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DEVICE FOR SEPARATING TABLEWARE AND FOOD-LEAVINGS ON CLEANING CROCKERY, PLATES AND SIMILAR UTENSILS

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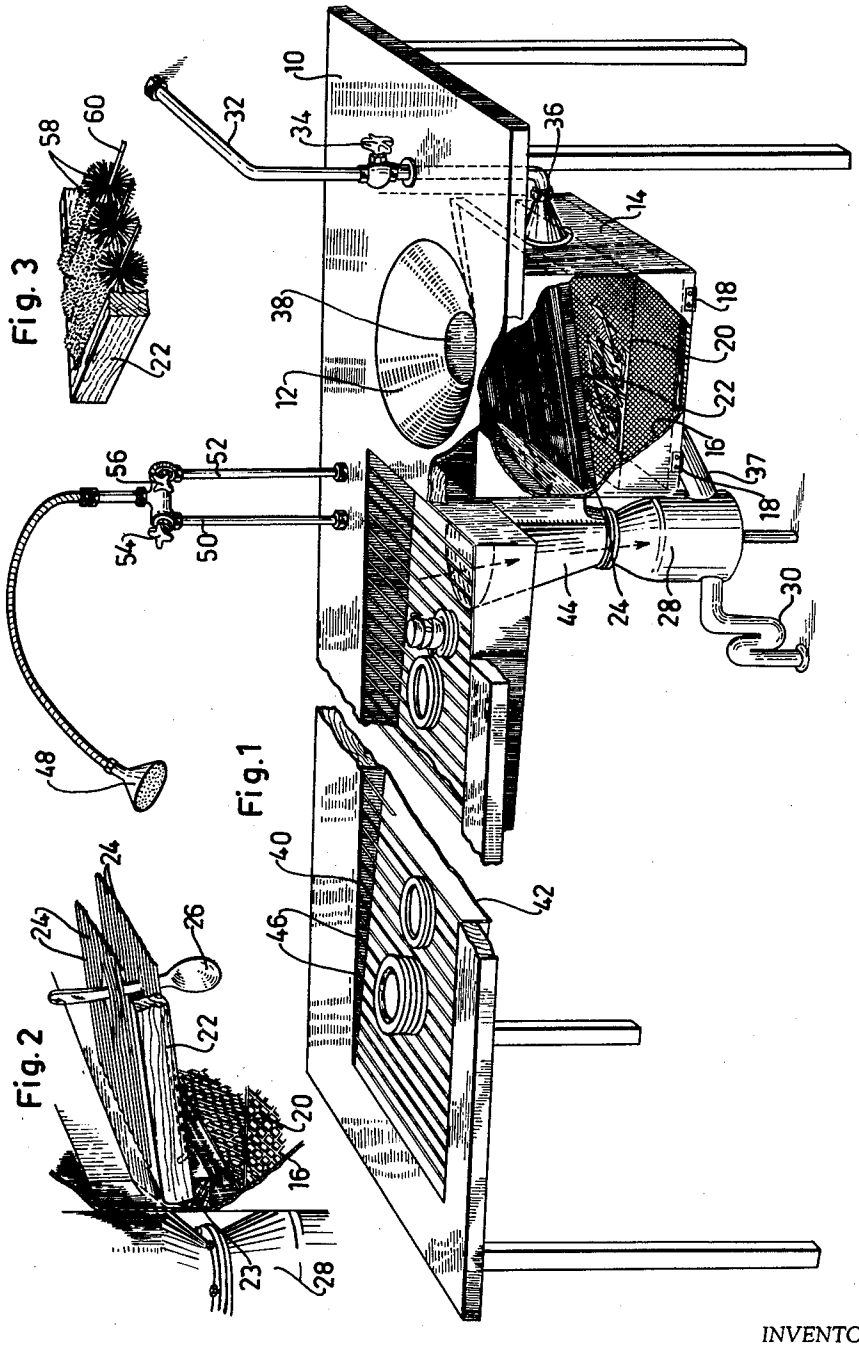


Fig. 1

Fig. 2

Fig. 3

INVENTOR.
DICK ARNE FLODELL

BY

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DEVICE FOR SEPARATING TABLEWARE AND FOOD-LEAVINGS ON CLEANING CROCKERY, PLATES AND SIMILAR UTENSILS

Dick Arne Flodell, Strandvagen 11, Saltsjobaden, Sweden

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This invention relates to a device for separating tableware and food-leavings on cleaning crockery plates and similar utensils.

After the tables in restaurants, inns and similar eating-houses have been cleared from the service, a separation is effected in the kitchen department of the food-leavings and tableware on the service. The food-leavings are usually emptied into a garbage container, and it often happens that tableware goes along with the food-leavings and thus is lost. Investigations have shown that the value of the yearly wastage of tableware may amount to several tens of thousands of dollars in a restaurant of average size.

It is one main object of the invention to provide a device which renders it possible to automatically separate the tableware and the food-leavings so as to minimize the losses in consideration.

Further objects and advantages of the invention will become apparent from the following description, considered in connection with the accompanying drawing, which forms part of this specification, and of which:

FIG. 1 is a perspective view of a dishtable having a device embodying the invention mounted therein.

FIG. 2 is likewise a perspective view but on a larger scale of a portion of the device shown in FIG. 1.

FIG. 3 illustrates a modified embodiment of the invention.

