May 28, 1946. F. T. HILLIKER 2,400,879

TABLEWARE SCRAPPING AND SALVAGING MACHINE

Filed Nov. 16, 1942.

Fig. 1.

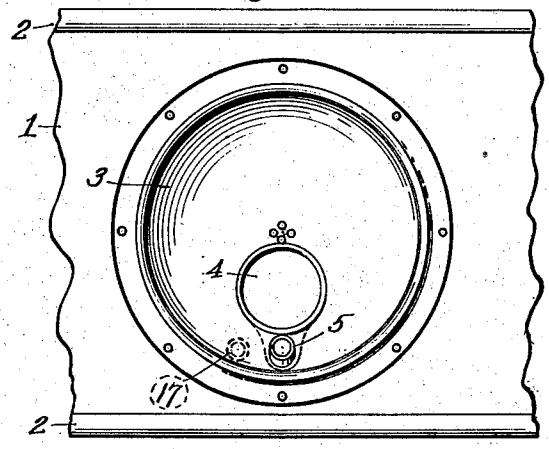


Fig. 2.

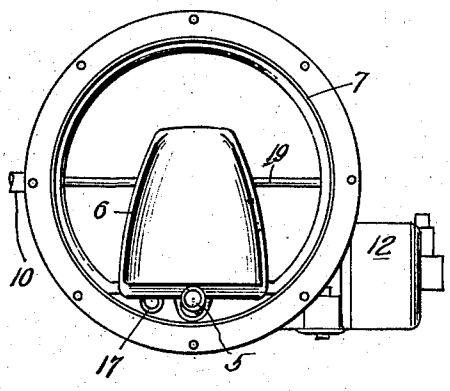


Fig. 3.

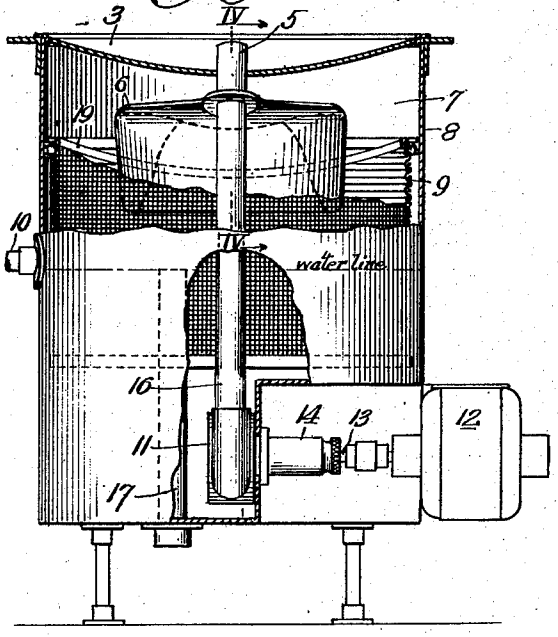
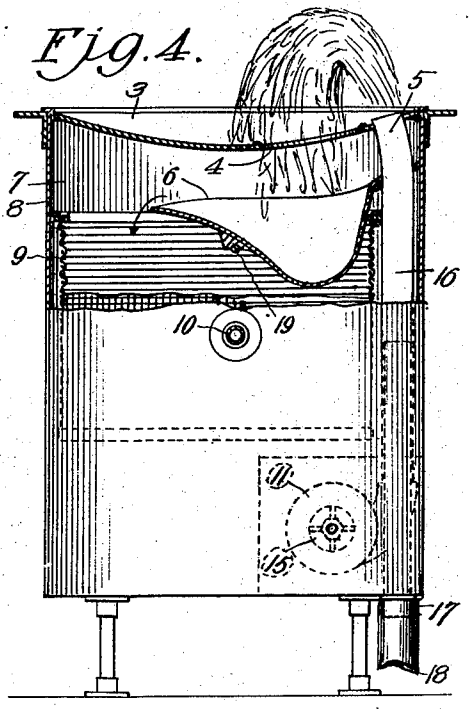


Fig. 4.



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TABLEWARE SCRAPPING AND SALVAGING MACHINE

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Application November 16, 1942, Serial No. 465,789

5 Claims. (Cl. 134—111)

This invention relates to table scrapping and utensil salvaging apparatus and is particularly designed for food service establishments as for example, large restaurants, hotels, hospitals and institutions, private, public or governmental. Present methods of handling soiled table ware leads to its loss. An outstanding objection to present methods of handling soiled table ware is the fact that it goes into the dish washing machines so dirty that the machines' functional efficiency is reduced to such extent that the ware must be rewashed. One of the objects of the present invention is to give the ware a preliminary conditioning treatment of such nature as to so loosen and flood away food scraps and deposits that only one pass through a dishwasher will be necessary.

