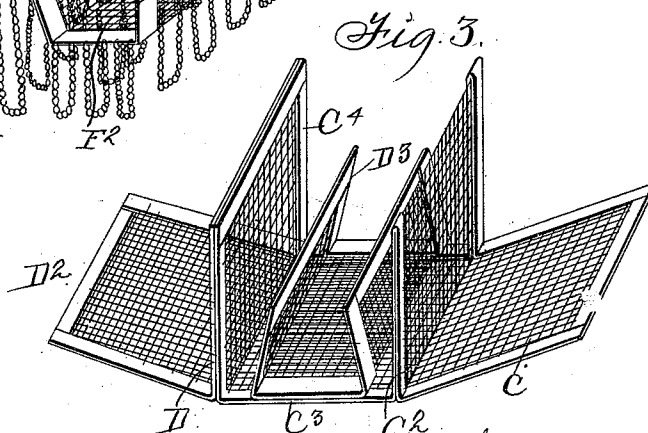
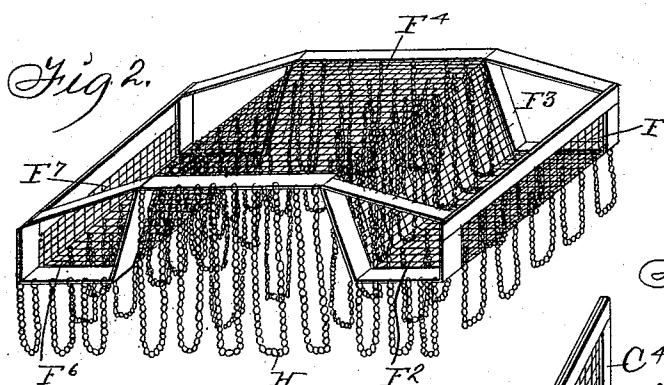
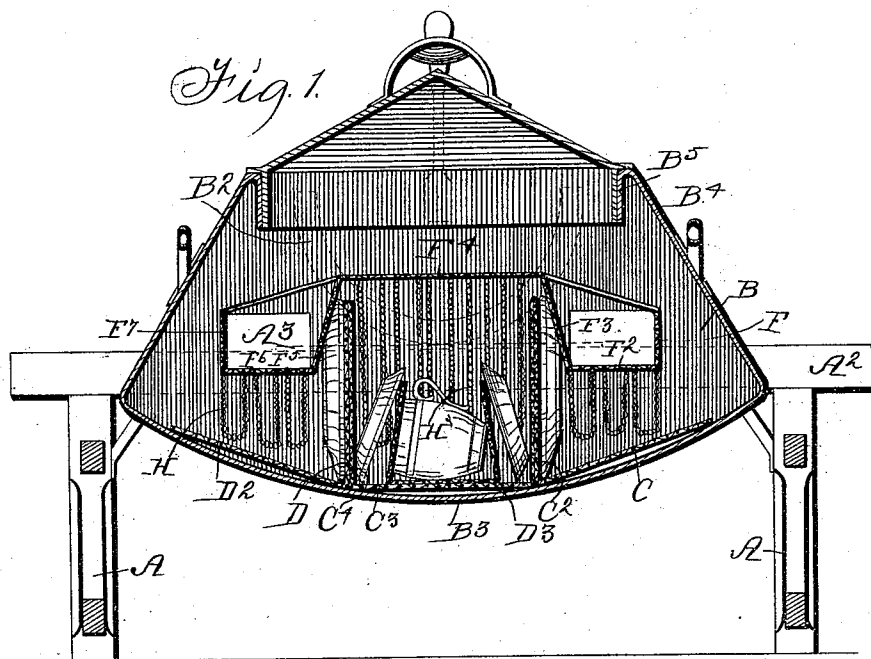


(No Model.)

R. W. SPRINGMIRE.
DISH CLEANER.

No. 553,943.

Patented Feb. 4, 1896.



Witnesses: } Inventor: Rachel W. Springmire,
R. G. Orwig }
W. J. Sander }
By Thomas G. Orwig, J. Ralph Orwig, Attorneys.

UNITED STATES PATENT OFFICE.

RACHEL W. SPRINGMIRE, OF TIFFIN, IOWA.

DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 553,943, dated February 4, 1896.

Application filed October 14, 1895. Serial No. 565,908. (No model.)

To all whom it may concern:

Be it known that I, RACHEL W. SPRINGMIRE, a citizen of the United States of America, residing at Tiffin, in the county of Johnson and State of Iowa, have invented certain new and useful Improvements in Dish-Washers, of which the following is a specification.

