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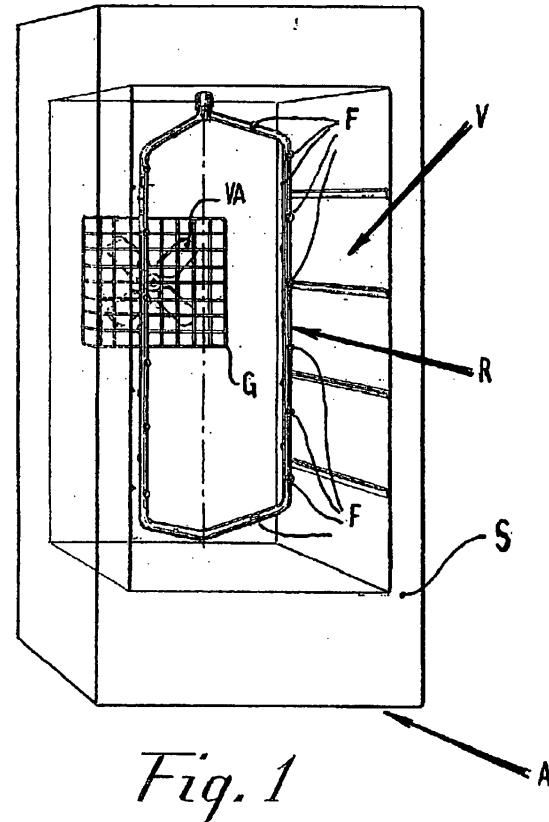
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### (54) Blast chiller provided of a device for his inner washing

(57) Blast chiller provided of a device for washing of his inner space constituted by a box body (S) provided of a inner space (V) inside which (V) are opportunely placed an evaporator, a fan (VA) and a protection grid (G) of the fan group (VA)/evaporator and an hooking element (AG) opportunely placed on the superior side of the inner space (V) of the blast chiller (A) for the connection and de-connection of the washing movable rotating element (R). Said hooking element (AG) can hold in a movable manner the washing movable rotating element (R) that can (R) be attached and detached easily by the necessity of the users.



*Fig. 1*

## Description

**[0001]** The present invention has as object a blast chiller provided of a device preferably movable, but also eventually fixed, for the washing of his inner space at the end to permit, at the end of every cycle of blast chilling and/or of a determinate period of established cycles, the complete and total cleaning of said inner space of the same blast chiller in the way to maintain it in perfect hygienic conditions.

**[0002]** Are commonly knew blast chillers generally utilized in the field of the production of raw foods, cooked and/or pre-cooked foods, all they result to be fundamentally constituted by a refrigerator cabinet provided of a refrigerating plant able to take away heat that results contained into the food introduced in their spaces at the end to take them at the most opportune temperature for the long conservation.

**[0003]** The blast chillers are substantially knew, and if the kind realized as above mentioned, and era not provided of fixed or movable devices for the cleaning of their inner spaces.

**[0004]** The impossibility to proceed to automatic and regular cleaning at every cycle of blast chilling and/or period of work takes who utilize it, for the right management of the procedure of treatment of foods and for the respect of the hygienic-sanitary rules actually in use, to do in the way that an operator at regular fixed times that can be at every cycles of blast chilling, or after weekly periods, etc., or at the change of the foods to treat, to proceed to the manual cleaning of the inner space surfaces of the same blast chiller doing it with the traditional might as abrasive sponges and detergents with consequent considerable time of "machine stop", the use of persons that manually do this operations and the related costs to this situation associated.

**[0005]** Furthermore, often, if who utilize the blast chiller don't proceed to the prompt cleaning of the food substances that accidentally, but that can't avoided, said food substances gone fixed doing crusts which with the time results difficult to remove.