Another object of the invention is to provide apparatus which will insure the recovery of all table ware which may be scrapped accidentally along with the refuse.

Another object of the invention is to provide apparatus of the above character in which a determined quantity of water may be recirculated through the apparatus, the scraps being continuously withdrawn from the water, or being trapped in or from the water for intermittent withdrawal. It is to be understood that the term water is herein used in a general sense and is intended to cover any suitable liquid or chemical. It is to be understood also that water may be supplied from any source, such as, for example, a water feed line or from the overflow of a dish washing machine. Of course, where water is plentiful and there is no advantage in its recirculation, the apparatus to be later described is operative without water recirculation, the water being continuously wasted.

With the general objects named in view and others as will hereinafter appear, the invention consists in certain novel and useful features of operation, construction and organization of parts as hereinafter described and claimed; and in order that it may be fully understood, reference is to be had to the accompanying drawing, in which—

Figure 1 is a top plan view of a scrapping and salvaging machine embodying the invention.

Figure 2 is a similar view omitting the table and depressed or basin portion of the machine.

Figure 3 is an enlarged front sectional elevation disclosing the lower part of the water collecting chamber, with the scrap or garbage basket broken away and the ware salvaging basin in elevation.

Figure 4 is an elevational view of the left-hand side of the machine with the upper parts of the tank or water collecting chamber, the salvage basin, and the garbage basket, in vertical section on the line IV—IV of Figure 3.

In the said drawing, where like reference characters identify corresponding parts in all of the figures, 1 is a scrapping table of normal working height, and of any desired shape or configuration in plan view. The table 1, by preference, is provided with an upstanding marginal flange 2 to prevent accidental dislodgement of trays or table ware. The table may be slightly inclined to provide a depressed or basin area or it may be level, but, by preference, it is provided at any convenient point in relation to its dish receiving and discharging ends, with a removable concave or depressed scrapping basin or section 3 of shallow depth. A basin of this sectional profile permits dishes that have come to rest therein to be swept out of the basin with a sweep of the hand without the delay incident to picking them up from a vessel with too deep or sharply inclined walls. The preferred design materially speeds up handling time.

The concave section 3 has the additional function of providing a well-lubricated or flushed area for the ready sweeping of scraps into a scrap hole 4. A water nozzle 5 is preferably positioned to discharge part of its downwardly falling water column onto the basin 3 and a part directly through the scrap hole 4 without contacting the periphery of said hole. By preference, the nozzle is substantially flush with the depressed or basin section of the table, and it is inclined to loft the water over the scrap hole as shown in Figure 4, since this method makes it possible to pass dishes horizontally through the stream and effectively wash top and bottom surfaces at one pass. This is preferable to having the stream flow in one direction since in such event a greater degree of turning, rotation, or oscillation of the dish on a horizontal axis will be required to pre-condition or flush all of its surfaces. If water waste is no problem and the garbage need not be recovered or separated from the flush water, as say, might be found on ship board, no further apparatus is essential.

However, in locations where the garbage must be removed from the water, and in those cases where the saving of water is an object, it will be apparent that means must be provided to remove or separate the garbage and water. There are several methods by which this object can be accomplished, such as, trapping the garbage and

wasting the water; retention of the water and the continuous or intermittent withdrawal of the garbage or scraps, or in those cases where the garbage disposal may require a percentage of water waste, then a volume of water can be recirculated and a volume can be continuously wasted, and any suitable means may be provided to continuously or intermittently replace the wasted water. For convenience of illustration, the type of installation which would be employed in the average food service place, is illustrated herein, where the water is recirculated, the garbage being trapped or separated and intermittently withdrawn from the water.

