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DISHWASHING MACHINE

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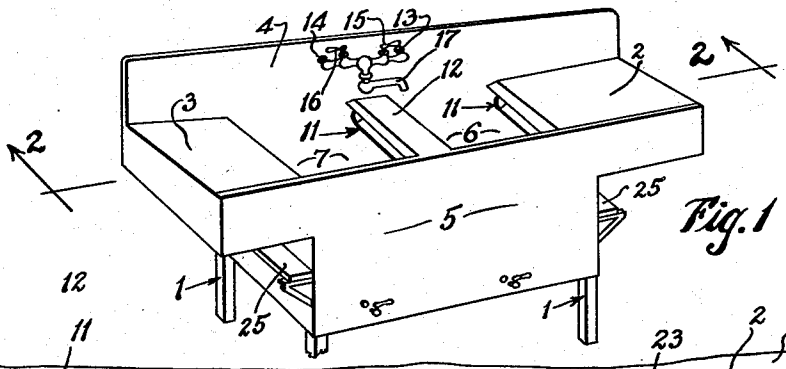


Fig. 1

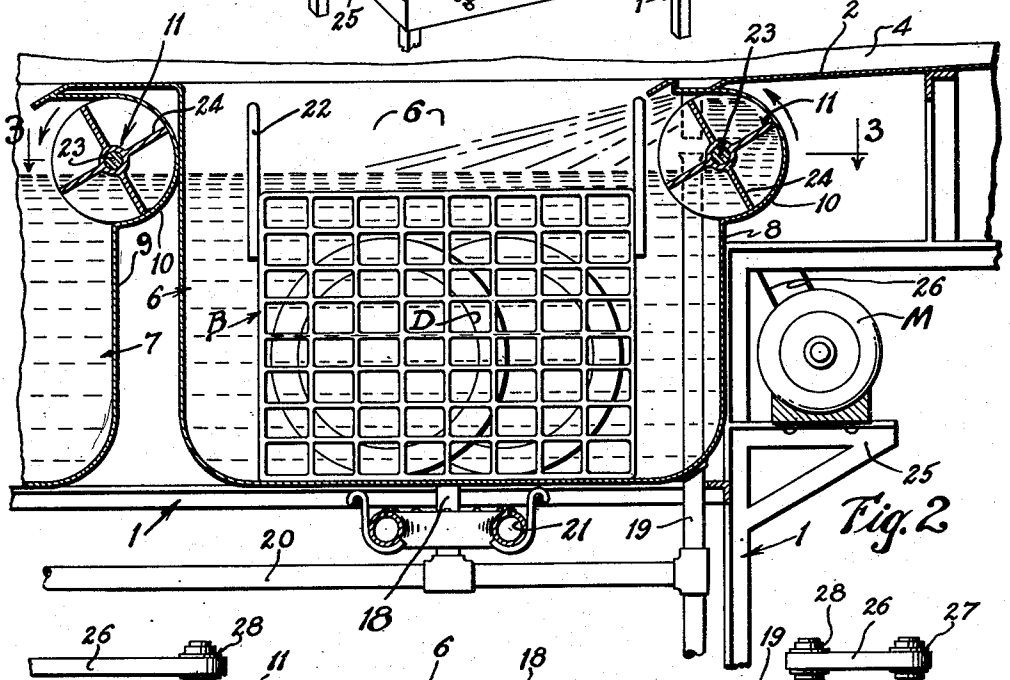


Fig. 2

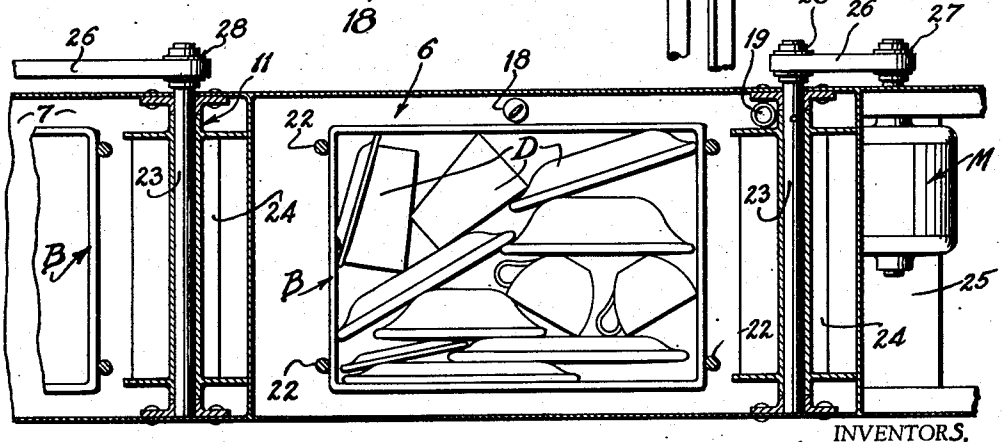


Fig. 3

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DISHWASHING MACHINE

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3 Claims. (Cl. 259—64)

This invention relates to and has for an object the provision of a dish washing machine adapted to be constructed as a stationary structure or as an accessory to an ordinary duplex sink such as are used in restaurants and the like for washing and rinsing dishes. Our invention embodies two separate units, one for washing and one for rinsing dishes, or a unit for either of said purposes, and includes a receptacle of sufficient capacity, a source of supply for hot and cold water, a tray or basket removably held in the receptacle and a motor driven impeller at least partially submerged in the water or liquid and arranged to forcibly direct a cleansing or rinsing fluid upon dishes held in the tray or basket and to cause and maintain a circulation of the fluid in the receptacle so as to render it unnecessary to individually scour the dishes.

Thus, when separate and contiguous cleansing and rinsing units are used the baskets containing the dishes may be transferred from the cleansing unit to the rinsing unit in large or small quantities depending upon the necessities of an occasion.

An important object is to provide a simple, effective and economical mechanism which requires a minimum number of parts and a minimum of handling and particularly, to eliminate the necessity of handling each individual dish in a washing operation. Other objects of invention will appear in the description hereinafter following.

