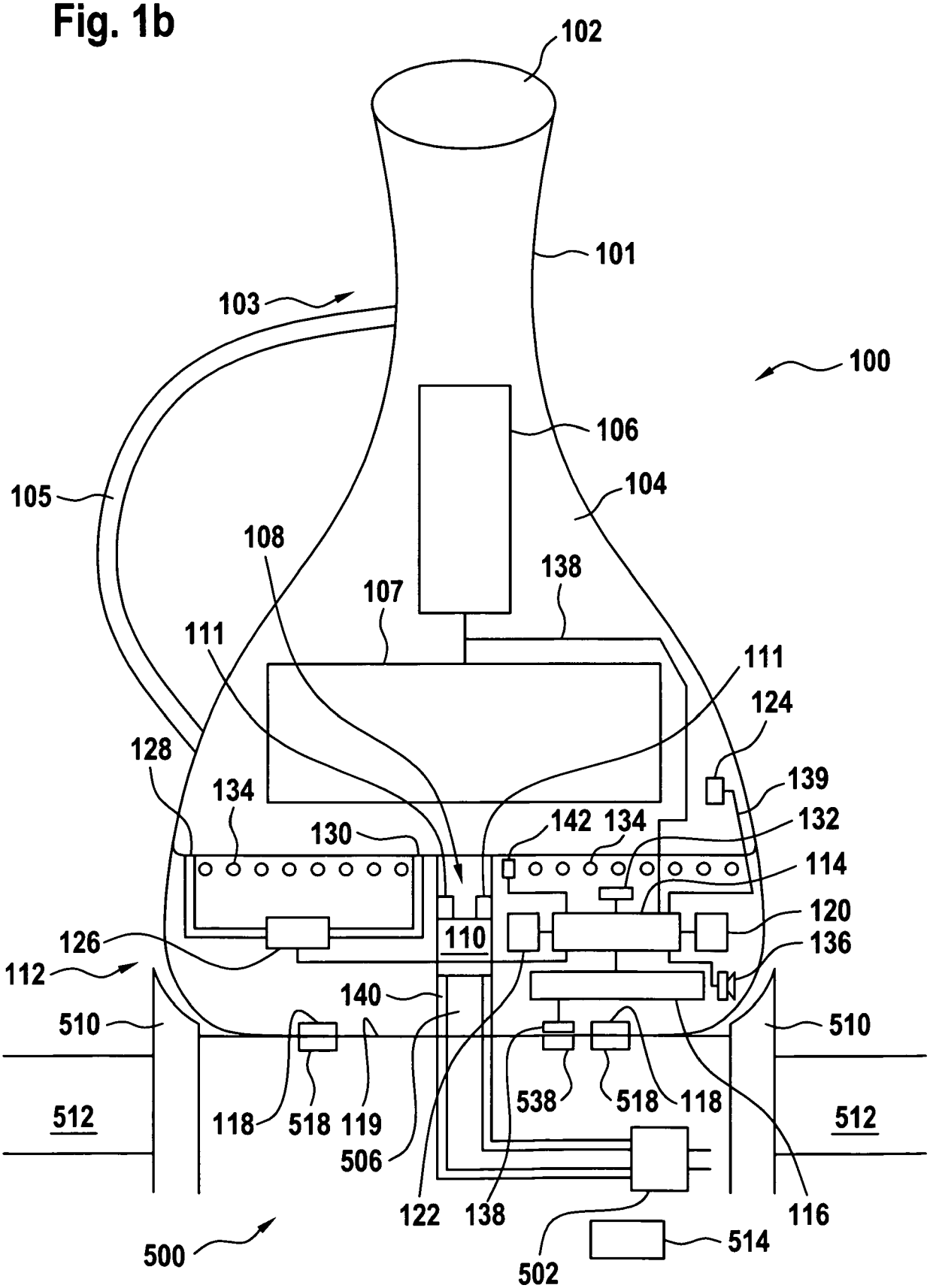

102
101
103
100
106
105
104
108
107
138
111
111
124
128
139
134
142
134
132
130
114
120
126
110
136
112
140
510
510
512
512
118
518
119
538
518
118
506
122
138
116
500
514
502

