

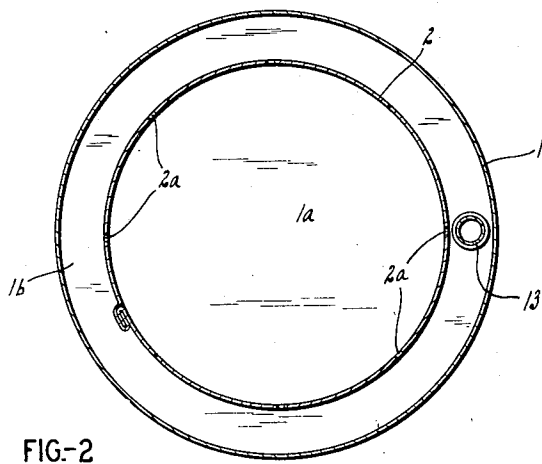
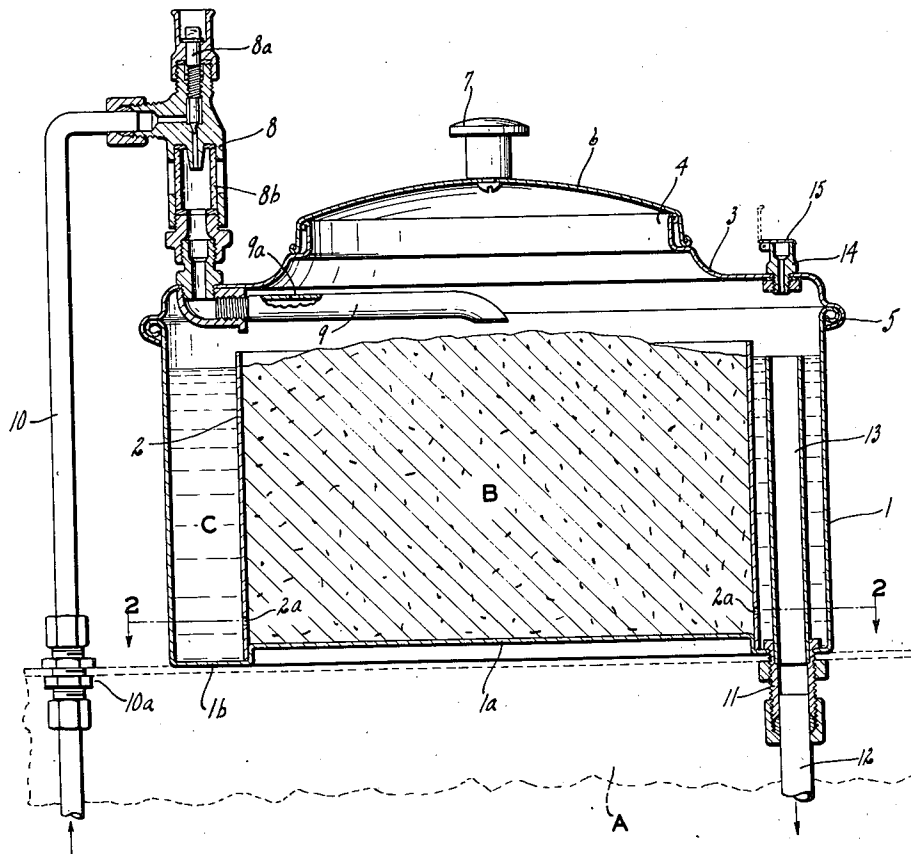
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FEEDING MEANS

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FEEDING MEANS

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6 Claims. (Cl. 299—83)

This invention relates to feeding of chemicals and is particularly adapted for employment in connection with a dishwashing machine or the like, for feeding cleaning chemicals to the washing water.

General objects of the invention are to provide improvements in the construction of the apparatus to make it simpler yet more effective for its purpose.

A particular object is to so construct the apparatus that the chemicals will be received therein only at the proper location. Another object is that the received chemicals be maintained at as high a temperature as possible by heat partly conducted from the washing machine upon which the apparatus is mounted. Another object is to prevent return flow of liquid to be fed to the chemicals. And still another object is to provide improved cleaning means for the outlet of the apparatus.