**[0006]** Other and well known functional problems and/or operational are knew, for example the fact that the change of food to chill needs the fact that the inner space of the blast chiller must be reconditioned at the end to avoid the mixing of aromas and the properties of the foods that are alternate into the inner space of the blast chiller. In fact if, for example in a production centre of pre-cooked foods or of other gender, we have the cooking of fish and the consequent introduction of the same fish inside the inner space of blast chiller for his treatment, and after ended the "blast chilling" of the fish it will be introduced in the same blast chiller some meat, if the inner space, of the blast chiller, has not previously accurately cleaned, this inner space will transmit by his inner space surfaces and by the evaporator, the protection grid and the fan, the smell of fish previously treated damaging the quality of the meat consequently introduced.

**[0007]** We shall not go on in the description of all the lacks of the blast chiller commonly know, we undersign anyway the fact that is very important, i.e. that the blast chillers so as has been structured, being difficult to clean inside they results also of insufficient hygiene.

**[0008]** The objective of this invention is that to obviate to the series of lacks, limitations, and drawback and everything else contained into the traditional blast chillers and all this is obtained by the blast chiller that is object of the present invention.

**[0009]** For a better understanding of the characteristics and the advantages in the use, not only, but in the use of this blast chiller, the whole only at the sole exemplificative and not limitative title is here below described with reference to the drawing enclosed in which:

- the figure 1 shown with a perspective view a blast chiller, without the door, for clear descriptive motivations, provided, in his inner space, of a movable washing device;
- the figure 2 shown the same blast chiller showed with the same perspective of figure 1, but not provided, inside it, of the movable washing device

**[0010]** It is to note that the common elements will be called with the same numerical references.

**[0011]** It is to undersign, how putted in evidence in the figure 1, that the blast chiller A is fundamentally constituted by a common box element S provided of a inner space V in which is placed the evaporator, not in evidence, for the introduction of fresh air that is preferably placed and positioned back to a fan VA that is covered by a grid G, all them placed on the "back" of the same blast chiller A, i.e. on the vertical bottom of the inner space V.

**[0012]** Inside the inner space V of the blast chiller A are in evidence the holders of the shelves that will hold the foods substances, but will not described because are not important in the description for the object of the present invention.

**[0013]** It is to note that the elements described inside the inner space V of the blast chiller A are visible thanks to the fact that, how summarily expounded, the blast chiller A is not provided of the door at the end to permit the inner vision of the above mentioned inner space V of said blast chiller A.

**[0014]** Precisely, with reference to the figure 1 it will be noted that the blast chiller A will be provided, inside his inner space V, by a preferred, schematic and appropriate rotating device movable R for the washing of said inner space V and then the consequent emission from this (R) of the washing liquid substances that will happens by opportune holes F done in appropriate zones of the same (R).

**[0015]** Passing to the figure 2 it will be noted that the movable rotating washing device R has been moved from the inner space V, at the end to put the blast chiller in the conditions for a probable cycle of work of food and inside

it is remained only the hooking device AG of the same movable rotating device R.

**[0016]** Always with reference to the figures 1 and 2 it will be noted that the rotating movable device R will be installed in a movable manner connecting it to a hooking device AG as above mentioned. Said hooking device AG, of said movable rotating device R, results in this case applied on the superior side of the inner space V of the blast chiller A.

**[0017]** The utilization of the blast chiller A provided of an element movable and rotating R for his inner space V washing will results as how below described:

At every eventual cycle of blast chilling of the temperatures of the foods, i.e. with the blast chiller A without the movable rotating element R, to permit the insertion of the foods inside the inner space V of the blast chiller A, it is to refer to the configuration of figure 1 in which it results to be applied to the hooking element AG the movable rotating element R that, clearly after closing the door (not represented for clarity in the description) of the blast chiller A, it will be placed in function thanks to an opportune start system that can be a common switch that starts a device that has been programmed for a washing operation, or a real control panel in which id possible to set the cycles of wash that are not described because are known and not influent in the description and at the end of the characterization of the present invention.

