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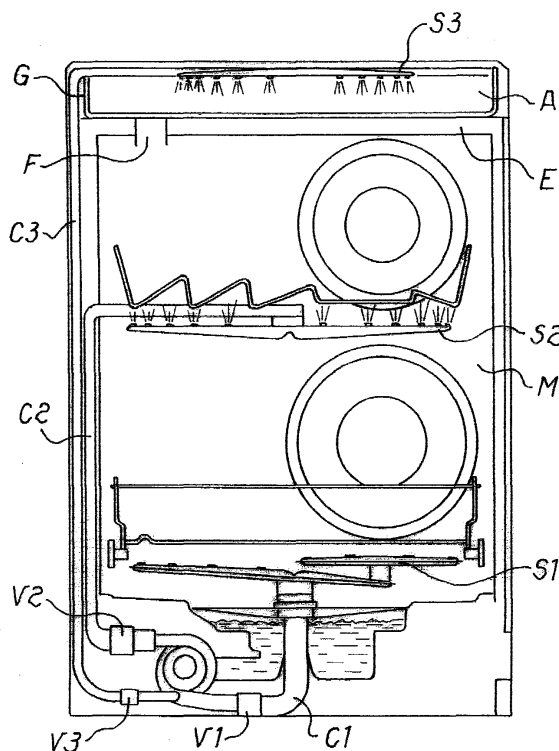
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(54) **Dishwasher with additional washing tank**

(57) A dishwasher includes a washing pump from which ducts (C1, C2, C3) branch out to feed water to respective sprinklers (S1, S2, S3) arranged in two washing tanks (A, M) one on top of the other separated by a

partition wall (E) in which there is formed a one drain hole (F), valve means (V1, V2, V3) being provided on said feed ducts (C1, C2, C3) for independent control of the water feed to each of the sprinklers (S1, S2, S3).

**Fig.1**



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## Description

**[0001]** The present invention relates to dishwashers, and in particular to a dishwasher provided with an additional washing tank.

**[0002]** It is known that a conventional dishwasher includes a single washing tank wherein two racks are arranged one on top of the other, each of them being sprinkled by a corresponding sprinkler fed through a relevant duct coming from the washing pump. The dishes are placed in said racks, whereas the cutlery is vertically placed in a suitable cutlery basket which is usually located in the lower rack. As an alternative, the cutlery can be horizontally placed on an extractable tray arranged above or below the racks or therebetween, as disclosed for example in EP-0186157.

**[0003]** In order to reduce the consumption, it is possible to provide a half load washing system whereby the water is fed only to one of the sprinklers. However said system does not allow to achieve the maximum saving in that the water is spread all around the washing tank and thus cools down when contacting the walls, and in the drying step all the air contained in the tank must be heated and/or dehumidified. As a result, even if one sprinkler only is fed it is not possible to reduce by half the consumption of water and power.

**[0004]** Another drawback stemming from said conventional structure is that the user may need to wash simultaneously dishes of different kind and/or state which have conflicting requirements. For example, a load could include fragile crystalware requiring a delicate cycle and very soiled pots requiring a stronger cycle. As a result, unless two separate cycles are carried out with subsequent waste of water and power, the user must choose between risking a damage of the crystalware or an unsatisfactory cleaning of the pots.

**[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 provided with an additional tank, containing at least one sprinkler, which can be used independently of or together with the main tank. Other advantageous features of specific embodiments of the present dishwasher are disclosed in the dependent claims.

**[0007]** A first fundamental advantage of the present dishwasher is the greater flexibility of use resulting from having the washing tank substantially divided into two independent and yet connected tanks, as it will be made clear further on. In practice, the user can choose among using only the main tank, only the additional tank or both of them and possibly with different length and/or strength of the cycle.

**[0008]** A second advantage of this dishwasher is its greater capacity of power saving. As a matter of fact, in this way when the user decides to limit the washing to one tank only it will not be necessary to heat also the walls and air of the other tank.

**[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 annexed drawings wherein:

Fig. 1 is a diagrammatic see-through front view of a present dishwasher; and

Fig. 2 is a side view showing the closure/access means of the two tanks one on top of the other.

**[0010]** With reference to said figures, there is seen that a dishwasher according to the invention is different from conventional dishwashers due to the presence of an upper tank A and a lower tank M separated therefrom by a partition wall E in which at least one drain hole F is formed.

**[0011]** Inside the upper tank A there is arranged a cutlery tray G inserted into an extractable drawer R whose front portion closes said tank A, whereas the lower tank M is closed by a conventional door P hinged at the bottom.

**[0012]** Three feed ducts C1, C2, C3 branch out from the washing pump and provide the feeding to as many sprinklers S1, S2, S3 respectively arranged under the lower rack, under the upper rack and above the cutlery tray G. The flow of water in ducts C1, C2, C3 is controlled by respective valves V1, V2, V3 which allow an independent control of each one of sprinklers S1, S2, S3.

**[0013]** Therefore in the illustrated embodiment it is possible, for example, to wash only the cutlery in tank A by operating only sprinkler S3 (valves V1 and V2 closed), or vice versa only the dishes in tank M (valve V3 closed).

