Sept. 15, 1936. H. TAYLOR 2,054,307

DISHWASHING DEVICE

Filed July 24, 1934

Fig. 1.

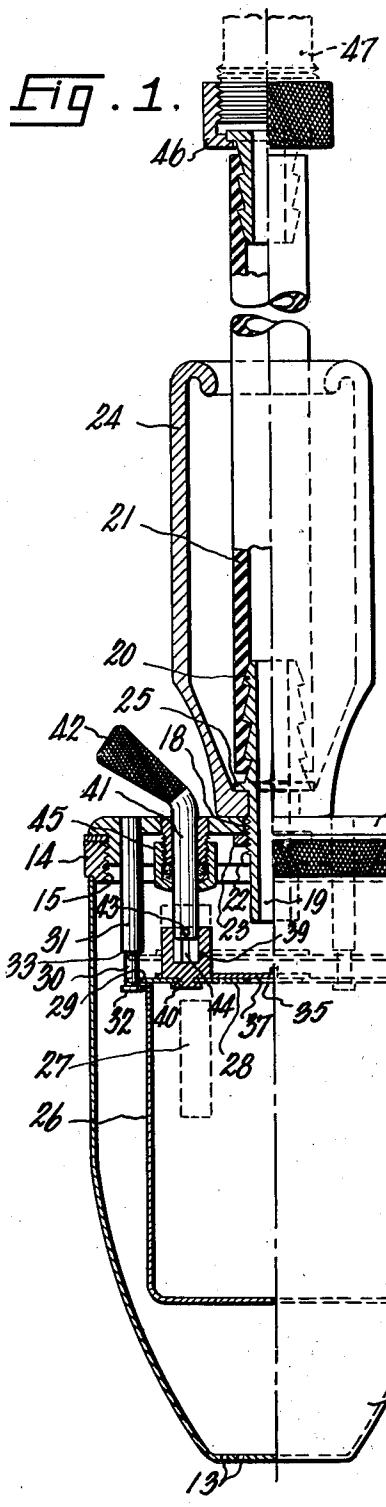


Fig. 2.

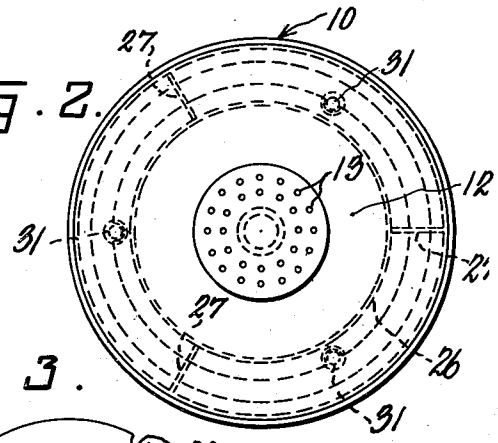


Fig. 3.

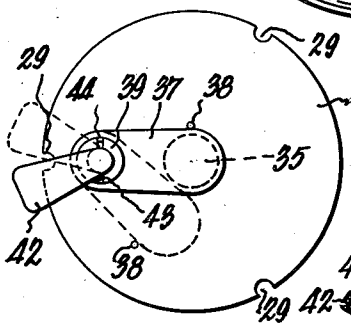
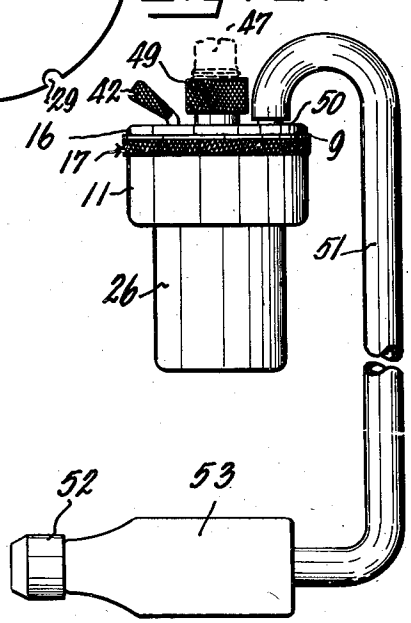


Fig. 4.



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DISHWASHING DEVICE

Harry Taylor, Springfield, Mass.

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6 Claims. (Cl. 299—84)

This invention relates to devices for use in washing dishes and the like and has for its principal object the provision of a device of this character which is readily attachable to a water faucet and which will operate to supply clear or soapy water at the will of the operator, the change from one to the other being accomplished easily and quickly by a simple manipulation of a readily accessible member and without the necessity of handling any portion of the device which has become heated by contact with hot water. Other and further advantages such as economies in operation and construction will be apparent from the following specification and claims.

