Dec. 10, 1929. F. McCLINTOCK 1,738,839

DISHWASHING MACHINE

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Fig. 2

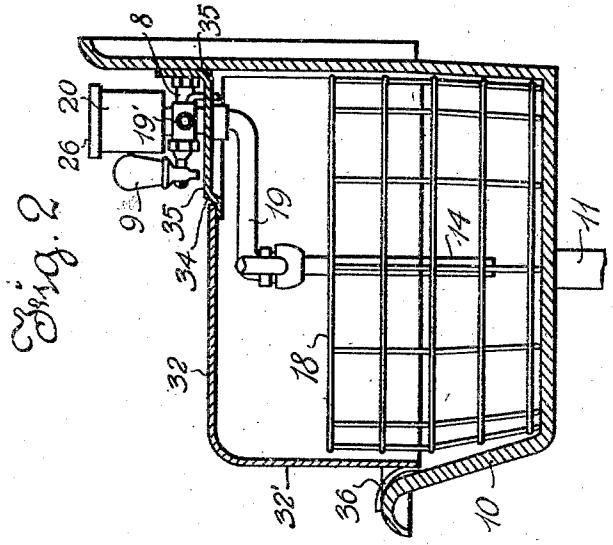
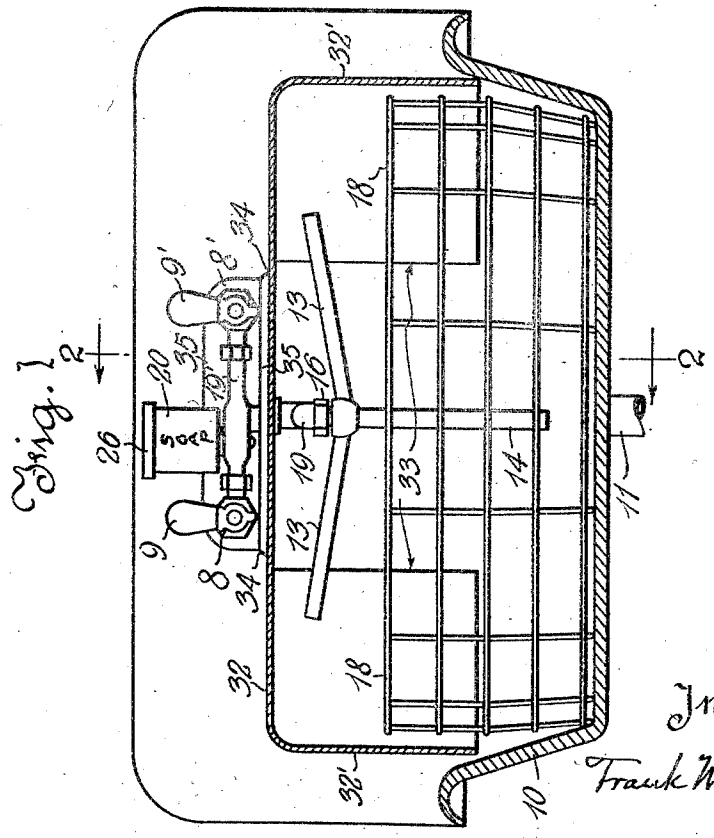



