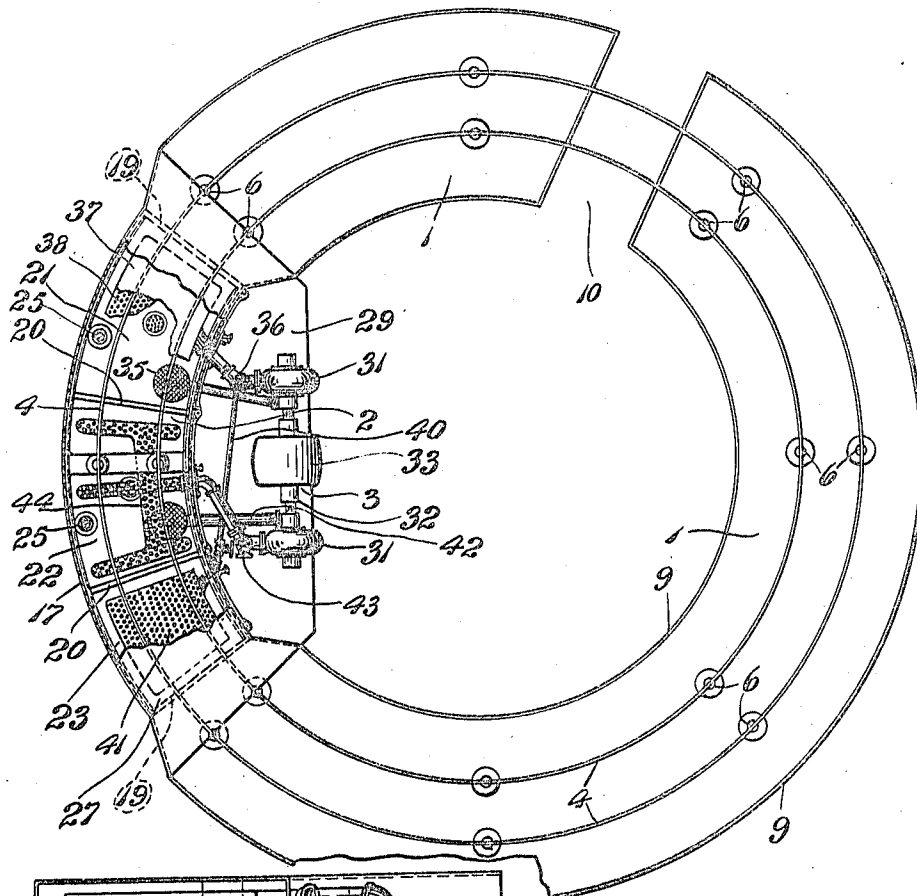
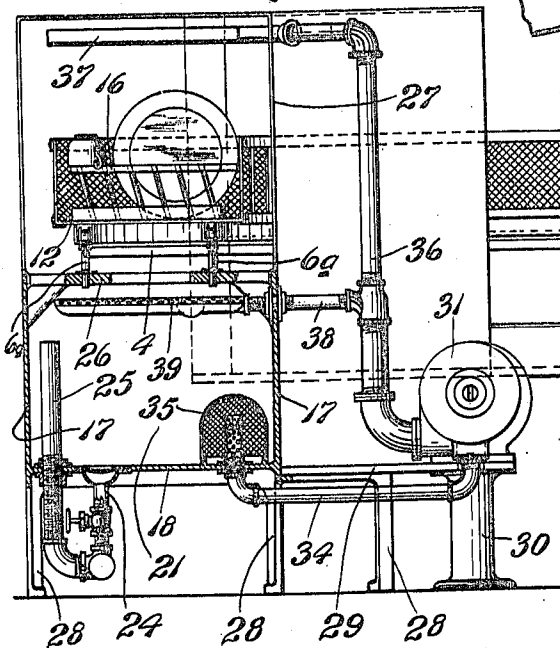
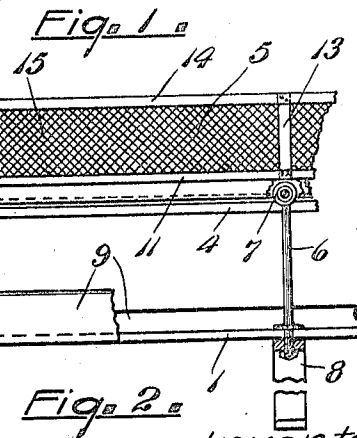


1,259,653.

