

Feb. 12, 1952

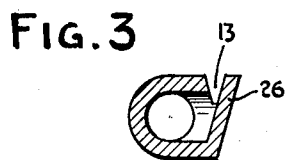
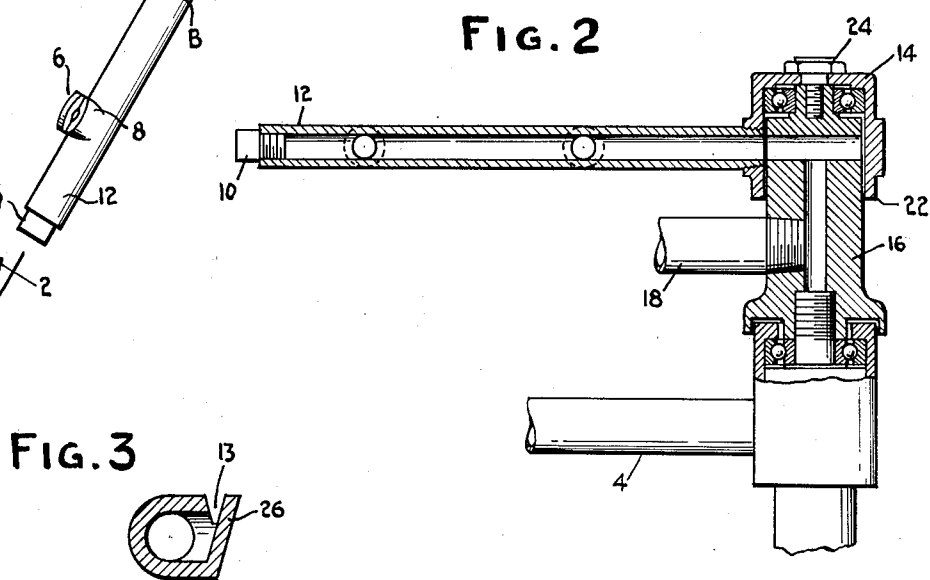
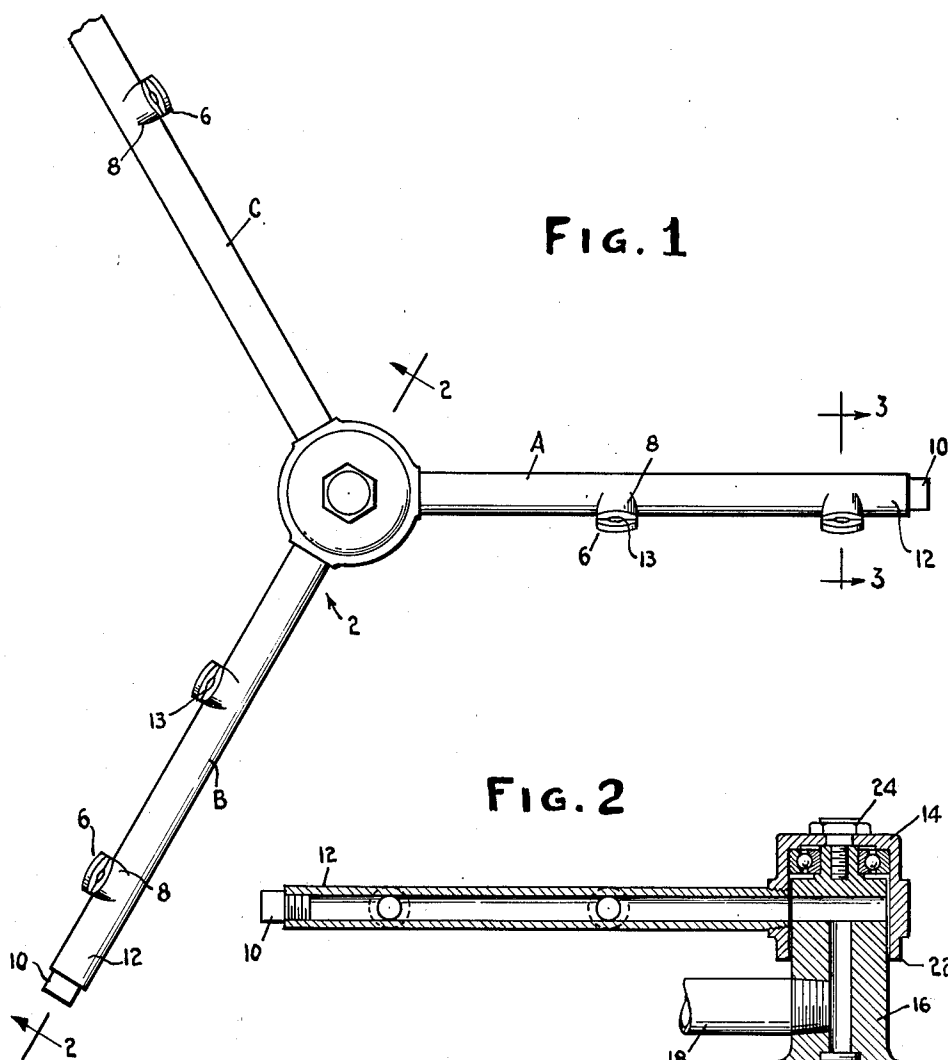
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2,585,608