In the present illustration of the invention, see Figure 4, a removable ware salvaging basin 6 is shown, but the operation and construction of the apparatus will first be described as though this vessel or basin were not employed. The salvaging basin 6 is used in those cases where there is loss of ware. Positioned below the table to receive the scraps and water flowing through the scrap hole 4 is a water-receiving chamber 7, shown in the form of a tank. Suspended or set within the tank 7 is a foraminous scrap receiving basket 9. Water is normally admitted from an outside source through pipe 10 until it stands at the water line shown in Figure 3. Mounted within the tank is any suitable type of liquid pump 11, driven by any suitable power means, such as an electric motor 12 having its shaft 13 passing through a stuffing box 14 to drive the pump 11. The intake 15 of the pump 11 communicates with the bottom of the water chamber 7, the delivery side of the pump being connected by a pipe 16 to the nozzle 5, which, by preference, is substantially flush with the table top and is directed to loft the water in the direction of the scrap hole as above described and as illustrated in Figure 4. The tank water level may be maintained by providing an overflow pipe 17. It will be evident that with this system, the water can be recirculated continuously up to the point of too great contamination by the addition of solubles and small solids passing through the basket with the water. The tank may have a bottom drain for flushing purposes, one arrangement being to provide the overflow pipe 17, as shown, with a slipjoint connecting it to the sewer or drain pipe 18. When the basket 9 becomes full, or at intermittent periods, the pump 11 may be shut off, and the depressed portion 3 of the machine may be removed. The operator then removes the basin 6 if it is being employed, and by thereafter grasping the basket handle cross bar 19, may lift the basket or trap 9 and dump its contents.

Where salvaging of ware is desired, the catch or salvage basin 6 is interposed between the level of the accumulation or garbage in the basket 9 and the scrap hole 4. The machine is designed in accordance with the volume of dishes to be handled in the average food service unit operation. The size and proportions of the salvage basin 6 will be such as to maintain turbulence to the bottom of the vessel of such violence as to be insufficient to flood out the ware, but to insure the flooding out of the garbage or scraps over the weir-like lip of the basin. The salvaging basin 6 is preferably of such proportion that all water falling through the scrap hole 4 will be intercepted, it being understood also that the structure is so designed that the operator cannot toss or throw ware or scraps through the scrap hole at such angle as to pass over or beyond the salvage basin 6.

From the above description it will be apparent that I have produced a construction embodying all of the features set forth as desirable, and while I have described and illustrated the preferred embodiment, it is to be understood that I reserve the right to all changes within the spirit and scope of the appended claims.

I claim:

1. A table ware salvaging and dish scrapping table having a scrap hole, a water discharge nozzle having a portion of its flow discharging through the scrap hole, a foraminous basket below the scrap hole to separate the scraps from the water, and a table ware salvaging basin in a plane between the table and basket for intercepting the water falling through the scrap hole.

2. A table ware salvaging and dish scrapping table having a scrap hole, a water discharge nozzle having a portion of its flow discharging through the scrap hole, a foraminous basket below the scrap hole to separate the scraps from the water, a salvaging basin in a plane between the table and basket for intercepting the water falling through the scrap hole and separating the ware from the scraps, a tank for collecting the water falling through the scrap hole, and means for recirculating the water from the tank through the nozzle.

3. A table ware salvaging and dish scrapping table having a scrap hole, a water discharge nozzle arranged to loft water from one side to the other of the scrap hole and having its discharge mouth substantially flush with the surface of the table, a foraminous basket below the scrap hole to separate the scraps from the water, a salvaging basin in a plane between the table and basket for intercepting the water falling through the scrap hole and separating the ware from the scraps, a tank for collecting the water falling through the scrap hole, and means for recirculating the water from the tank through the nozzle.

4. A dish scrapping machine having a table-like top provided with a scrap hole, a nozzle for supplying a flow of water to the top for passage through the scrap hole, a water receiving tank below the scrap hole, a salvage basin interposed between the scrap hole and tank to intercept the water flowing from the former, said salvage basin having a depressed weir-like lip to maintain a predetermined depth of outflowing water, and a pump for circulating water from the tank to the nozzle.

5. A dish scrapping machine having a concave table-like basin formed with a scrap hole of relatively small area in relation to the area of the basin, the edge of said scrap hole being entirely below the horizontal plane of the top of the concave basin, a nozzle in substantially the plane of the top of the basin and positioned to throw an arcuate stream of water into the basin for exit through the scrap hole, a water receiving tank below the basin, an overflow pipe for maintaining a constant water level within the tank, a removeable foraminous basket within the tank and of substantially the same diameter as the basin and positioned to catch and retain all solids flowing through the scrap hole, and a pump having its intake within the tank and outside the basket for recirculating water from the tank to the nozzle.

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