H. M. MASTERMAN.
DISH WASHING MACHINE.
APPLICATION FILED MAR. 13, 1917.

Patented Mar. 19, 1918.
2 SHEETS—SHEET 1.



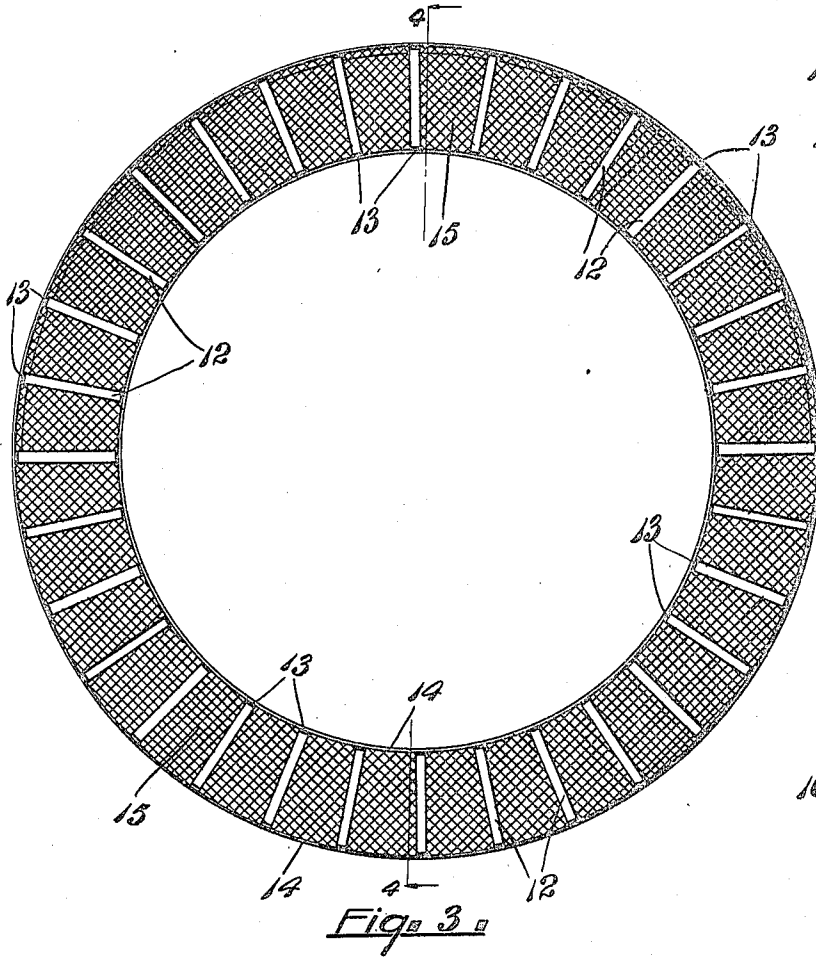
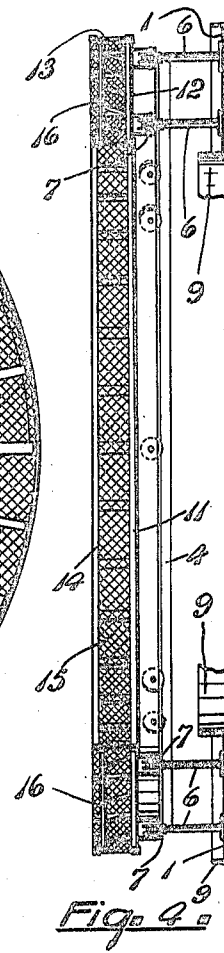
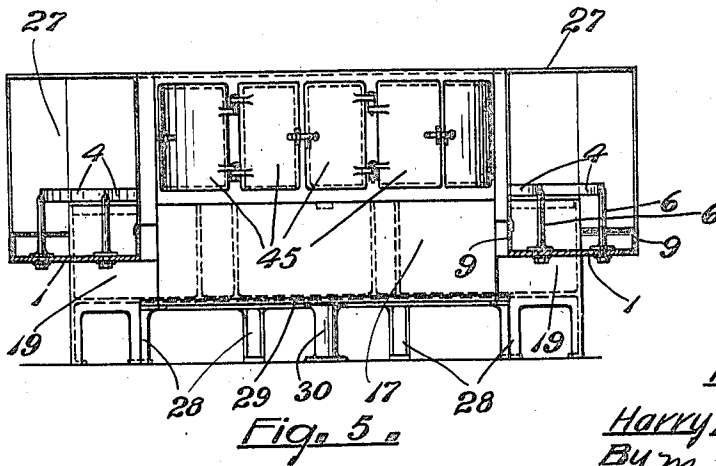
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UNITED STATES PATENT OFFICE.