The exact nature of this invention together with further objects and advantages thereof will be apparent from the following description taken in connection with the accompanying drawing, in which Fig. 1 is a sectional elevation of an embodiment of the device in preferred form, as mounted on the top of a washing machine indicated in broken lines; and Fig. 2 is a horizontal section as in the plane of line 2—2, Fig. 1, but at a reduced scale.

With reference now to the drawing, 1 is a container having its side wall/part preferably cylindrical as here indicated. The bottom wall of the container has a central circular raised part 1a leaving an annular part 1b extending therebelow. The container rests upon the top of the machine to be served, such as a dishwashing machine A, so that the annular part 1b of the container bottom has contact with the machine. Within the container is a cylindrical partition 2 positioned by fitting about the raised part 1a of the container bottom and extending thereabove to a level preferably short of the top of the container. Obviously this partition divides the hollow of the container into two compartments, including a central or inner one B to receive chemicals, and thereabout an outer one C to contain solution as will appear.

Means are provided for restricted passageway from the compartment B to the compartment C adjacent the bottom parts of these compartments. Such means are here shown as a plurality of perforations 2a in the partition wall spaced thereabout at a uniform low level.

The container has a top part 3 extending in-

wardly from its outer wall, over the outer compartment C, with an opening 4 over the inner compartment B. This top wall part 3 may be permanently attached to the side wall part of the container as by the peripheral bead 5. A removable closure 6 having a handle 7 may be provided for the opening 4.

Means are provided for inlet of controlled small amounts of water to the inner compartment B of the container dependent upon operation of the machine A. For this purpose a sight feed device 8 is mounted on the top wall 3 outside the container and connected through this wall with a nozzle device 9 within the container. A line 10 leads through the top of the machine A by way of the connection 10a, from within the machine to the sight feed device. The latter has an adjustable needle valve 8a and a sight glass 8b whereby fine regulation of flow may be had. The nozzle 9 leads from the feed device 8 to a discharge outlet located centrally above the inner compartment B of the container. A vent 9a is provided at the top part of the nozzle 9 by which any thermosiphonic tendency to return flow in the line 10 is eliminated.

The outer compartment C of the container has a bottom outlet connection for feed therefrom to the interior of the machine A, and including a fitting generally indicated at 11 connecting a line 12 with the compartment C by way of the indicated passage opening in the fitting 11. That a liquid level may be maintained in the compartment C, a riser 13 is provided, connected as with the fitting 11, extending upwardly therefrom and terminating somewhat short of the top of the partition 2.

For clean-out of this container outlet, an opening is provided in the container top wall 3 in alinement with the riser 13. As here shown such opening is had by way of a fitting 14 mounted in the top wall and having a cover 15.

Operation will be as follows. The inner compartment B is filled with suitable chemicals in crystalline or other suitable form, by removing the cover 6 and dumping the chemicals through the opening 4. This opening being only over the inner compartment B, such chemicals will only enter this inner compartment and none will fall into the outer compartment C.

In operation the line 10 has connection for hot water inlet under pressure responsive to delivery of hot water to the machine A. As will be appreciated in the art, such connection may be with the high temperature rinse water line serving the machine. At any rate the valve 8a

is adjusted with the aid of the sight glass 8b to provide a drip of the proper slight quantity of water from the line 10 when the machine A is in operation through at least a part of its washing cycle. Obviously such water as passes the feed device 8 is led by the nozzle over the inner compartment B where it drops onto the chemicals contained in the latter. This water seeps down through the chemicals, dissolving the latter and ultimately finds its way in a substantially saturated condition, out through the openings 2a and into the outer compartment C. The liquid in this compartment attains the level determined by the elevation of the mouth of the riser 13, into which it overflows and runs down through the pipe 12 to the machine A.