**[0014]** The operation of the present dishwasher is thus more flexible with respect to a conventional machine, even if from a technical point of view it does not require major changes in that the additional members (C3, V3, S3) are absolutely similar to the existing ones. In particular, the drain hole F allows the water fed to tank A to flow down into the underlying tank M and then into the collecting chamber, where it is filtered and returned to the washing pump.

**[0015]** It is clear that the above-described and illustrated embodiment of the device according to the invention is just an example susceptible of various modifications. In particular, the upper tank A may even be made bigger than the lower tank M, for example by arranging the partition wall E between the lower and upper racks so that the upper tank A includes the two sprinklers S2, S3 and the lower tank M only sprinkler S1. Moreover, depending on the arrangement and/or size of the tanks it is possible to use two doors, a door and a drawer or a single door. Similarly, the number, type and arrangement of the sprinklers may change as long as each tank is provided with at least one sprinkler.

**Claims**

1. A dishwasher including a washing pump from which ducts (C1, C2, C3) feeding water to respective sprinklers (S1, S2, S3) branch out, characterized in that it includes two washing tanks (A, M) one on top of the other separated by a partition wall (E) in which there is formed at least one drain hole (F), at least one of said sprinklers (S1, S2, S3) being arranged in each of said tanks (A, M) and valve means (V1, V2, V3) being provided on said ducts (C1, C2, C3) for independent control of the water feed to each of the sprinklers (S1, S2, S3). 5 10
2. A dishwasher according to claim 1, characterized in that the upper tank (A) houses a cutlery tray (G) inserted into an extractable drawer (R) whose front portion closes said tank (A). 15
3. A dishwasher according to claim 2, characterized in that a sprinkler (S3) is mounted on the ceiling of the upper tank (A). 20
4. A dishwasher according to claim 1, characterized in that the upper tank (A) houses a first rack for the dishes with its relevant sprinkler (S2) and the lower tank (M) houses a second rack for the dishes with its relevant sprinkler (S1). 25
5. A dishwasher according to claim 4, characterized in that each tank (A, M) is closed by a relevant door. 30
6. A dishwasher according to claim 4, characterized in that both tanks (A, M) are closed by a single door. 35

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Fig. 1

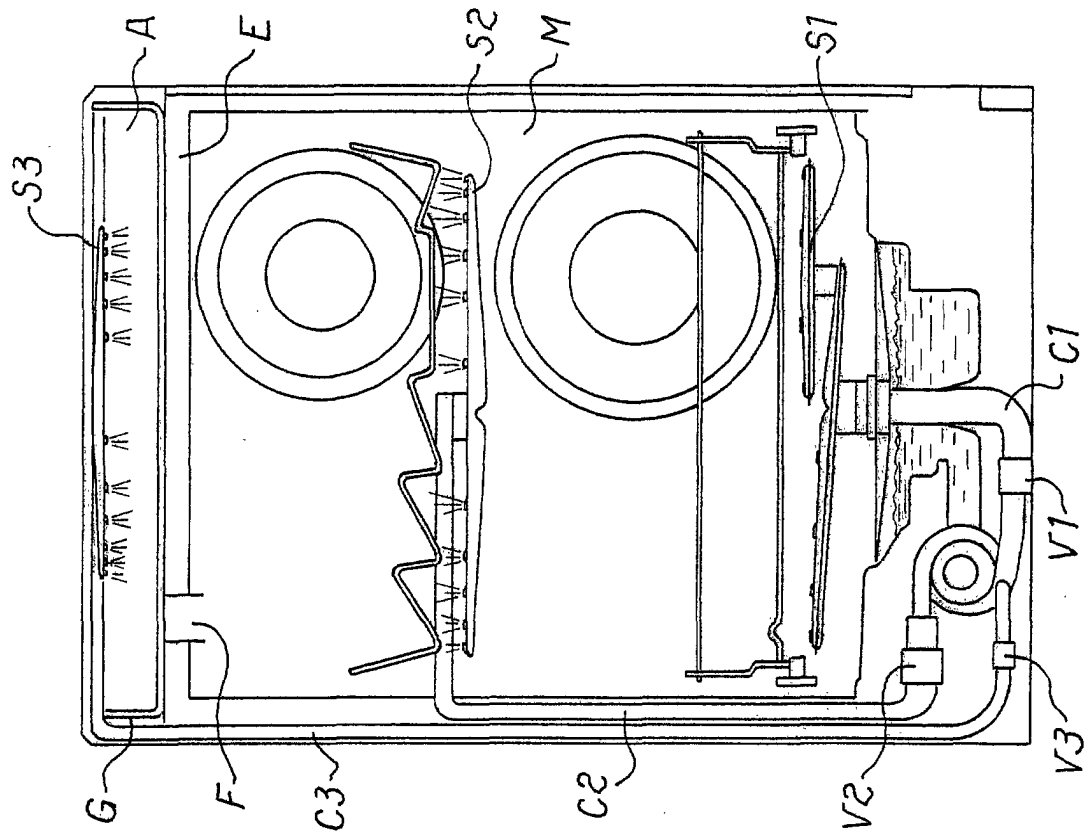


Fig. 2