HARRY M. MASTERMAN, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR OF ONE-HALF TO
FRANK MATZ, OF GRAND RAPIDS, MICHIGAN.

DISH-WASHING MACHINE.

1,259,653.

Specification of Letters Patent.

Patented Mar. 19, 1918.

Application filed March 13, 1917. Serial No. 154,425.

To all whom it may concern:

Be it known that I, HARRY M. MASTERMAN, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Dish-Washing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to dish washing machines and it is the object and purpose thereof to provide machines of this character in which dishes may be very rapidly washed and dried with a minimum of handling of the dishes, the invention including as one of its essential features an endless tray for receiving and carrying the dishes to be moved through the washing and rinsing station, coming from such station in condition for use, there being no handling of the dishes from entrance into the tray to removal therefrom. The invention which has many other objects and purposes not specifically referred to above is illustrated in the accompanying drawings in which;

Figure 1 is a plan view of the dish washing machine the endless tray being removed and parts at a washing station being broken away to disclose the interior structure thereof.

Fig. 2, is a fragmentary vertical section, somewhat enlarged, taken through the washing station.

Fig. 3 is a plan view of the endless tray.

Fig. 4 is a vertical section on the line 4—4 of Fig. 3 showing the mounting of the tray on the scrap table; and

Fig. 5 is a partial section and elevation looking toward the back of the washing station, the pump mechanism and the dish holding tray being removed.

Like reference characters refer to like parts throughout the several views of the drawings.

The main elements of the machine include a circular scrap table 1 in alinement with which is a washing and rinsing station 2

the water being supplied therefor from a pumping plant 3, while the dishes are carried on parallel circular tracks 4 in an endless tray 5 mounted over the scrap table 1. Tracks 4 are positioned a distance above the scrap table and supported by upright posts 6 mounted on the table. These tracks run through the washing and rinsing station and the tray has a plurality of rollers 7 on its under side running on said tracks whereby it may be manually moved through said station. The scrap table is located a distance above the floor over suitable supporting members 8 and at its edges has upwardly extending sides 9 it being apparent that dishes brought to the machine may have the larger particles of food thereon scraped onto the scrap table after which the dishes are placed in the tray 5. Said table 1 at one point has a section, as at 10, removed whereby the operator of the machine may readily enter the open space within the table and back of the washing and pumping station.

In structure the tray is formed from spaced apart circular lower angle irons 11 connected by cross pieces 12 integral with which are vertical uprights 13 which at their upper ends have circular upper bars 14 connected thereto to form a frame work over which screen or other foraminous material 15 is placed. The tray holds a number of racks 16 which may be suitably constructed to hold plates and like articles on edge while cups or the like are supported in any suitable manner, preferably, bottom side up.

The washing and rinsing station to the ends of which the scrap table lead includes a tank having front and rear curved sides 17, a bottom 18 and ends 19. Two partitions 20 are placed transversely in the tank dividing it into three compartments, 21, 22 and 23. The first compartment 21 is designed to receive clear hot water which may be supplied in any suitable manner and for draining the water from the compartments an outlet such as indicated at 24 is provided controlled by any suitable valve and an overflow pipe 25 is also used to guard against