RINSING AND DRYING NOZZLE FOR DISHWASHERS

Filed June 23, 1948

2 SHEETS--SHEET 1



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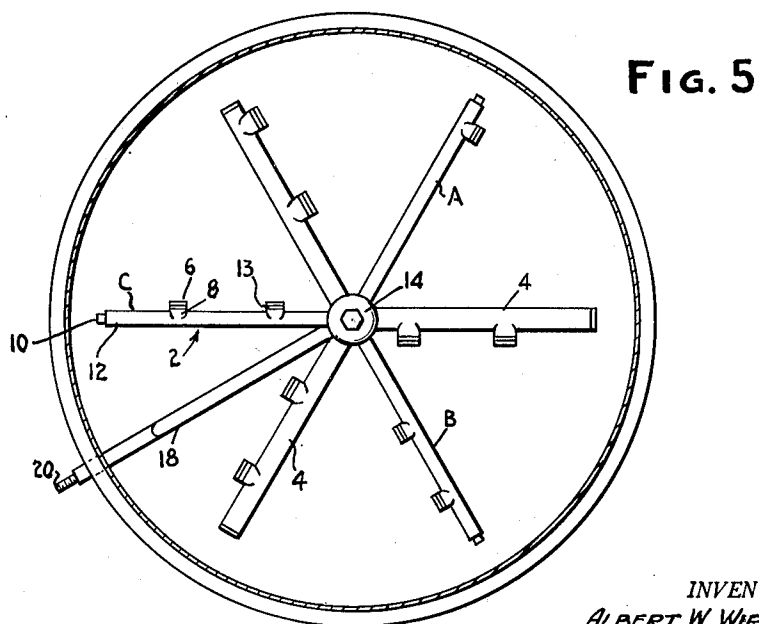
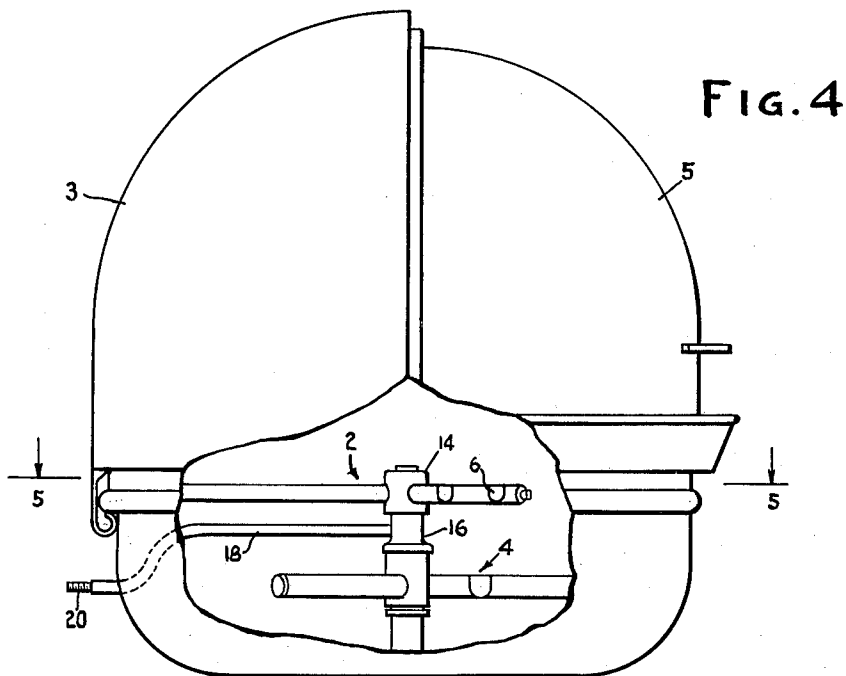
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2 SHEETS--SHEET 2



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UNITED STATES PATENT OFFICE

2,585,608

RINSING AND DRYING NOZZLE FOR
DISHWASHERS

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corporation of Illinois

Application June 23, 1948, Serial No. 34,668

2 Claims. (Cl. 299—58)

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My invention relates to dishwashing machines employing nozzles and more specifically employing the type of nozzle shown in my copending application Serial Number 790,969, on which it is an improvement.