We have shown a preferred form of device, in the accompanying drawings, subject to modification, within the scope of the appended claims, without departing from the spirit of our invention.

In said drawing:

Fig. 1 is a perspective view of a dish washing machine constructed as a duplex unit for washing and rinsing dishes;

Fig. 2 is a section of the same on line 2—2 of Fig. 1;

Fig. 3 is a top plan view of our apparatus.

Briefly described, our improved apparatus includes: a suitable frame 1 constructed with sheet metal drain boards 2, and 3, a splash board 4 and a front 5 so formed as to enclose and support a pair of sinks 6 and 7. Corresponding sides 8 and 9 of said sinks are provided with arcuately formed upper portions 10 which are concentric with impellers 11, 11, arranged at a side, in each case, of the respective sinks 6 and 7 with their peripheries below the level of the associated drain boards 2 and 3 so as to be partially, at least, submerged in the liquid contained in said sinks.

Intermediate the sinks 6 and 7 a section 12 is provided which overlies the impeller 11 of the sink 7, as shown in Fig. 2, while the drain board 2 similarly overlies the impeller provided in sink 6. Hot and cold water are fed from pipes 13 and 14 and the supply thereof is controlled by means of usual faucets 15 and 16, respectively, which are connected with a central swing pipe 17 arranged to be swung into position for supplying water of a desired temperature to either of the sinks 6 or 7.

Drain pipes 18 are provided at the bottoms of the sinks 6 and 7 and are connected with overflow pipes, as at 19 which are extended upwardly a suitable distance in the sinks and are, together with drains 18, connected with a common waste pipe 20 which may lead to a sewer connection. Each sink has a gas or electric burner 21 mounted therebelow for the purpose of maintaining the cleansing solution and rinsing water at a substantially uniform temperature, as shown in Fig. 2.

