

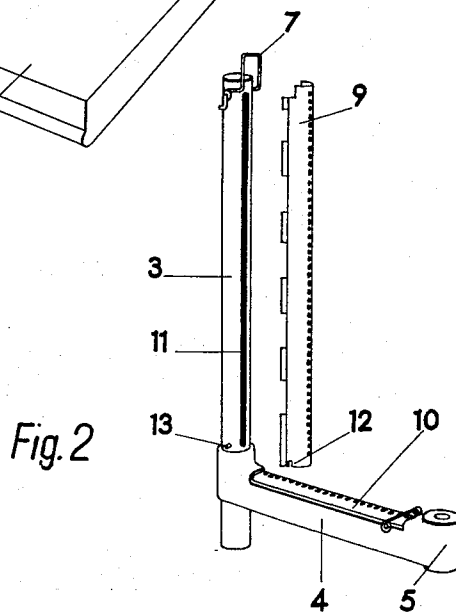
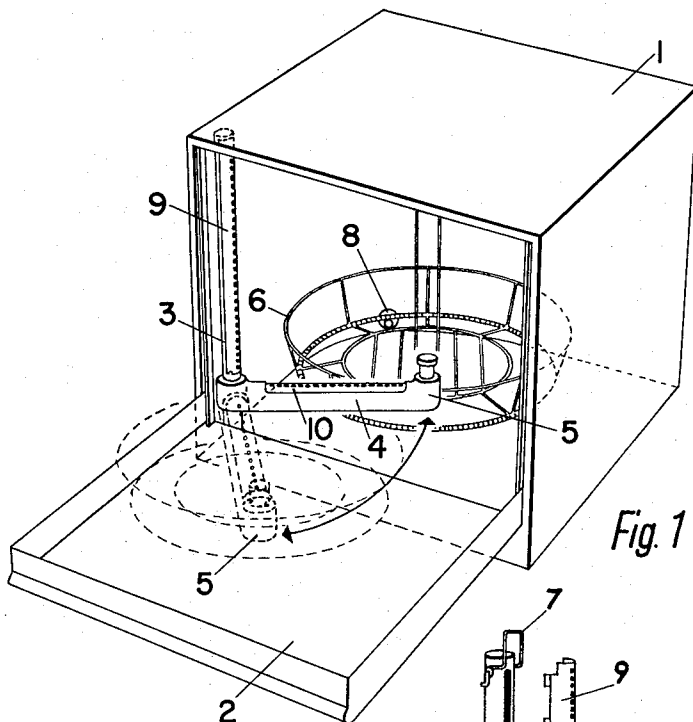
Jan. 21, 1964

P. DANNENMANN ET AL

3,118,458

PIVOTAL SPRAY ARM AND DISH BASKET SUPPORT FOR A DISHWASHER

Filed April 16, 1962



INVENTORS

Paul Dannenmann
Kludius Patzelt
Schuch, Molen & Seale
ATTORNEYS

1

3,118,458

PIVOTAL SPRAY ARM AND DISH BASKET SUPPORT FOR A DISHWASHER

Paul Dannenmann and Klaudius Patzelt, Weizheim, Germany, assignors to G. Bauknecht G.m.b.H., Stuttgart, Germany, a corporation of Germany

Filed Apr. 16, 1962, Ser. No. 187,704

Claims priority, application Germany Nov. 14, 1961

2 Claims. (Cl. 134-144)

The present invention relates to dish-washing machines, of the type in which the vessel defining casing has a door, a flap or shelf arranged on one of the side surfaces of the casing for moving a rotatable crockery carrier in and out of the casing and in which operatively stationary washing nozzles are arranged outside the carrier.

Dish-washing machines having a revolving crockery basket and stationary washing nozzles provided outside the basket are known. In these machines it is difficult to move the crockery basket into and out of the machine so that the introduction and removal of the crockery to be washed presents difficulties.

In another known type of dish-washing machine operatively stationary nozzles and a non-rotating crockery basket are provided, the basket being guided on slide-ways, for instance with the interposition of rollers. These crockery baskets are comparatively simple to take out of a lateral door of such a dish-washing machine, and are thus easy to fill with the crockery to be washed. The washing function of such dish-washing machines is, however, not satisfactory since the washing jets always impinge upon the crockery from the same direction during washing. To remedy this defect, revolving nozzle-carriers have been provided. These result in a relatively great constructional expense. Whether the nozzles are located above or below stationary crockery baskets, the installation of such crockery-washing machines is complicated, and the operation thereof is liable to give trouble.

The present invention obviates the disadvantages of the prior art indicated above by rotatably mounting the crockery-carrier upon an arm which can be swung laterally out of the dish-washing machine, the pivot axis of the basket support arm being located in one corner of the casing adjacent the door.

As a result, a dish-washing machine is provided which has an operatively rotary crockery-carrier which can be swung out of and into the casing with a minimum effort. No slideways, exposed to contamination, are required. The relatively movable parts of the bearings of the rocking arm can be protected against fouling by simple means, such as ordinary cover flaps or the like.