In the accompanying drawing:

Fig. 1 is a side view, partly in section of one embodiment of the invention;

Fig. 2 is an end view of the device shown in Fig. 1;

Fig. 3 is a detail plan view of the valve element controlling the soap supply; and

Fig. 4 is a side view of a modified form of the structure shown in Fig. 1.

Referring to the drawing, 10 indicates the outer casing of the device which includes an upper portion 11 forming a chamber to which both the water and soap supplies open, as later described, and a lower constricted portion 12 provided at its end with a plurality of openings 13 forming a spray nozzle.

The edge of the casing is provided with an annular rim member 14 interiorly threaded at 15 to receive the cap or closure member 16, the member 14 being preferably knurled on its outer surface as indicated at 17 to facilitate disassembly of the parts. A gasket 9 renders the closure fluid tight.

The closure member 16 is provided with a central opening 18 through which the water discharge pipe or nozzle 19 is inserted. Nozzle 19 is provided at its outer end with corrugations 20 for the attachment of a flexible hose 21 and is threaded at 22 to receive a clamping nut 23. A hollow handle 24 is telescoped over the nozzle and the adjacent portion of the hose, and is held clamped between a flange 25 formed on the nozzle and the face of the closure 16 by the nut 23, as will be clear from Fig. 1.

A soap receptacle 26 is positioned in the casing 10 and is secured to the inner walls of the casing in spaced relation thereto by webs 27. The upper end of the soap receptacle opens into the chamber portion 11 and is provided with a movable closure which, in the form illustrated, comprises a plate 28 provided with notches 29 spaced around its periphery. The notches 29 engage reduced portions 30 of pins 31 secured at their upper ends in closure 16 and provided at their lower ends with heads 32. The length of pins 31 and of the reduced portion 30 is such that the plate 28 may engage the top of the soap receptacle to completely close the said receptacle as shown in full lines in Fig. 1, or it can be raised to dotted line position as shown in the same figure. The shoulders 33 formed at the junction of reduced portions 30 and the body of the pins limit the upward or opening movement of the plate 28.

The plate 28 is provided with a central opening 35 coaxial with the water discharge pipe 19 and the soap receptacle 26, and is slightly larger in diameter than the inner diameter of the water discharge pipe.

The opening 35 is adapted to be opened or closed from the outside of the casing and for that purpose a gate or valve member 37 is pivoted to the plate 28 to be swung either over the opening 35 to close the latter, as shown in full line in Figs. 1 and 3, or to one side as shown in dotted line in Fig. 3. Pins 38 are provided to limit the opening and closing movements of the gate. The gate is secured to a cylindrical pivot member 39 pivoted to the plate at 40, which cylindrical member is provided with an upwardly opening bore slidably engaging the inner end of a lever 41 which extends through the closure 16 and is formed with a milled handle 42 on its outer end. Pins 43 projecting sidewise from the lower end of lever 41 engage in slots 44 formed in the walls of member 39 so that rotation of the handle 42 will swing gate 37 to and from closing position in all positions of the plate. The lever 41 passes through the closure 16 by way of a stuffing box 45 to prevent leakage.

The upper end of tubing 21 is provided with any suitable coupling member 46 by which the device is connected to a faucet indicated in dotted lines at 47.

The operation of the device is as follows. Assuming the parts to be in the position shown in full line in the figures, that is with opening 35 closed by gate 37, water admitted through nozzle 19 strikes the gate 37 and by its force holds plate 28 against the open end of the soap receptacle, thus holding the latter closed. The water passing between the walls of the casing 10 and receptacle 26 is discharged without admixture of soap through the spray nozzle openings 13. When gate 37 is swung to open position by turn-

ing handle 42, the water discharged through pipe 19 passes directly through opening 35 into the soap chamber in which a cake of soap has been placed. Since opening 35 has been made slightly larger than the pipe opening, the stream passes through without exerting any substantial pressure on the outer side of the plate. The pressure of the water within the soap chamber acting against the under side of the plate acts to lift the plate to approximately the dotted line position in Fig. 1 and the soap laden water escapes to chamber 11 around the edges of the plate and is discharged as before, through nozzle openings 13.

It will be understood that various changes in structure may be made in the manner of pivoting the gate 37 or in mounting member 28 for movement relative to the soap container, without departing from the scope of my invention. I further contemplate that the device may be attached directly to the faucet by a coupling 49 as shown in Fig. 4, the discharge being through a flexible pipe or tube. When so utilized, the lower portion of casing 10 is cut away, as shown in Fig. 4, only chamber 11 and the parts enclosed herein being retained, the sides being bent in and connected to the walls of the soap container 10 to form a bottom for chamber 11. The water is discharged through a pipe 50, opening through closure 16 from chamber 11, to the flexible hose or pipe 51 which is provided at its end with a suitable spray nozzle 52. The nozzle 52 is preferably provided with a handle 53 which may be similar in all respects to handle 24.