Fig. 1




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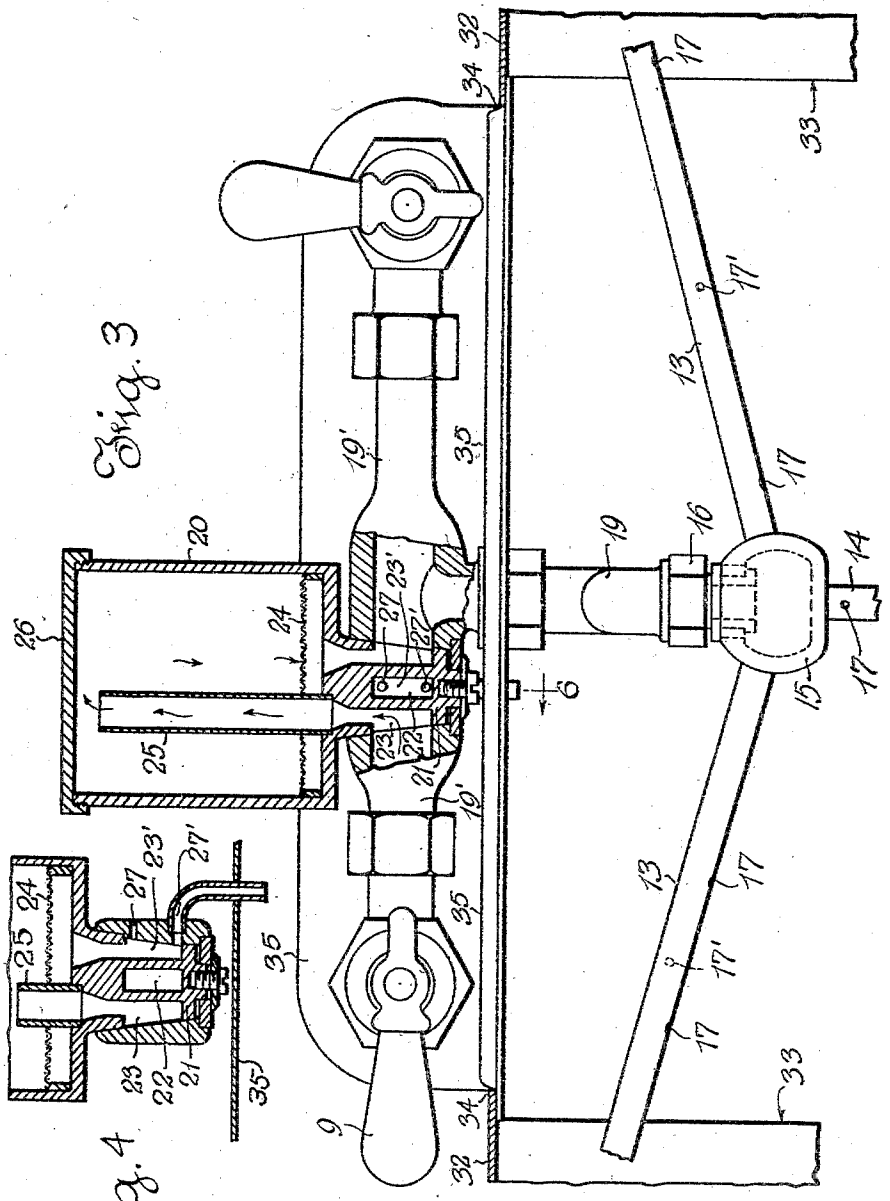



Fig. 3

Fig. 4

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Frank McClintock.

Patented Dec. 10, 1929 1,738,839

# UNITED STATES PATENT OFFICE

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## DISHWASHING MACHINE

Application filed August 9, 1926. Serial No. 128,277.

My invention relates to mechanisms or machines for washing and rinsing dishes which are adapted to be assembled and operated in the usual kitchen sink, and the special object of my invention hereinafter described is to provide a removable cover so constructed that when placed in position it will allow the faucet levers and soap supply means to extend above and outside of said cover for convenient manipulation while insuring effective prevention of the water being sprayed on the dishes from escaping in any direction outside the limits of the cover or sink.

I attain these objects by means of the mechanism which will now be described in detail with reference to the accompanying drawings, which show a complete sink dishwashing machine.

Figure 1 is a front view, sectional through the sink and cover, and Figure 2 a cross section view substantially on line 2, 2 of Figure 1, showing the preferred construction, with the soap holder permanently combined with the water outlet fixtures.

Figure 3 is an enlarged view, partly in section, showing the details of construction of the soap container and its by-pass valve, as shown in Figures 1 and 2. Figure 4 is a cross-section view at line 6 of Figure 3, with the soap container valve turned to shut off the flow of water through it.

Similar reference numerals refer to similar parts throughout the several views.

The sink 10, which may be of any size or type in use, has the usual outlet 11 carrying the water off to the drain pipes. The sink is provided with the usual hot and cold water supply pipes 8 and 8′. These water supply pipes are connected up to a single outlet spout 19 by means of the communicating passage 19′, as shown in Figures 1, 2 and 3. The usual control levers 9 and 9′ serve for turning the water on or off at will.

The rotary spray outlet of this machine comprises essentially the hollow globular head 15 to which are secured radial outlet tubes 13 and a central vertical tube 14. The globular head 15, or its equivalent, is permanently connected with the nut 16 by means of a suitable bearing, substantially as is shown by the dotted lines in Figure 3, so that it will rotate freely on its vertical axis. The nut 16 serves to attach this rotary spray outlet to the water spout outlet 19. The radial and vertical tubes 13 and 14 are provided with a number of small openings or nozzles 17 which are of such size and number and so located as to cause the water jets to issue therefrom with sufficient velocity and with the streams so well distributed in direction as to give the most effective results in cleaning the dishes. The openings 17′ are so located on the radial arms 13 that the reaction pressure of the jets therefrom will cause the continuous and rapid rotation of the device as long as water under pressure is supplied to it.