My invention relates to that class of machines in which the dishes are placed in a suitable water-holding receptacle and said receptacle rocked by manually-applied power.

My objects are, first, to provide a containing-vessel of such a shape that when rocked the water therein will be forced in different directions, additional to the natural flow from end to end, to thereby apply currents of water having considerable velocity to different sides of the dishes held within the machine-body.

A further object is to provide dish-holders of such shape that a maximum quantity of dishes may be held therein in such positions that the currents or streams of water induced by rocking the machine-body will contact with all sides or surfaces of each dish.

My object is further to provide means for automatically rubbing the surfaces of some of the contained dishes when the machine-body is rocked.

My invention consists in certain details in the construction, arrangement, and combination of certain parts of the machine, as hereinafter set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows the complete machine in longitudinal vertical section with dishes in position therein. Fig. 2 shows in perspective the lower tier of dish-holding frames, and Fig. 3 is a perspective of the upper dish-holding frame.

Referring to the accompanying drawings, the reference-letter A is used to indicate a supporting-frame for the machine, having parallel side pieces A² designed to receive the machine-body between them and having a rack A³ on the top surface of each side piece.

B indicates the machine-body, preferably made of sheet metal and having fixed to its sides the segmental racks B³ designed to mesh with the racks A³. This body has two parallel straight side pieces, a segmental bottom

B³ and end pieces B⁴ integral with the bottom, inclined upwardly and inwardly and then bent straight downwardly at B⁵. By this construction it is obvious that the water when it strikes one of the ends will be forced backwardly and downwardly with considerable velocity. It has been found, however, that some of the water will follow the end piece. The downwardly-bent deflector B⁵ turns this water and forces it straight downwardly.

The frames for holding the dishes are made of suitable wire-netting of approximately the same width as the interior of the machine-body and bounded on its edges with sheet metal. The under frame is composed of three parts. The first is bent parallel with the bottom of the machine-body at C, then upwardly and again downwardly to form the vertical wall C², then horizontally at C³ and finally upwardly at C⁴. The second part comprises a downwardly-extending portion D of the same height as the part C⁴ and a horizontally-extending part D². The third part D³ is U-shaped in transverse section and is designed to rest between the parts C² and C⁴ and to receive small dishes, such as cups and glasses, and also form a support for plates between its upright sides and the said parts C² and C⁴.

I have provided an upper frame designed to hold the plates and larger dishes resting against the uprights from moving laterally when the machine is rocked and also to support smaller dishes directly beneath the deflector B⁵. This frame is constructed of the same material as the others and is shaped as follows: Beginning at one end it is first bent downwardly at F, then horizontally at F², then upwardly and inwardly at F³, again horizontally at F⁴, downwardly and outwardly at F⁵, with a space between the two inclined upright parts somewhat greater than the space between the uprights C² and C⁴ of the under frame. The upper frame is bent then horizontally at F⁶ and upwardly at F⁷, the two ends being counterparts. H indicates a series of loops of ring-chains secured to and depending from under surface of the upper frame. As the machine is rocked the chains will rub over the surfaces of the dishes in the lower frame, and thus loosen the foreign substances therefrom that cannot be removed by streams or currents of water.

In practical use the lower frame is inserted in parts, it being too large to insert through the opening in the top as a whole. Then the smaller dishes are placed between the upright parts thereof and the plates rested upon the uprights with their edges projecting above said uprights. The top frame is placed in position by inserting one end between the plates and the end of the containing-tank and then pressed downwardly to an approximately-horizontal position. It is obvious that the plates will be clamped between the uprights of the lower frame and the inclined portions of the upper frame, and thus securely held during the operation of the machine.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent of the United States therefor, is—

1. The combination in a dish-washing machine, of a body having suitable sides, a segmental bottom and ends inclined upwardly

and inwardly and then downwardly to form deflectors, a lower dish-holding frame having two upright transverse walls and an upper frame having a horizontal central portion, downwardly and outwardly inclined transverse walls designed to overlap the said upright walls and horizontal extensions beyond the walls to support dishes beneath the deflectors on the ends of the machine-body, substantially as set forth.

2. In a dish-washer the combination with a machine-body designed to contain water and to be moved to agitate the water, of a frame designed to receive dishes, a second frame supported by said frame and a series of chains depending from said second frame, for the purposes stated.

RACHEL W. SPRINGMIRE.

Witnesses:

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HERMAN A. STRUB.