It will be seen that with the device of this invention, clear or soapy water may be discharged from the device and that in changing from one to the other, or in otherwise manipulating the device, the hand of the operator need not come in contact with parts that have become dangerously or unpleasantly heated from contact with hot water. Also the utilization of the water pressure as the means for opening and closing the soap receptacle results in ease of operation, simplicity of the parts, and positive action.

What I claim is:

1. A device for dissolving soluble materials in fluids which comprises a casing forming a chamber, a fluid inlet to said chamber, a fluid outlet from said chamber, a receptacle for the soluble material opening to said chamber, a closure member for said receptacle positioned in the path of the incoming fluid and mounted for movement toward and from the receptacle to respectively close and open the latter, an opening in said closure member so positioned that incoming fluid may directly enter the receptacle through said opening in sufficient quantity to create pressure therein to hold the closure member in open position, valve means for closing said opening whereby the incoming fluid presses the closure member into closed position, and means to actuate the valve means.

2. A device for washing dishes and the like which comprises a casing forming a chamber, a water inlet to said chamber and a plurality of spray forming water outlets from said chamber, a soap receptacle opening to said chamber, a closure member for said receptacle positioned in the path of the incoming water and mounted for movement toward and from the receptacle to respectively close and open the latter, an opening in said closure member so positioned that water may directly enter the receptacle through said opening in sufficient quantity to create pressure within the receptacle to hold the closure member in open position, a valve for closing said opening whereby the incoming water presses the closure member into closed position, and means operable from outside the casing to control said valve.

3. A device for washing dishes and the like which comprises a casing forming a chamber, a water inlet opening into one end of the chamber and water outlets opening from the opposite end of the chamber, a soap receptacle, having an open end, positioned in the chamber between the inlet and outlet openings with its open end opposite the inlet opening, said receptacle being spaced from the walls of the chamber to permit the passage of water from the inlet end of the chamber to the outlet end, a plate-like closure member for the open end of the soap receptacle, mounted for a limited bodily movement toward and from the receptacle, an opening formed in said closure member in line with the flow of water from said inlet to permit a substantially unobstructed flow of water directly from the inlet into the soap receptacle, the water pressure thus established within the receptacle acting to move the closure away from the receptacle and permit escape of the water to the chamber at the edges of the closure, a gate member pivoted to the closure member adapted to close the opening in the closure member whereby the pressure of the entering water maintains the closure member against the open end of the receptacle to close the latter, and means operable from the outside of the casing to actuate the gate member.

4. A device for washing dishes and the like which comprises a casing forming a chamber, a water inlet to said chamber, a plurality of spray forming water outlets from said chamber, a soap receptacle opening to said chamber, a closure member mounted for movement toward and from the receptacle to respectively close and open the latter, an opening formed in said closure in line with the flow of water from said inlet to permit substantially unobstructed entrance of the water to the receptacle, the water pressure thus established within the receptacle acting to move the closure away from the receptacle and permit escape of the water to the chamber at the edges of the closure, and means operable from the outside of the casing to close said opening in the closure whereby the pressure of the entering water maintains said closure in closed position.

5. A device for washing dishes and the like which comprises a generally cylindrical casing, an open ended soap receptacle positioned within the casing and spaced from the walls of the casing, said receptacle dividing the casing into an upper chamber portion and a lower nozzle portion, the latter portion being provided with a plurality of spray forming openings, a water inlet opening through the top of the casing opposite the open end of the soap receptacle, a flat closure member for said receptacle, a plurality of pins by which said member is mounted for movement toward and from the receptacle, an opening formed in said member in line with the flow of water from said inlet to permit substantially unobstructed flow of water across the chamber portion of the casing into the soap receptacle, the water pressure thus established within the receptacle acting to move the closure member away from the receptacle and permit escape of the water to the chamber portion at the edges of said member, and a gate member pivoted to the closure member and movable from the outside of the casing, adapted to close the opening in the disc, whereby the pres-

sure of the entering water maintains said disc in receptacle closing position.

6. A device for washing dishes and the like which comprises a casing forming a chamber, a soap receptacle opening through one wall of the casing, a water inlet opening through the opposite wall of the casing, a flat closure member for said receptacle, a plurality of pins upon which said closure member is mounted for movement toward and from the receptacle, an opening formed in said closure member in line with the flow of water from said inlet to permit substantially unobstructed flow of water across the chamber into the soap receptacle, the water pressure thus established within the receptacle acting to move the closure member away from the receptacle and permit escape of the water to the chamber at the edges of the closure member, a gate member pivoted to the closure member and movable from the outside of the casing adapted to close the opening in the closure member whereby the pressure of the entering water maintains said closure member in receptacle closing position, and a water outlet opening from the chamber.

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