【CLAIMS】

【Claim 1】

A multi-functional food cooker having water purification function, comprising:

a water supply unit (100) for feeding the water supplied from a tap or water bottle as hot water or purified water according to a user's selection to allow food to be cooked with the hot water or purified water;

a cooking unit (200) adapted to cook the food with the water fed to a cooking container and located on the underside of the water supply unit (100) to prevent the user from being burned due to residual heat after food cooking; and

a control unit (300) disposed on the water supply unit (100) and the cooking unit (200) to control water supply and heating time and temperature for cooking the food in the cooking container,

wherein the water supply unit (100) comprises:

a food cooker's body (110) having a given space formed at the inside thereof in such a manner as to be open on one side thereof and having a discharge valve (113) disposed on the front surface thereof to supply water;

a body cover (111) detachably mounted on the open portion of the food cooker's body (110) and having a plurality of nipples (114) adapted to couple hoses thereto so as to connect the hoses to the tap or the water bottle;

a plurality of filters (120) disposed on one side of the body cover (111) by means of a filter clip (121) to purify the water;

a distributor (130) connected to the filters (120) to dividedly supply the water supplied through the filters

(120) to the discharge valve (113) to the form of purified water or hot water;

a water storage tank (140) located inside the food cooker's body (110) to store the water supplied from the filters (120) through the distributor (130) by a given amount;

a hot water tank (150) located under the water storage tank (140) in such a manner as to store the water supplied from the water storage tank (140) by a given amount and having a heater (153) adapted to heat the water stored therein;

a first solenoid valve (160) adapted to supply the hot water supplied from the hot water tank (150) to the discharge valve (113) to cook the food; and

a second solenoid valve (170) disposed inside the food cooker's body (110) in such a manner as to be located between the discharge valve (113) and the distributor (130) to supply the water from the filters (120) and the distributor (130) to the discharge valve (113) and having a pressure control valve (171) mounted thereon;

wherein the cooking unit (200) comprises:

a cooking unit body (210) having a shape of a flat plate to locate the food cooker's body (110) on top thereof, having tempered glass or heat resistant glass disposed on one side thereof to place the cooking container thereon, having a given space formed at the inside thereof, and being open on one side thereof;

a cooking unit cover (211) detachably disposed on the open portion of the cooking unit body (210); and

a heating part (220) disposed inside the cooking unit body (210) and comprising:

a circular support plate (221) disposed under the cooking unit body (210) and having support pieces

(222), fixing pieces (223), coupling grooves (224), coil fixing holes (225), and fitting holes (227);

coils (230) fixed on top of the support plate (221) by fixing plates (231) to cook the food in the cooking container through electromagnetic induction heating, the fixing plates (231) located on tops of the coils (230) and having fixing protrusions in such a manner as to be coupled to the fitting holes (227) of the support plate (221); and

ferrite cores (240) insertedly disposed on the underside of the support plate (221).

【Claim 2】

The multi-functional food cooker according to claim 1, wherein the filter clip (121) comprises:

a flat panel (122) fixed to one side of the body cover (111) by means of bolts; and

a plurality of 'Ω'-shaped clip members (123) disposed on one side of the flat panel (122) to fix the filters (120) thereto.

【Claim 3】

The multi-functional food cooker according to claim 1, wherein the water supply unit (100) supplies the water supplied from the pressure of the tap or from the water bottle by means of a pump (180) to the water storage tank (140) through the filters (120) and the distributor (130), stores the water by the given amount in the water storage tank (140), heats the water in the hot water tank (150), and selectively supplies the hot water fed from the hot water tank (150) to the cooking container through the first solenoid valve (160) and the discharge valve (113) and the water purified through the filters (120) and the distributor (130) and reduced in pressure through the

second solenoid valve (170) and the pressure control valve (171) to the discharge valve (113).

【Claim 4】

The multi-functional food cooker according to claim 1, wherein the food cooker's body (110) comprises a ventilation fan (190) adapted to prevent the water vapor generated from the food during cooking from being introduced into the discharge valve (113), the ventilation fan (190) being electrically connected to a main controller (310) of the control unit (300) so that blowing occurs toward the front surface of the food cooker's body (110) only when power is applied to the heating part (220).

【Claim 5】

The multi-functional food cooker according to claim 1, wherein the control unit (300) comprises:

the main controller (310) for carrying out cooking container existence/nonexistence checking, the control of the first solenoid valve (160) or the second solenoid valve (170) adapted to supply purified water or hot water, and the control of the heater (153) so as to cook the food if a button part (320) disposed on the front surface of the food cooker's body (110) is manipulated by the user;

the button part (320) disposed on the front surface of the food cooker's body (110) and having a cooking button (321), an instant cooking button (321-2), a general cooking button (321-1), a start/stop button (322), a hot water button (323), a purified water button (327), a time adding button (325), and a display (326);

a sensor (330) disposed on the front surface of the food cooker's body (110) in such a manner as to be electrically connected to the main controller (310) to check whether the cooking container is located on the

heating part (220) and thus to allow the button part (320) to be activated or deactivated; and

a heating part controller (340) electrically connected to the main controller (310) to control the heating part (220) for food cooking,

wherein the main controller (310) is formed of a PCB located inside the food cooker's body (110) and the heating part controller (340) is formed of a PCB located inside the cooking unit body (210).