filling and overflowing the tank when the outlet is closed during the operation of the machine. A cross bar 26 between the sides of the tank is used as a support for short posts 6^a to carry the tray as it passes through the washing station above the tank. The washing station is covered and inclosed by any suitable sheet metal housing such as indicated at 27 the ends of which extend a short distance beyond the ends of the tank. Suitable supporting posts 28 are used to support the tank in proper position. A platform 29 extends to the rear of the washing station being supported by post 30 and two rotary pumps 31 preferably of centrifugal type are mounted on the platform having connection with the shaft 32 which may be driven in any suitable manner as by an electric motor indicated at 33. The water for one of the pumps is taken through an inlet pipe 34 from the first compartment 21 of the tank and if desired any suitable screen such as 35 may be placed over the inner end of the inlet pipe. The outlet pipe 36 extends vertically to a point adjacent the upper portion of the housing 27 and the washing station is then turned inwardly leading into a suitable spray member 37 with holes at its under side whereby the water pumped thereto is directed downwardly on the dishes passing thereunder. A branch 38 leads from the outlet pipe 36 into a second spray member 39 which is located below the tray and tracks and has holes in its upper side directing the water pumped thereto upwardly against the undersides of the dishes on the tray. In the preliminary wash clear hot water is used taken from the compartment 21.

The dishes pass, after such preliminary washing, to the second stage of washing above the compartment 22 after which they are moved to a point above the compartment 23. A branch pipe 40 leads from the pipe 36 and supplies clear hot water for the rinsing. Sprays 41 are used for rinsing and as described with reference to sprays 37 and 39 there may be one of these rinsing sprays both above and below the dishes.

After the preliminary washing the dishes are washed with hot soapy water taken from the compartment 22 of the tank through an inlet pipe 42 leading to the other pump 31 and forced outwardly through the outlet pipe 43 to upper and lower sprays 44 as shown in Fig. 1. Doors 45 are provided in the rear of the cover 27 to the washing station for entrance at a number of points.

The tray is moved continuously or intermittently at will through the washing and rinsing station. Dishes subjected to the preliminary and secondary washing have all foreign matter removed and it is not necessary to reverse the cups or the like by reason of the upper and under sprays turned against

the dishes. In the final stage the dishes are rinsed, the water used therefor falling into the compartment 23 of the tank, and when passed from the washing and rinsing station may be allowed to drain and dry after which they may be taken from the tray for use.

I claim:—

1. In a machine of the character described, a circular table, posts projecting upwardly from the table, concentric circular tracks supported in parallel relation by the posts, an endless tray having sides and bottom of foraminous material movably mounted on the tracks, a washing and rinsing station including an open ended housing through which the tracks and tray pass, a plurality of spray members located above and below the tray inside the housing, and means to force water through said spray members upwardly and downwardly on to the tray.

2. In a machine of the character described, a circular table having upwardly extending sides thereby providing a receptacle for receiving and holding scraps, a rinsing and washing station interposed in the length of the table, said station comprising a casing having open ends into which the table leads, endless circular tracks supported on and positioned a distance above the table and passing through said station, an endless tray provided with rollers on the bottom thereof, said rollers resting on the tracks, and a pumping mechanism for discharging water on to the tray and articles carried thereby.

3. In a machine of the character described, a circular table having upwardly extending sides and having sections cut away at two points in the length of the table, a washing and rinsing station comprising a housing open at both ends, said housing being located at one of the points where a section is cut away from the table, the ends of the table leading into the housing, horizontal cross bars interposed between the sides of said station, posts extending in spaced apart relation upwardly from the cross bars, other posts similarly extending in spaced apart relation upwardly from the table, endless circular tracks supported upon the upper ends of all of said posts on said bars and table, an endless circular track movably mounted on and above the tracks and movable manually through said station, and means for discharging water on the tray and articles carried thereby within said station, substantially as described.

4. In a machine of the character described, a relatively wide circular table, a washing and rinsing station comprising an open ended housing of curved formation interposed in the length of the table, the width of said housing being less than the width of the table, an endless circular tray movably mounted on and directly above the table,

said tray passing through said station, a tank located in and at the lower part of the housing, a platform extending back of the station, a pumping plant carried on said platform, spray members located adjacent the tray within the housing, and connections between said pumping plant and the tank and

spray members for taking water from the tank and forcing it from the spray members onto the tray and articles carried thereby, 10 substantially as described.

In testimony whereof I affix my signature.

HARRY M. MASTERMAN.