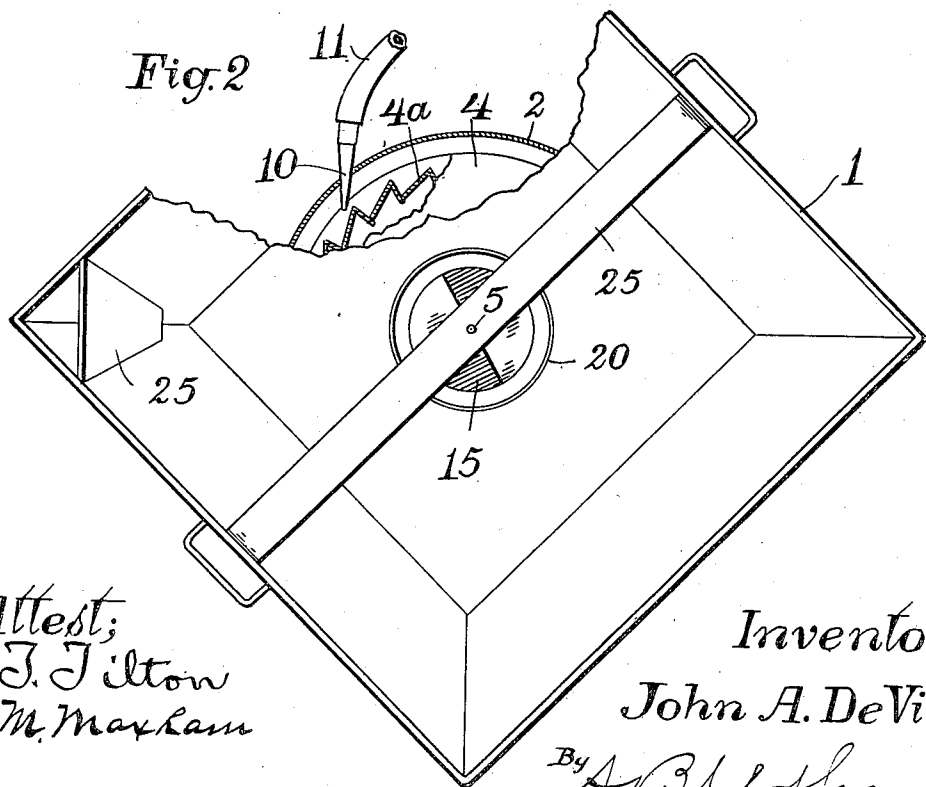
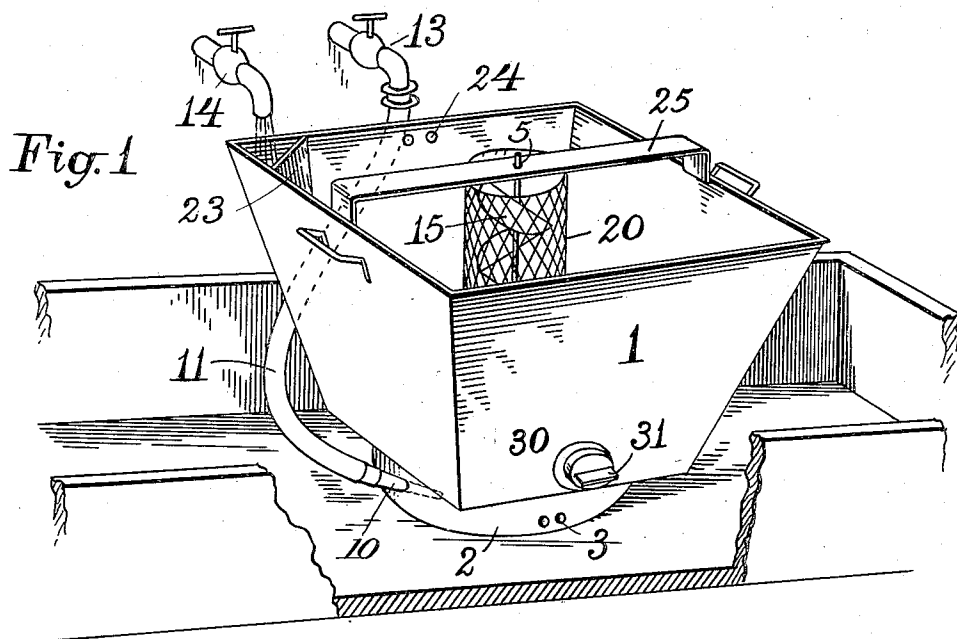


No. 880,637.

PATENTED MAR. 3, 1908.

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AUTOMATIC DISH WASHER.
APPLICATION FILED MAY 6, 1907.

