UNITED STATES PATENT OFFICE.

JOSEPHINE GARIS-COCHRANE, DECEASED, LATE OF CHICAGO, ILLINOIS. BY ANNIE F. COLT, EXECUTRIX, OF CHICAGO, ILLINOIS, ASSIGNOR TO GARIS-COCHRANE MFG. CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

DISH-WASHING MACHINE.

1,223,350.


Application filed April 29, 1914. Serial No. 825,599.

To all whom it may concern:

Be it known that Josephine Garis-Cochrane, who was a citizen of the United States, late of Chicago, in the county of Cook and State of Illinois, was the inventor of a certain new and useful Improvement in Dish-Washing Machines, of which the following is a specification.

The invention relates to that class of machines which are designed to both wash and rinse dishes, and which has all of the washing mechanism entirely inclosed, and has for its object to provide a machine which will wash the dishes with soapy water, which is then left to stand and rinse them with clean hot water furnished from an external source of supply, and which, by reason of its construction can only use the rinse water once, and has for its further object to provide manually operated means which are operable from the exterior of the machine to rock the rinsing nozzles so as to effectually spray all of the dishes. In machines of this character, practice has shown that it is desirable to have the spraying or rinsing nozzles so arranged that the spray can be directed in one direction and permitted to remain in that position for a short period of time and then moved to another position, where it will spray either another portion of the dishes or another rack. The results thus obtained are better than where the spray nozzles are continuously agitated.

The means of accomplishing the foregoing objects may be more readily understood by having reference to the accompanying drawings, which are hereto annexed and are a part of this specification, in which:

Fig. 1, is a front elevation of a dish-washing machine containing the improvements.

Fig. 2, is a detail view of one of the nozzles for distributing the soapy water.

Fig. 3, is a detail view of one form of rinsing nipple.

Fig. 4, is a plan view of the machine the top wall being removed to disclose the interior construction.

Fig. 5, is a front view showing the whirling rinser attached to the rocking rinse pipe.

Fig. 6, is the preferred form of sprayer used where it is desired to spray the water rather than to deliver it in a flat sheet.

Fig. 7, is a vertical sectional view of the nozzle shown in Fig. 3.

Fig. 8, is a fragmentary detail view showing the connection for the rocking rinse pipe.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in the drawings, the washer comprises a chamber 1, preferably formed of galvanized steel, the corners being reinforced with angle iron.

A reservoir 2, is located at the bottom of the chamber 1, and is designed to contain the soapy water for washing the dishes.

An overflow pipe 3, is located in the said reservoir leading to the sewer. It is adapted to carry off the grease which will rise to the surface of the water and flow down through the pipe 3, and is then carried off into the waste. This keeps the soapy water, which is designed to be used over and over, clean.

Strainer pans 4, are located at the bottom of the chamber 1, just above the reservoir 2. This prevents any refuse from the dishes from passing into the reservoir.

A centrifugal pump 5, is mounted in the reservoir, the shaft 6, of which is provided with a pulley 7, driven by a belt 8, which travels over a pulley 9, which is driven by an electric motor 10, or by any other suitable power driven mechanism.

The discharge of the pump 5, is connected to a pipe 11, which leads to the top of the chamber 1, and passes downwardly into a T 12, which is connected to two laterally extending arms 13, and 14, the outer ends of which are provided with nozzles 15 and 16; the most desirable form of these washing nozzles is clearly shown in the detail view, Fig. 2. The nozzles are placed at a slight inclination, so that the force of the water discharged therefrom, will cause the arms 13 and 14 to revolve, thus spraying over all parts of the dishes 17, which are located in racks 18, mounted within the chamber 1.

A pipe 19, is provided to conduct clean hot water to be used for rinsing purposes, a valve 21 being provided to control the flow of water through the said pipe 19. This pipe passes through the side wall 22, of the chamber 1, and is connected to a pipe 23, which extends across the front of the chamber 1, adjacent the top thereof, the pipe 23,
being provided with backwardly extending branches 24 and 25, which are rotatably secured, as clearly shown in Fig. 8, by a nut 47 to permit of their rotation or oscillation without the water escaping except through the spraying orifices. These branches are provided with a plurality of rinsing nipples 46. These nipples may be provided with a slot as in Fig. 3, which will discharge the water in a sheet or it may be found more desirable to use sprayers 26 of the form shown in Fig. 6, in which the force of the water will cause the water to be sprayed all over the dishes contained in the racks 18. The backwardly extending pipes of the branches 24 and 25, have secured thereto outwardly extending arms 27 and 28, which are secured to the pipes by means of set screws 29 and 30, the arms 27 and 28, being connected by means of a link 31, so that they will move in unison.

The pipe 25, is provided with an additional arm 32, which is connected by means of a link 33 to a rod 34, which extends outwardly through a wall 22, of the chamber 1, its outer end 35, being forked or bifurcated, and provided with a handle 36 for manual operation.

It may be found desirable in practice to provide the opening for the rod 34, with a suitable stuffing box to prevent leakage.

The operation of the device is as follows: The reservoir 2, is filled with water, in which is deposited a quantity of washing powder or soap so as to make suitable soap suds for washing the dishes. The motor 10, is started and it through the medium of the belt 8, drives the centrifugal pump, and the water is forced up the pipe 11, whence it passes into the arms 13, and 14, from which it is discharged through the washing nozzles 15 and 16, the force of the water being sufficient to rotate the latter during this operation. The water, obviously passes down into the lower part of the chamber 1, where the refuse of the dishes is caught by the strainer pans 4, the water passing through the strainers into the reservoir so that it can be again sprayed over the dishes, it being obvious that the grease in the water will float on the top and it can be carried off by the pipe 3, to the waste.

After the dishes are thoroughly washed with the soap suds, the motor is stopped, and the valve 21, is then opened and the hot water flows through the pipe 19, and pipes 23, 24 and 25 from the latter, and passes out through the rinsing nipples 26. It is then discharged over the dishes, the whirling sprayer serving to distribute the clean rinse water to every part of the interior, this operation being materially assisted by the operator oscillating the handle 36, which has the effect of rocking the rinse pipes 24 and 25, and in turn, the rinse nozzle 26, so that all of the dishes and the interior of the chamber are thoroughly rinsed and sterilized by the hot water. The use of the nipples 26 permits the operator to change their direction and permits the rinsing spray to play continuously upon the different parts or articles which are being washed, and where dishes upon which certain kinds of food have been used, this is found in practice to be extremely desirable.

Having described the invention what I regard as new, and desire to protect by Letters Patent is:

1. The combination in a dish washing machine having racks and spray nozzles and a chamber inclosing the same, of means to supply soapy water to said spray nozzles, rinsing pipes inclosed within said machine, said pipes being provided with a plurality of rinsing nozzles, suitable pipe connections to connect said rinsing pipes to a source of supply of clean water, means operable from the exterior of the machine connected to said rinsing pipes for oscillating them at intervals.

2. The combination in a dishwashing machine having a chamber with racks and fluid spraying nozzles for washing therein, of rinsing nozzles rotatably supported in said chamber rotated by the force of water passing therethrough, and means of communication between said rinsing nozzles and a source of water supply.

In testimony whereof, I have signed the foregoing specification.

ANNIE F. COLT, 
Executrix of the estate of Josephine Garis Cochrane, deceased.

Witnesses:
C. M. BAUMEISTER, 
V. C. LINDSTROM.