Referring to the drawing, reference numeral 10 denotes a dishtable with a funnel 12 mounted therein. Below said funnel and connected with the dishtable is a box 14 the front wall 16 of which is pivotable about hinges 18 and which is provided with a collecting basket 20 for tableware. Between the basket 20 and the funnel 12 a frame 22 is disposed on supports 23, said frame carrying mutually parallel wires 24 (FIGS. 1 and 2) formed and disposed in accordance with the invention. If desired said wires may be arranged in two layers, as is shown in FIG. 2. The wires 24 are either made to be resilient in themselves, or they may be resiliently attached to the frame so as to be capable of becoming separated sufficiently to let the pieces of tableware through when these are dumped through the funnel 12. The wires may consist of ordinary strings having a predetermined resilience or they may be made of some plastic material having a predetermined elasticity, or they may take the form of helical springs or the like members. Together with the separating members, such as the wires 24, the frame 22 forms a unit conveniently mountable in the box 14.

Due to the fact that the wires 24 are freely movable in relationship to one another they let through the pieces of tableware, cf. the spoon 26 indicated in FIG. 2, so as to cause said pieces to fall down into the basket 20. At the same time the spacing of the wires is so small that the food-leavings, or at least the major portion thereof, remain on the top surface of the wire layer. This surface may assume an inclined position to the horizontal in order to facilitate the discharge of the food-leavings to an outlet wherein, in the embodiment illustrated, a garbage grinding unit 28 is disposed. The comminuted garbage escapes through a conduit 30. The wires 24 are preferably parallel to the direction of movement of the food-leavings moving towards the grinding unit 28. In order to facilitate the cleaning of the wires from the garbage they may be flushed by a medium such as water or air, which is supplied through a conduit 32 controlled by a valve 34. The conduit has a spraying device 36 for the water which strikes the food-leavings and moves them downwards towards the garbage grinding unit 28. The water flowing down through the wires and the basket 20 is drawn off through a conduit 37 to the grinding unit 28 and to the conduit 30.

The funnel 12 has a lower opening 38 representing the minimum diameter of the funnel which diameter suitably is less than the length of at least ordinary tableware, such as knives and forks. Thereby these may pass through the funnel in an inclined position only, in which they then strike the wires. Hereby pieces of tableware are effectively prevented from falling down while being in a horizontal position, in which case they might remain on the wire layer if the longitudinal direction of the tableware piece at the same time is transverse to the longitudinal direction of the wires. Further, the opening 38 may be located at a height above the wire layer which is less than the length of at least the ordinary tableware, and the purpose of this arrangement is that the pieces of tableware are to maintain their inclined position until they enter between the wires.

Referring now in particular to FIG. 1 the dishtable 10 has a gutter-like depression 40 bottom 42 slopes towards an outlet funnel 44 which may open into the garbage grinding unit 28. Further the gutter 40 is provided with a grating 46 of metal bars or wires flush with the top surface of the dishtable. After the service members have been freed from tableware and the major part of the food-leavings, they are placed on the grating 46. They may now be subjected to a rough cleaning by means of a shower 48 having supply conduits 50, 52 for hot and cold water and cocks 54 and 56, respectively. Remaining residues on the service members are caught by the sloping bottom 42 and are automatically drawn to the outlet 44. In this way the procedure is simplified which the service has to pass in the dish-washing machine.

The embodiment illustrated to FIG. 3 differs from the preceding one by the feature that the resilient wires have been given the form of bristles 58 or the like members secured to longitudinal carrier elements 60 in such a manner as to extend radially from said elements, suitably about the whole periphery of the latter, the construction being similar to a lamp-brush or whisk. In this embodiment the bristles 58 are thus only secured at one end. The bristles of two adjacent brush units may extend into and among each other and as to the rest they have such resilient flexibility that is necessary for permitting the tableware to pass through and catching at the same time the food-leavings so the food leavings will pass along the upper surfaces of the bristles 58 to the garbage grinding unit 28. The wire-like carrier elements 60, on the other hand, may be comparatively rigid.

A bag (not shown) may be positioned at the lower part of the frame 22 instead of the garbage grinding unit 28, in which bag the garbage is collected. Cleaning of the frame wires may be carried out in a mechanical way. In some cases tapes may be used instead of wires, which tapes are disposed edgeways and also have the resilient properties required for the combined effect of permitting the specifically heavier tableware to pass but stopping the specifically lighter garbage from the service members.

While several more or less specific embodiments of the invention have been shown and described, it is to be understood that this is for purpose of illustration only, and that the invention is not to be limited thereby, but its scope is to be determined by the appended claims.

What I claim is:

1. A device for separating tableware and food-leavings on cleaning of crockery, plates and similar utensils, characterized by resilient members disposed in a dump-opening with such a spacing and mutual relation as to allow the specifically heavier tableware to pass, but to retain the specifically lighter food-leavings, a conical funnel disposed above the dump-opening, said funnel having its smallest diameter at the bottom, which diameter is smaller than the length of at least ordinary knives and forks so as to compel them to assume an inclined position in passing the funnel.

2. A device according to claim 1, characterized in that the lower edge of the funnel is located in a vertically spaced relation to the members which is less than the length of ordinary knives and forks.

3. A device for preventing loss of tableware in cleaning food leavings from dishes comprising a dish table having a funnel extending downwardly from the surface thereof in convergnig relation, a box mounted below said funnel for receiving tableware, a basket in said box, means to open one side of said box to permit insertion and removal of said basket, an inclined frame mounted in said box below the small opening in said funnel with the plane of said frame being spaced downwardly from the small open end of the funnel a distance less than the length of tableware, means to mount said frame so that the plane

thereof is inclined to the horizontal, means to mount elongated elements with their lengths lying in the inclined plane of said frame, and a discharge outlet at the lower end of said frame for receiving food particles separated from the dishes and the tableware, said elongated elements having flexible portions of a nature to permit the passage of tableware between adjacent elongated elements so that the tableware will be collected in the basket.

4. The invention according to claim 3 in which a spray means is provided for directing water on the leavings on the elongated elements in the frame for washing such leavings through the outlet.

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