Fig. 1c

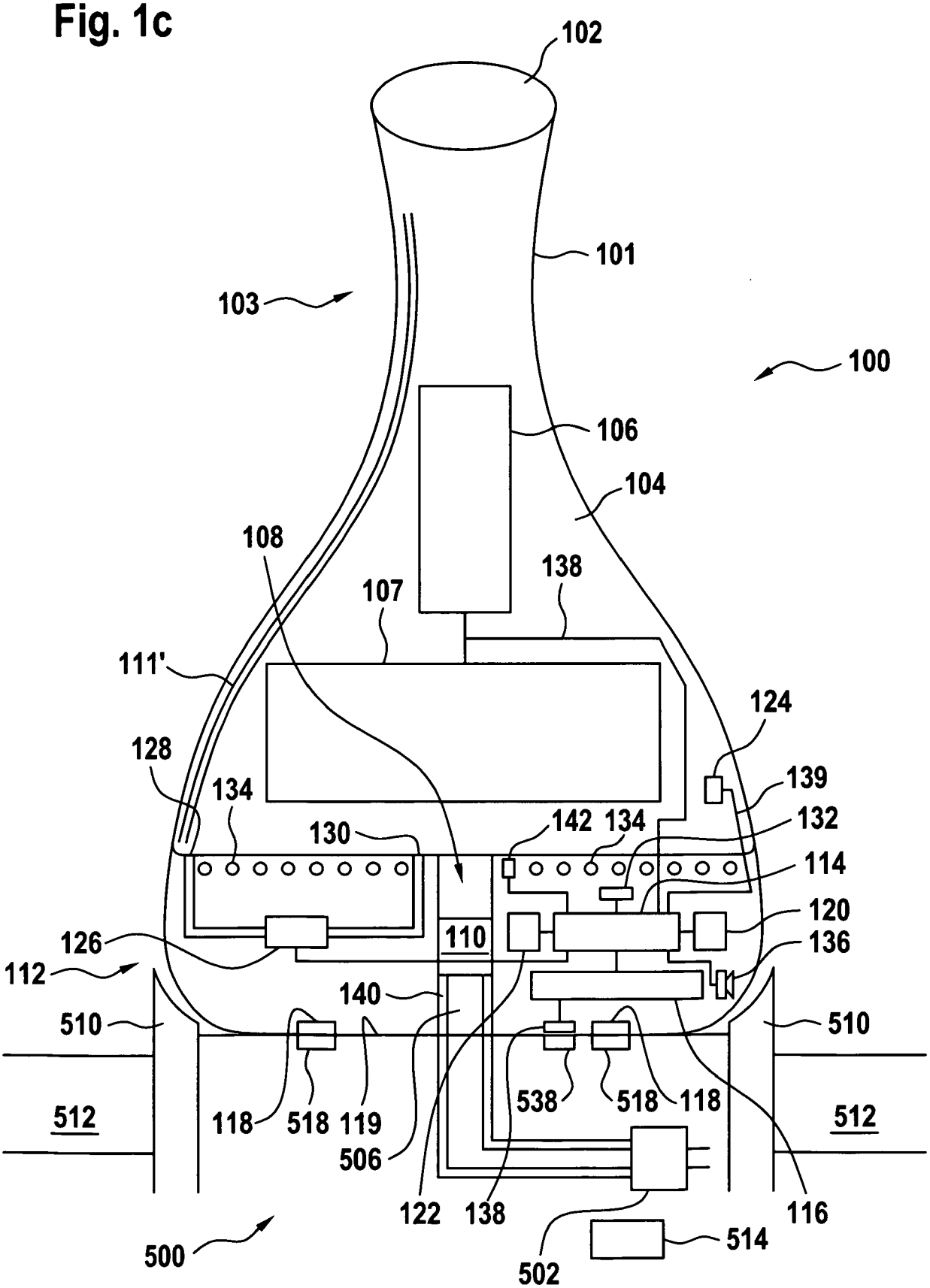

102
101
103
100
106
104
108
107
138
111'
124
128
139
134
142
134
132
130
114
120
126
110
136
112
140
510
510
512
512
118
518
119
538
518
118
506
122
138
116
500
514
502