**[0018]** Placed in function the movable rotating element R, this (R) will put out from his holes of emission F jet of washing liquid for the washing in the manner, i.e. with the heating or the vaporization of the water putted inside in the inner space of washing V, and with the appropriate times, i.e. it will put inside the detergives or the hot water or the vaporized water, or a mix of hot water and/or vaporized and detergives for the opportune times and the cycles at the end to realize the accurate and precise cleaning of the surfaces of the inner space V of the blast chiller A same. Clearly on the bottom of the inner space V of the blast chiller A it will be present an orifice for the exit of the water of the washing operation that will go out not only for gravity, but also, if necessary by the aid of a opportune pump.

**[0019]** Ended the cycle of washing the door will be opened and will be detached the movable rotating R, then the inner space V of the blast chiller A will be perfectly cleaned and said blast chiller will be perfectly clean and hygienically treated inside himself to allow new foods to treat.

**[0020]** It is to note that has not putted in evidence the commands, switch panels or other for the control and government of the washing of the inner space V because clearly they will be all known devices and then useless to describe, as well as the orifice that is for evacuation or eventual pumps for the removal of the washing liquids

has not been indicated because clearly knew and not influent in the description of the present invention. It is further to undersign that will be used devices that are used in the common washing machine of the specific

5 kind of the same field of the blast chiller A. Nevertheless forms and conformations of the movable rotating element (R) and the hooking system AG of the same (R) can be changed as well as can be changed also said hooking devices AG of the same (R) that are substantially, we 10 repeat, described and designed in a favourite fullfilment conformation at the sole exemplificative and not limitative title.

**[0021]** A possible variant solution of the a.m. solution, i.e. of the element for the washing of the inner space V, 15 inside the blast chiller A, of movable type can be realized by opportune elements fixed that comprise opportune jet placed in a not movable manner inside the inner space V of the same blast chiller A.

**[0022]** It is to note that the movable rotating device R 20 for the washing of the inner space V will go to clean also two particulars very important that are the grid G, the fan V of the evaporator, not designed, placed back to them (G-V) at the end to realize the perfect cleaning of the system blast chiller A and in the way that the evaporator 25 or the fan VA or the grid G cannot pollute or contaminate or modify the characteristics of the foods inserted inside the blast chiller after a cycle of work done with another kind of food. It is to add to this that also the hold systems that contain, or hold, the foods not described and applied 30 on the sides of the inner space V will be touched by the water jets, steam and detergives at the end to obtain their perfect cleaning.

**[0023]** Well is known that this described is a preferred 35 descriptive form of a possible way of realize conformation it also of preferred kind, at the sole exemplificative and not limitative function and will have the possibility of an ample change in his conformation without going out from the object of the present invention and from the argument until here described and claimed with reference to the 40 enclosed drawings and then from the dominion of protection of the present invention.

## Claims

1. Blast chiller provided of a device for washing of his inner space constituted by a box body (S) provided of a inner space (V) inside which (V) are opportunely placed an evaporator, a fan (VA) and a protection grid (G) of the fan group (VA)/evaporator and an hooking element (AG) opportunely placed on the superior side of the inner space (V) of the blast chiller (A) for the connection and de-connection of the washing movable rotating element (R) **characterized by** the fact that said hooking element (AG) can hold in a movable manner the washing movable rotating element (R) that can (R) be attached and detached easily by the necessity of the users.

2. Blast chiller as from claim 1 **characterized by** the fact that the element for the washing of the inner space (V) can be placed fixed inside said inner space (V) at the end to realize the same utility of the rotating movable element (R).