The dishes to be washed are arranged in a suitable rack 18, preferably constructed of wire and circular or rectangular in shape in order that the dishes may be suitably arranged to expose them to the cleaning action of the sprayed water jets so as to secure the most rapid and efficient washing. A suitable enclosing cover 32, preferably made of sheet metal, is essential to confine the sprayed water within the sink when the machine is in operation. A detailed description of this cover will be given later.

The construction of the soap supply valve and holder is shown clearly in Figures 3 and 4. It consists essentially of a cylindrical cup 20 secured to the top of the by-pass valve 21. This valve is tapering and is provided with the direct port 22 and the recessed ports 23 and 23′, the two latter communicating with the interior of the soap holder 20. A screen wire or perforated partition 24 is located near its bottom, and an open inlet tube 25 is provided with its lower end connecting with the inlet port 23, and extending nearly to the top of the soap holder. The screw top 26 allows ready access to the soap holder when desired to put soap therein. When the container 20 has been supplied with soap and the parts are in the position shown in Figure 3 with the hot water supply faucet lever open, hot water will flow into and through the recessed ports 23 and 23′ and the soap holder 20, dissolving soap therein and the

resulting hot water suds will flow through the outlet spout 19 into the rotary spray outlet, and out through the openings 17 and 17′ as high velocity jets. The short arrows indicate clearly this circulation of the water through the by-pass valve and soap holder. When it is desired to shut off the suds and change to clear hot water for rinsing, it is only necessary to rotate the soap container 20 attached to the valve 21 a quarter turn, to the position shown in Figure 4, when the clear hot water will pass directly through the port 22. Two openings 27 and 27′ are provided in the wall of the valve seat so that when the valve has been turned to the position shown in Figure 4 the hot water remaining in the soap holder 20 will automatically be drained off into the sink through the tube connecting with opening 27′; air being admitted through the opening 27 to replace the water. This is quite essential as otherwise the soap remaining in the container would be more or less completely dissolved, resulting in a very rapid and wasteful use of soap. The word "Soap" on the container 20 is so located that it will face to the front as shown in Figure 1 when the valve is in position to send the entire flow of the water through said soap holder as shown in Figure 3, thus visibly indicating when soapy water is being used.

The removable cover to enclose the dish rack and confine the sprayed water within the sink when the machine is in operation comprises essentially a top member 32 with side walls 32′ which extend down a sufficient distance below the top of the sink to prevent the escape of the sprayed water. An opening 33 in the rear side wall 32′, and a similar opening in the top member 32 of the removable cover allows it to be readily put in place and removed notwithstanding the soap valve 20 and faucet levers 9 and 9′ which should extend through the opening in the top member 32 convenient for manipulation by the operator. The cover may be of substantially the same oval or rectangular shape as the wire dish rack.

It is very essential that the opening in the top 32 through which the control levers and soap valve extend should be closed so as to prevent the escape of water through it while the machine is in operation. The section 35 which is provided for this purpose is permanently secured to the splash-up back of the sink by means of the vertical flange which is provided with openings for the pipes 8 and 8′ and securely held in the position shown by the usual flanges and fittings thus forming a secure and permanent shelf below the faucets and soap valve. Its edges are recessed at the front and side as clearly shown in Figures 1, 2 and 3, thus forming a ledge 34 corresponding in shape and size with the opening in the top member 32 of the cover, so that the main removable cover 32 will be accurately guided into position held suspended from said fixed shelf or lid 35. The clips 36, secured to the front side of the cover may be used also as an additional support by resting on the front edge of the sink.

It will be evident that the machine may be provided with a plurality of dish racks at small additional cost, thereby increasing its capacity per unit of time to any desired extent.

What I claim as my invention is:

1. The combination with a sink provided with a back wall, a water-supply conduit and a valve in the conduit, of a spray device secured to the conduit, a dish holding rack extending below said device, and a cover to confine the sprayed water within the sink, comprising a horizontal section permanently secured to the back wall of the sink below the valve and through which the conduit extends, and a removable section provided with a recess to fit closely the horizontal section.

2. The combination with a sink provided with a back wall, a water-supply conduit, and a valve in the conduit, of a spray device secured to the conduit, a dish-holding rack extending below said device, and a cover to confine the sprayed water within the sink, comprising a horizontal section permanently secured to the back wall of the sink below the valve and through which the conduit extends, the said section being provided with a shoulder at its free edge, and a removable section provided with a recess to fit closely the shouldered portion of the horizontal section.

FRANK McCLINTOCK.