The dishes D are adapted to be held in loose formation in pervious baskets B preferably formed of wire mesh and provided with handles 22 by means of which the dish laden baskets may be carried to, deposited in and removed from the sinks 6 and 7. As shown in Figs. 2 and 3, the dishes D are preferably arranged edgewise in the baskets B so that their edges are disposed adjacent the impellers 11 and the turbulence of the solution in which the dishes are held serves to wash the matter from the dishes.

Each impeller 11 is mounted on a transverse shaft 23 suitably journalled on the frame 1 and has a plurality of radial blades 24 which, when the impellers are rotated in a counter-clockwise direction, as shown in Fig. 2, operate to throw the water or cleansing solution outwardly upon and between the dishes D while the water or solution is drawn upwardly from points beneath the surface of the solution, thereby creating sufficient turbulence in the sinks to thoroughly cleanse the dishes.

Preferably, though not necessarily, the impellers 11 are operated by separate motors M which may be arranged, as shown in Fig. 2, on brackets 25 extended from the frame 1. Motors M are connected by any suitable means with impellers 11, such as belts 26 operating over driving pulleys 27 attached to the motor shafts and pulleys 28 attached to the ends of impeller shafts 23.

The operation of the mechanism is obvious, inasmuch as the impellers when rotated by the

motors M create a turbulence in the cleansing solution of sink 6, for instance, and in the rinsing water of sink 7, which directs the water or solution forcibly against and between the dishes D, thereby causing the removal of the grease and particles of food while the dishes are held in the baskets B.

When sufficiently cleansed a tray or basket B with its dishes is removed from the cleansing receptacle 6 and deposited in the rinsing receptacle 7 and subjected to a similar turbulence of the water for removing the cleansing agents from the dishes. Thus, the dishes are not individually handled except as required for properly positioning the dishes in the baskets, and a washing operation may be continuously performed with better results and less expense and greater speed than with machines of other well known types.

What we claim as new and desire to secure by Letters Patent, is:

1. A dish washing machine comprising: a frame having a splash board forming a back, shelves at the ends thereof extending forwardly of said back, a vertical partition intermediate said shelves, end walls adjacent the inner ends of said shelves and a front, providing a pair of similar receptacles for a cleaning solution and water, respectively, a rotatable impeller mounted on a transverse horizontal axis and supported at corresponding ends of each of said receptacles and in the upper portions thereof so as to be partially submerged in the liquid, said receptacles being adapted to support dishes edgewise therein so that during the rotation of said impellers the liquid will be discharged forcibly upon and between said dishes, and means for operating said impellers.

2. A dish washing machine comprising: a frame having a splash board forming a back, shelves at the ends thereof extending forwardly of said back, a vertical partition intermediate said shelves, end walls adjacent the inner ends of said shelves and a front, providing a pair of similar receptacles for a cleaning solution and water, respectively, a rotatable impeller mounted on a transverse horizontal axis and supported at corresponding ends of each of said receptacles and in the upper portions thereof so as to be partially submerged in the liquid, said receptacles being adapted to support dishes edgewise therein so that during the rotation of said impellers the liquid will be discharged forcibly upon and between said dishes, means for operating said impellers, and means for maintaining a normal level of liquid in said receptacles.

3. A dish washing machine comprising: a frame having a splash board forming a back, shelves at the ends thereof extending forwardly of said back, a vertical partition intermediate said shelves, end walls adjacent the inner ends of said shelves and a front, providing a pair of similar receptacles for a cleaning solution and water, respectively, a rotatable impeller mounted on a transverse horizontal axis and supported at corresponding ends of each of said receptacles and in the upper portions thereof so as to be partially submerged in the liquid, said receptacles being adapted to support dishes edgewise therein so that during the rotation of said impellers the liquid will be discharged forcibly upon and between said dishes, means for operating said impellers, and means for heating the liquid in said receptacles.

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