In a dish-washing machine constructed according to this invention, the crockery to be washed may be conveniently placed in the crockery-carrier when the crockery basket is swung out of the casing. The carrier may advantageously be constructed in a known manner as a basket. The crockery basket may be easily taken off the swung-out carrier for cleaning. After being filled with crockery to be washed, the crockery basket can be easily swung into the machine where it is set in rotation, during the washing operation, by a suitable drive. The drive for the basket is preferably that disclosed in our co-pending application Serial No. 187,705 filed April 16, 1962, for Dish-Washer Basket Drive based on West German application No. B 64,779 Ic/34c filed November 14, 1961.

A further feature of the dish-washing machine according to the invention involves arranging the washing or rinsing nozzles in the swinging arm and in the column that holds the rocking arm. According to this feature of the invention, the swinging arm is mounted on a column arranged adjacent the casing door, and secured, for instance,

2

above and below, in the casing. By this construction of the swinging-arm bearing, only slight stresses occur in the casing of the machine, so that the casing need not be made stouter than usual.

The vertical column and the basket carrying arm pivoted thereon are, according to a further feature of this invention, made hollow and supply the washing water to the washing nozzles located on them. Thus the vertical column may be stationary and the carrier arm may be so journaled to swing about this column. With this arrangement two sealing packings are required, one above and one below the scavenging-fluid supply to the swinging arm on the column.

It is also possible for the carrying arm to be rigidly fixed to the column so that when the crockery basket is swung out the column participates in the swinging movement. With this construction, sealing packings are required on the supply of washing fluid, preferably at the lower end of the column.

The washing nozzles on the carrying arm and on the column may be provided in readily removable nozzle-carriers, to facilitate cleaning of the nozzles. The nozzle-carriers may be sealed, in relation to the carrying arm and to the column, by means of simple packings.

In its preferred form, the pivoted basket-carrying arm is connected to the door of the machine casing so that it and the basket thereon are positively swung out of the machine when the door is opened, and into the machine when it is closed.

One constructional example of the invention is illustrated in the accompanying drawing in which:

FIGURE 1 is a perspective view of a dish-washing machine according to the invention;

FIGURE 2 shows the carrying arm of the crockery basket, with the vertical column.

FIGURE 1 illustrates in detail the vessel defining machine casing 1, at one side of which a pivoted door, flap or shelf 2 is provided. Within the machine casing 1, in a corner thereof adjacent the door 2, is arranged a vertical column 3. Column 3 carries at its lower end a rockable basket carrying arm 4. At the free end 5 of the carrying arm 4 a basket-like crockery carrier 6 is rotatably journaled. The crockery-carrier 6 is rotated during the washing operation, for instance, by way of a drive roller 8 as is fully disclosed in our aforesaid co-pending application Serial No. 187,705. The column 3 is made hollow for the purpose of supplying washing fluid. Removable washing nozzles 9 are arranged in column 3. A set of nozzles 10 is similarly provided on the swingable carrying arm 4.

FIGURE 2 shows more clearly the basket carrying arm 4 which swings about the vertical column 3. In that figure, the nozzle-carrier 9 is shown detached from column 3. The supply of washing liquid to the nozzle-carrier 9 from the vertical column is effected through a longitudinal slot 11, which is sufficiently wide that choking or clogging is impossible. The nozzle-carrier 9 is secured to the column 3 by the engagement of the slots or notches 12 located at the lower end of the nozzle-carrier 9 with corresponding pins 13 on the column 3 and by the subsequent closure of the simple locking clamp 7 provided on the column 3 at the upper end of nozzle-carrier 9. The nozzle-carrier 10 is similarly secured to the basket carrying arm 4.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range

3

of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by Letters Patent is:

1. In a dish washer having a casing formed with a side opening, a door for said side opening and mounted on said casing, and a rotary basket-like crockery carrier, the improvement comprising a vertical rigid hollow support column mounted in said casing in one corner adjacent said side opening, a hollow arm supported on said column for pivotal movement about the axis thereof, and means supportingly mounting said carrier on said arm for rotation about an axis extending in spaced apart parallel relation to the axis of said column and permitting said carrier to be swung by said arm laterally through said side opening for movement into and out of said casing, said column and said arm each having a longitudinal row of nozzles directed inwardly of said casing whereby fluid introduced into said column and said arm is adapted to be discharged through said nozzles in a plurality of jets onto crockery contained on said carrier.

5

10

15

20

2. The dish washer defined in claim 1 wherein the rows of nozzles on said column and said arm are embodied in members detachably connected to the remainders of said arm and said column respectively to facilitate ready removal of said nozzle rows.

4

References Cited in the file of this patent

UNITED STATES PATENTS

1,143,217	McGrath	June 15, 1915
1,444,902	Callahan	Feb. 13, 1923
1,574,452	South	Feb. 23, 1926
1,633,803	Ballin	June 28, 1927
1,645,869	Murdoch	Oct. 18, 1927
1,941,915	Rosenberger	Jan. 2, 1934
2,342,742	Loeb	Feb. 29, 1944
2,607,405	Weinandy	Aug. 19, 1952
2,687,137	Kramer et al.	Aug. 24, 1954
2,702,558	Blanchard	Feb. 22, 1955

FOREIGN PATENTS

10,632/32	Australia	Jan. 11, 1934
-----------	-----------	---------------