Fig. 2

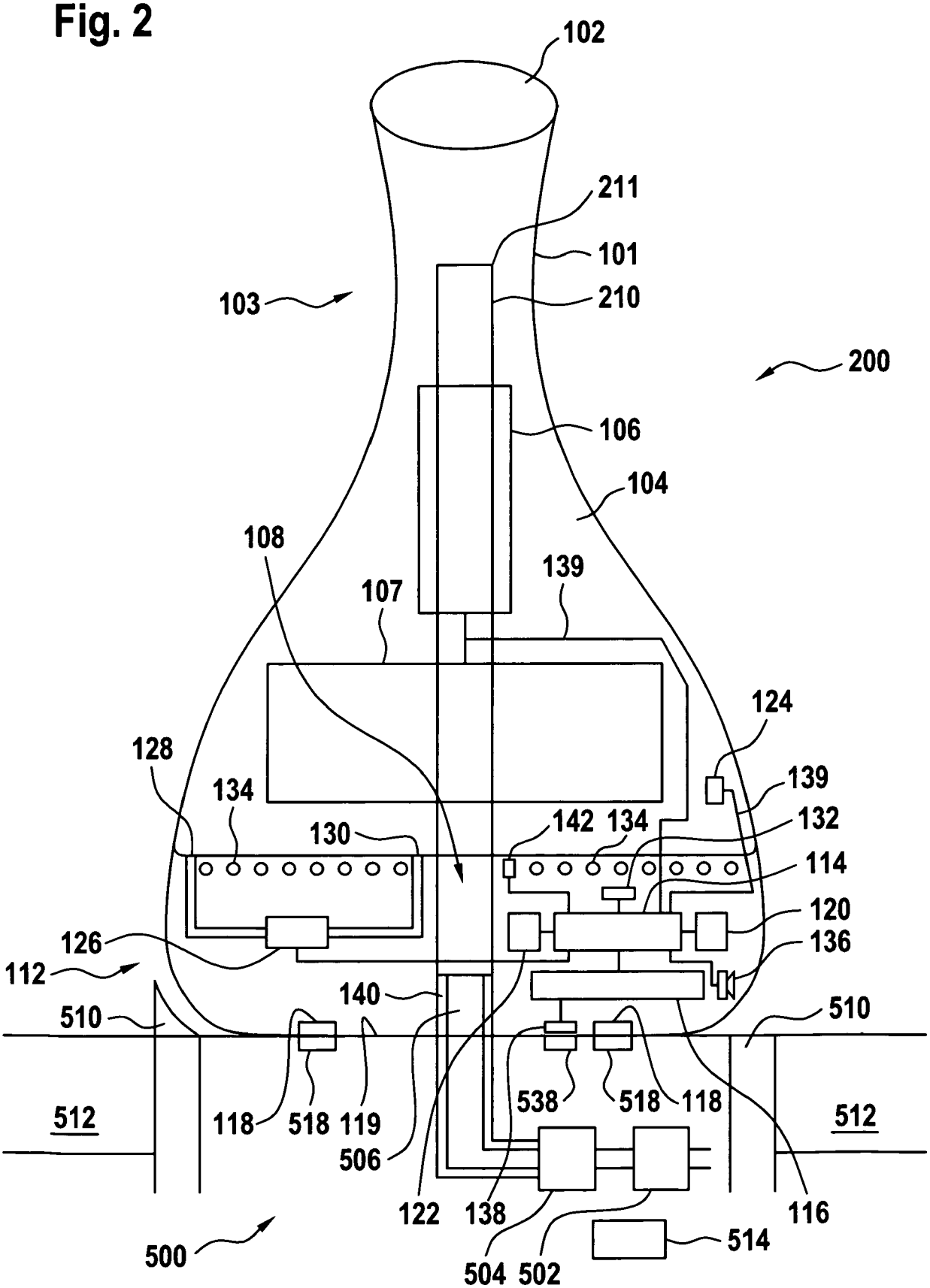