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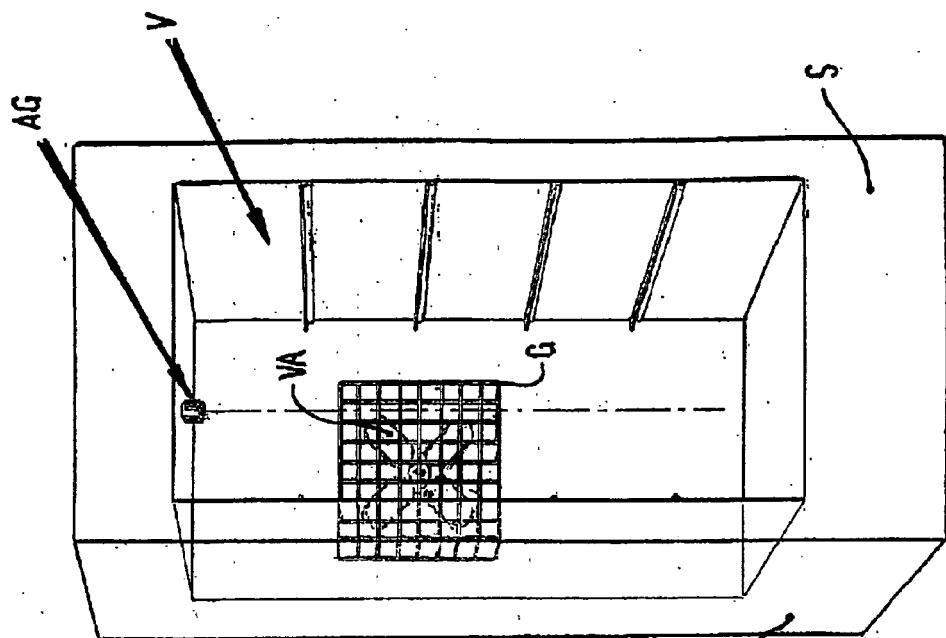


Fig. 2

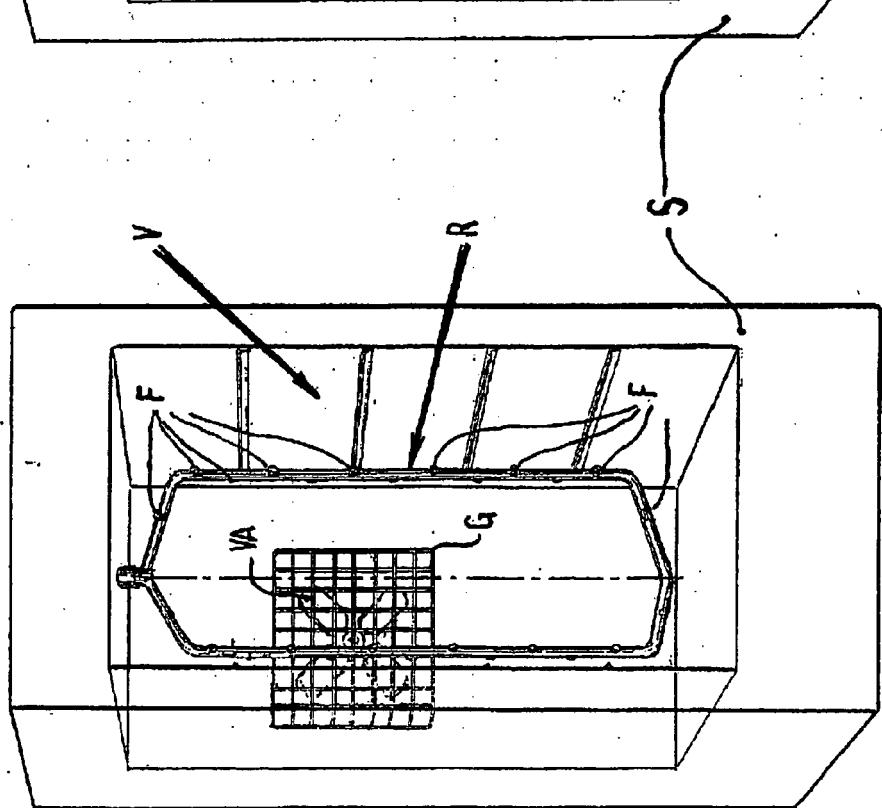


Fig. 1