Obviously in the normal operation of the feeding device, the outer compartment C will be filled approximately to overflow level, with hot solution of chemicals from the compartment B. Thus chemicals within the compartment are maintained at a high temperature by the hot water received from the nozzle 9 and by the hot water in the compartment C by which the compartment B is effectively jacketed. The top of the machine A being hot, from the hot water and steam within the machine, the temperature of the liquid within the compartment C is maintained by the contact of its bottom wall part 1b bearing upon the top of the machine A.

Obviously also, feed from the apparatus into the machine A will be of liquid solution of chemicals and at a maximum rate determined by the setting of the valve 8a.

The container is secured in its position upon the machine A by the connection 11 through which delivery is had from the apparatus to the machine, and also by the connection 10 leading from the machine to the container.

For cleaning the outlet parts of the apparatus which tend to erosion from chemical strength, a wire or the like inserted through the clean-out fitting 14 is automatically directed into the riser 13.

What I claim is:

1. Feeding apparatus of the class described comprising a container, partition means disposed therein to provide a pair of upwardly opening compartments one about the other, said container having a top wall part extending inwardly from its sides to overhang but clear the partition means, with an opening above the inner compartment, whereby chemicals dumped through said opening will fall only into said inner compartment, means for feeding a liquid to the contents of the inner compartment, means providing passage therefrom through said partition means to the outer compartment, and means providing an overflow outlet from the outer compartment.

2. Feeding apparatus of the class described comprising a container, partition means disposed therein to provide a pair of upwardly opening compartments, one for chemicals and one for solution thereof, said container having a top wall part covering the solution compartment and clearing said partition means, with an opening above the chemical compartment, means mounted upon said container top wall for feeding a liquid to chemicals in said chemical compartment and including an adjustable sight feed device outside the container and a nozzle device within the

container and extending over said partition means and beneath said opening to discharge centrally of the chemical compartment, means providing restricted passage from the chemical to the solution compartment, and means providing an outlet from the solution compartment.

3. Feeding apparatus of the class described comprising a container, partition means disposed therein to provide a pair of compartments, one for chemicals and one for solution thereof, said container having a top wall part covering the solution compartment, with an opening above the chemical compartment, means mounted upon said container top wall for feeding a liquid to chemicals in said chemical compartment and including an adjustable sight feed device outside the container and a nozzle device within the container, said nozzle device having a vent disposed to prevent siphoning from said container to said sight feed device, means providing restricted passage from the chemical to the solution compartment, and means providing an outlet from the solution compartment.

4. Feeding apparatus of the class described comprising a container, partition means disposed therein to provide a pair of compartments, one for chemicals and one for solution thereof, said container having a top wall part covering the solution compartment, with an opening above the chemical compartment, whereby chemicals dumped through said opening will fall only into said chemical compartment, means for feeding a liquid to chemicals in said chemical compartment, means providing passage therefrom to the solution compartment, said container having a bottom outlet opening from the solution compartment, said container top wall having a small opening over said outlet opening for admission of a cleanout tool to said outlet opening.

5. Feeding apparatus of the class described comprising a container, partition means disposed therein to provide a pair of compartments, one for chemicals and one for solution thereof, said container having a top wall part covering the solution compartment, with an opening above the chemical compartment, whereby chemicals dumped through said opening will fall only into said chemical compartment, means for feeding a liquid to chemicals in said chemical compartment, means providing passage therefrom to the solution compartment, and means providing an outlet from the solution compartment and including a riser for determining a solution liquid level, said container top wall having a small cleanout opening aligned with said outlet.

6. Feeding apparatus of the class described comprising a cylindrical container adapted to be positioned upon the top of a washing machine, the bottom of said container having a central raised portion, partition means fitting about said raised portion and extending thereabove short of the top of said container to provide a pair of compartments, one for chemicals and the other thereabout for solution said compartments having their upper portions in communication over said partition means, means for feeding a liquid to chemicals within said chemical compartment, means providing passage therefrom through said partition means to the solution compartment, and means providing an outlet from the solution compartment.

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