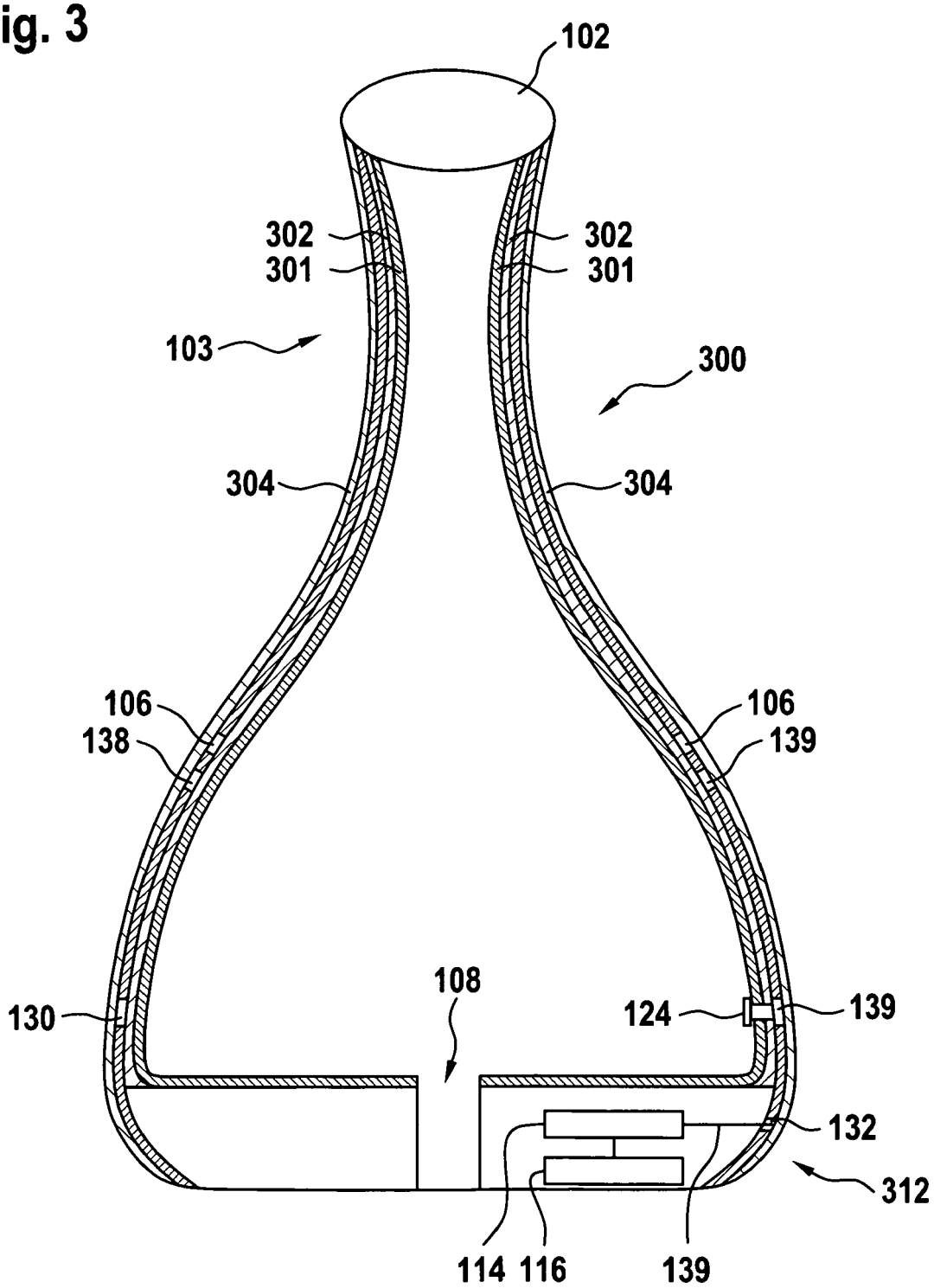