As shown in that application the nozzle consists of a spider having a plurality of radiating arms from which bosses project. These bosses have cuts in them to spray the water or steam in wide angle sheets.

As is usual in such machines this arm rotates by the force of a motor driven stream of water or steam. Thus the dishes are contacted by a very strong hydraulic ram force that cleans them efficiently.

Practice has shown that there is a need for rinsing and drying the dishes which have been washed as above described.

My invention has for its principal object to provide a novel form of nozzle to rinse and dry dishes that have been washed.

A further object of my invention is to provide a rinsing and drying nozzle that rotates, thus providing a thorough contact for drying the dishes.

My invention has for its further object to provide a means to dry the dishes which is cheap to operate, efficient, and easily constructed.

My means of accomplishing the foregoing objects may be more readily apprehended by reference to the accompanying drawings which are hereunto annexed and form a part of this specification in which:

Fig. 1 is a top or plan view of the preferred form of my rinsing and drying nozzle.

Fig. 2 is a sectional view on the line 2—2 in Fig. 1.

Fig. 3 is an enlarged section through one of the outlets on the line 3—3 of Fig. 1.

Fig. 4 is a side elevation of my rinsing and drying nozzle showing its position in one type of dishwasher.

Fig. 5 is a plan view of same with top half of dishwasher removed taken on line 5—5 of Fig. 4.

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

In Figure 1, I have shown the preferred form of rinsing and drying nozzle 2 which is mounted above the washing nozzle 4 as shown in a dishwasher 3 having a door 5. In this form the rinsing and drying nozzle consists of three radiating arms A, B and C. These arms are provided with outlets 6. These outlets 6 are cast or formed with bosses 8 which are preferably cast on the tubular arms A, B, C. As shown these arms are of less diameter than the washing arms and the

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spray slots 13 are much smaller. It is clear that these details may be varied to conform with various water pressures available and the type of work the dishwasher is designed for, whether commercial or domestic washing. The outlets 6 are perfectly cast in staggered relation to each other. A plug 10 is screwed into the outer end 12 of each arm. The inner end is screwed into a cap 14 which is preferably mounted on ball bearings in the usual manner so as to rotate on a hollow standard 16. An inlet pipe 18 extending in a horizontal direction carries a connection 20 to fit a hot water outlet. This cap 14 has a downwardly depending circumferential flange 22 which effectively shields the bearings and race from water. The cap 14 is held in position by means of a bolt 24 which is screwed into the top of the standard 16. The bosses 8 extend laterally from the arms and are hollow, which affords an unobstructed opening from the interior of each arm to the inlet pipe 18. The outer wall 26 of which is flat so as to direct the discharged water in a flat sheet or wall of water through the slots 13.

Operation

The operation of my invention is as follows:

After the washing nozzles have been turned off, a stream of very hot clear water is introduced through the inlet pipe 18. The force of this stream of hot water should be sufficient to turn the nozzle arms A, B and C with some degree of rapidity. However, rapid rotation is unnecessary if the water is near the boiling point, say around 180 degrees F.

As these sheets of water sent out by my unique nozzle heads spray on the dishes, the temperature of the dishes is raised because due to the lowered force, each particle of water contacts the dishes for a longer period and thus imparts more of its heat. Since only clear water is employed for this purpose a physical phenomenon takes place that is exceedingly useful.

The period of the hot water rinse varies with the conditions of work; however, the usual period is from two to four minutes.

I have found that, after the clear hot water is turned off, as soon as the door 5 is opened, the cold air rushes in to displace the very hot moist air and this dries the dishes completely.

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

1. In a dishwasher having a whirling water discharge, means to rinse dishes, said rinsing means comprising a hollow standard, a rotatable cap therefor, a plurality of radially extending

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hollow arms attached to said cap, means to introduce water under pressure into said arms, each of said arms having integral bosses projecting therefrom, said bosses being slit and having a wall which is inclined outwardly relative to the longitudinal axis of the arm, said wall defining one side of said slit to allow said water under pressure to be ejected therefrom with said wall as a guide.

2. In a dishwasher using a whirling water discharge, means to rinse dishes, said rinsing means comprising a hollow standard, a rotatable cap for said standard having a downwardly depending circumferential flange, a plurality of horizontally radiating hollow arms mounted on said circumferential flange, and a plurality of hollow bosses cast on said arms, each boss having an outlet for discharging water in a sheet, and each outlet being formed by a wall which is upwardly directed and outwardly inclined relative to the longitudinal axis of the arm on which it is formed, said wall defining a slit between said wall and the arm, said wall directing said sheet upwardly and outwardly.

ALBERT W. WIEGHART. 25

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