



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) **EP 1 084 672 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
21.03.2001 Bulletin 2001/12

(51) Int Cl.7: **A47L 15/48**

(21) Application number: **00830591.4**

(22) Date of filing: **30.08.2000**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**
Designated Extension States:
AL LT LV MK RO SI

(72) Inventor: **Bertazzoni, Roberto**
42016 Guastalla, RE (IT)

(74) Representative: **Adorno, Silvano et al**
c/o SOCIETA' ITALIANA BREVETTI S.p.A.
Via Carducci, 8
20123 Milano (IT)

(30) Priority: **03.09.1999 IT MI991872**

(71) Applicant: **Smeg S.p.A.**
42016 Guastalla, RE (IT)

(54) **Dishwasher with device for drying by moist air discharge**

(57) A dishwasher includes a washing tank with a first opening A for taking out the moist air by means of a fan B and a second opening F for the intake of ambient air, as well as a drain pump G which, through a drainage duct H connected to the drain of an adjacent sink, provides the draining of the washing water and a duct L for discharging the moist air which duct extends from fan B to outside the machine body. The discharge duct L is

preferably provided at its external end with a substantially Y-shaped connector M and provided with an electric valve C in order to make ducts H and L converge so as to use a same connection hole to the sink drain, the electric valve C being opened only during the drying step and kept closed for the rest of the time in order to prevent possible backflows of water in duct L either coming from the sink drain or from the drainage duct H of the dishwasher.

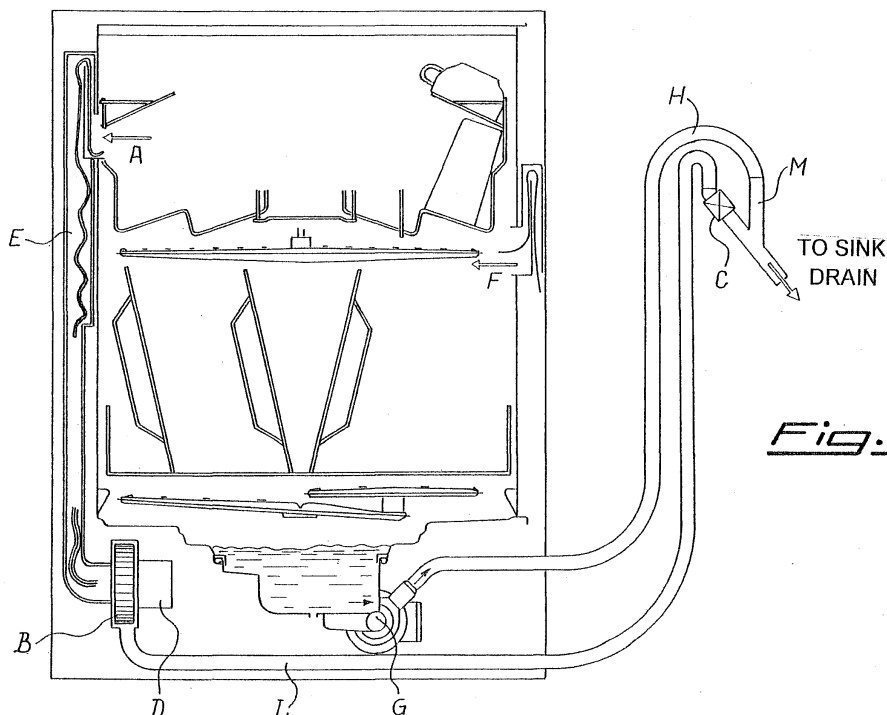


Fig. 1

EP 1 084 672 A2

Description

[0001] The present invention relates to dishwashing machines, and in particular to a dishwashing machine provided with a device for drying by discharge of the moist air from the washing tank.

[0002] It is known that in order to improve the drying of the dishes at the end of the washing cycle a frequently adopted solution is that of discharging into the environment around the machine the moist air present in the tank. In practice, there is used a forced ventilation system which takes out the moist air from the tank and draws in drier ambient air from outside through suitable discharge and intake openings.

[0003] The moist air, usually mixed with ambient air in order to reduce its humidity percentage, is discharged on the front part of the dishwasher through suitable discharge openings. Said openings are formed in the control switchboard or along the lower edge, at the area where the plinth is applied in built-in models.

[0004] This known solution has the drawback of posing aesthetical and design limits in making the switchboard, while in built-in models it is necessary to make openings in the plinth at the discharge openings formed in the machine.

[0005] Therefore the object of the present invention is to provide a dishwasher which overcomes the above-mentioned drawbacks.

[0006] This object is achieved by means of a dishwasher wherein the discharge of moist air is effected through a duct extending outside the machine body. Other advantageous features are disclosed in the dependent claims.

[0007] The fundamental advantage of the dishwasher according to the present invention is exactly the possibility of avoiding to make discharge openings on the front of the machine, so as to assure a greater freedom of design both from the aesthetical and technical point of view. Furthermore, this allows to simplify the manufacturing of the machine and therefore reduce its cost.

[0008] Another advantage of this dishwasher in the case it is built in a kitchen structure is that of allowing to mount the plinth without requiring to make therein openings for discharging the moist air.

[0009] These and other advantages and characteristics of the dishwasher according to the present invention will be clear to those skilled in the art from the following detailed description of an embodiment thereof, with reference to the only drawing, annexed as fig. 1, wherein the dishwasher is diagrammatically illustrated in a front see-through view.

[0010] As it may be seen in said figure, a dishwasher according to the invention includes a washing tank with a first opening A for taking out the moist air by means of a fan B, driven by a motor D, connected to said opening A through a duct E. The tank also has a second opening F for the intake of ambient air which is drawn in from outside when the moist air is taken out through

the first opening A.

[0011] The dishwasher further conventionally includes a drain pump G which through a drainage duct H, connected to the drain of an adjacent sink (not shown), provides the draining of the washing water.

[0012] The novel aspect of the present invention is the fact of providing a duct L for discharging the moist air which duct extends from fan B to outside the machine body, similarly to the water drainage duct H.

[0013] In the preferred embodiment illustrated in fig. 1, the discharge duct L is provided at its external end with a substantially Y-shaped connector M provided with an electric valve C operatively connected to the control unit of the dishwasher.

[0014] The presence of connector M allows ducts H and L to converge so as to use the same connection hole to the sink drain without requiring to make a separate connection hole for duct L.

[0015] The electric valve C is opened only during the drying step so as to allow the air discharge, whereas it is kept closed for the rest of the time in order to prevent possible backflows of water in duct L either coming from the sink drain or from the drainage duct H of the dishwasher.

[0016] It is clear that the above-described and illustrated embodiment of the dishwasher according to the invention is just an example susceptible of various modifications. In particular, the presence of connector M is independent from that of electric valve C which can be used even in the case of a separate connection to the sink drain.

Claims

1. A dishwasher including a washing tank provided with a first opening (A) for taking out the moist air, by means of a fan (B) connected to said opening (A) through a duct (E), and a second opening (F) for the intake of air from the environment, as well as a drain pump (G) which through a drainage duct (H) provides the draining of the washing water, characterized in that it further includes a duct (L) for discharging the moist air which duct extends from said fan (B) to outside the dishwasher body.
2. A dishwasher according to claim 1, characterized in that the discharge duct (L) is provided at its external end with a substantially Y-shaped connector (M).
3. A dishwasher according to claim 1 or 2, characterized in that the discharge duct (L) is provided at its external end with an electric valve (C) operatively connected to the control unit of the dishwasher.