102
211
101
210
103
200
106
104
108
139
107
124
128
139
134
142
134
132
130
114
120
126
136
112
140
510
510
512
512
118
518
119
538
518
118
506
122
138
116
504
502
514
500

Fig. 3


102
302
301
302
301
103
300
304
304
106
138
106
139
108
130
124
139
132
312
114
116
139

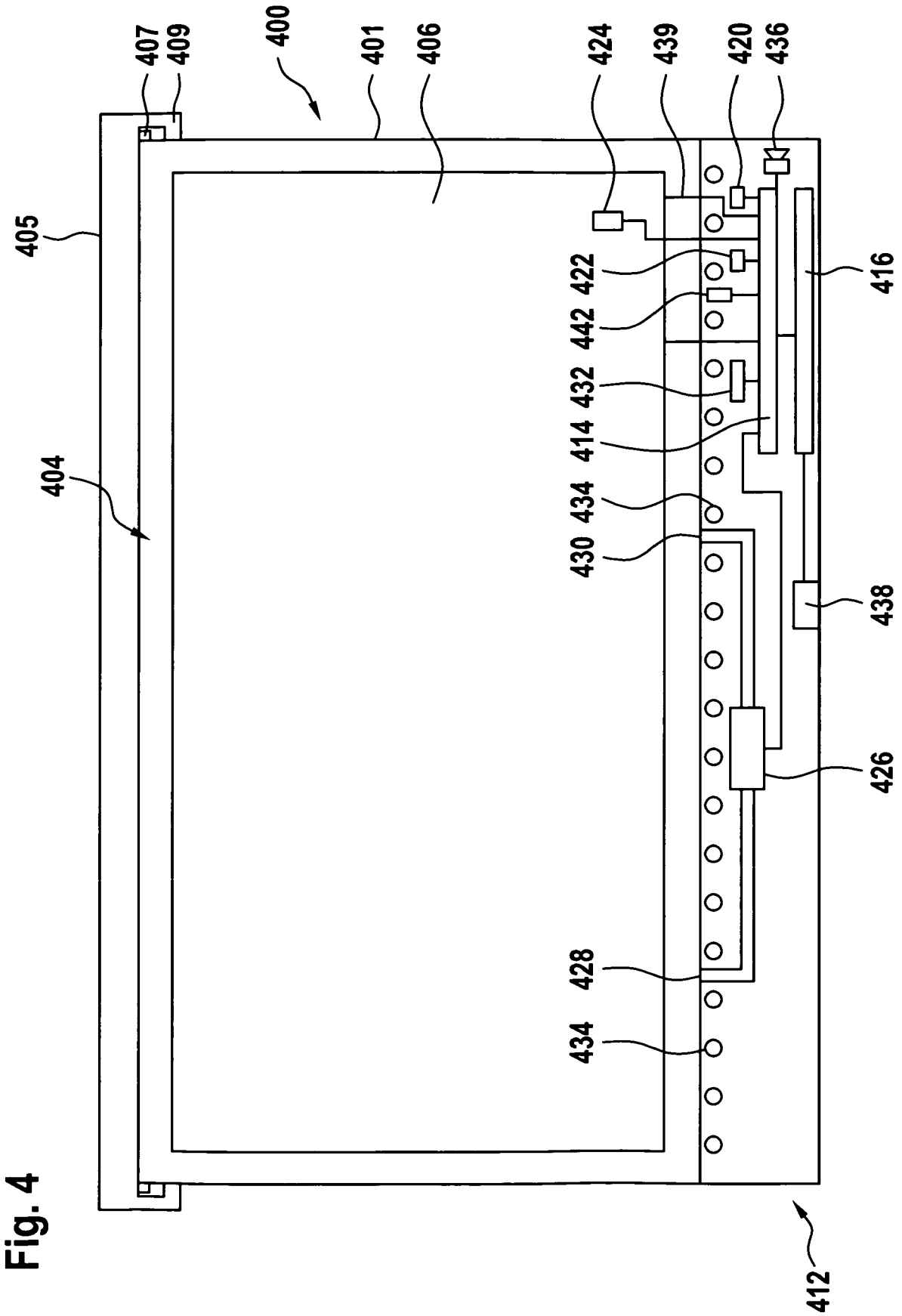

407
409
400
401
406
424
439
420
436
405
422
416
442
432
414
404
434
430
438
426
428
434
412

Fig. 4

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 16 18 3278

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 97 277 C (BRAUN & CO) 25 May 1898 (1898-05-25) * page 1, line 8 - page 2, line 2; figure * -----	1,3,4	INV. A47G19/12 A47G19/22 B65D1/06
X	US 2008/223478 A1 (HANTSOO EERIK TORM [US] ET AL) 18 September 2008 (2008-09-18) * paragraph [0089] - paragraph [0104]; figures * -----	1-4	
X	WO 2007/141719 A1 (SEABORNE CAMERON [ZA]; CREED GREGORY EDWARD [ZA]) 13 December 2007 (2007-12-13) * page 5, line 3 - page 8, line 27; figures * -----	1,3,4	

TECHNICAL FIELDS SEARCHED (IPC)

A47G
B65D
B67D

~~The present search report has been drawn up for all claims~~

Place of search	Date of completion of the search	Examiner
The Hague	8 February 2017	Vistisen, Lars

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

Europäisches Patentamt
European Patent Office
Office européen des brevets

Application Number
EP 16 18 3278

CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-4(completely); 5-14(partially)

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

Europäisches Patentamt
European Patent Office
Office européen des brevets

LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 16 18 3278

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-4(completely); 5-14(partially)

   Details of the valve in a carafe filled through an opening in the bottom

   ---

2. claims: 5-8(partially)

   Cooling aspects of carafe filled through an opening in the bottom

   ---

3. claims: 9-14(partially)

   Measuring, data input and display aspects of a carafe filled through an opening in the bottom

   ---

4. claim: 15

   Liquid dispenser

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 16 18 3278

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

08-02-2017

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 97277 C	25-05-1898	NONE	
US 2008223478 A1	18-09-2008	NONE	
WO 2007141719 A1	13-12-2007	AU 2007257569 A1	13-12-2007
		EP 2029470 A1	04-03-2009
		US 2010230007 A1	16-09-2010
		WO 2007141719 A1	13-12-2007
		ZA 200810795 B	29-02-2012

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82