2 SHEETS—SHEET 1.



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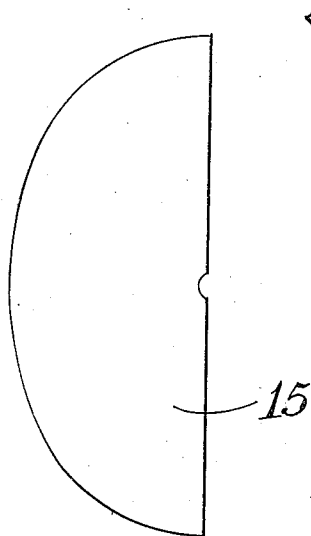


Fig. 4

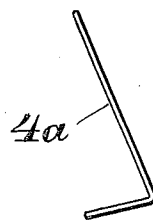


Fig. 5

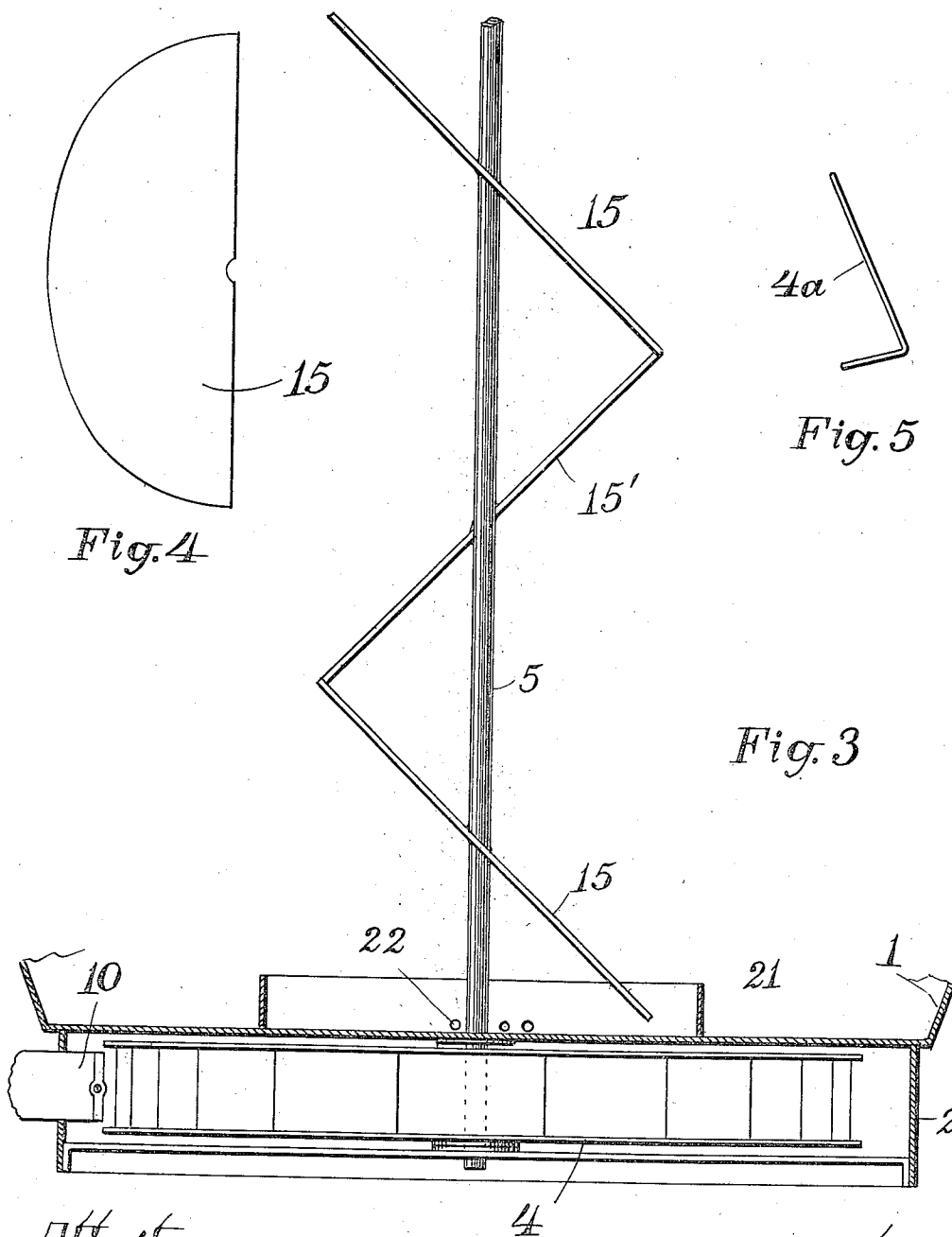


Fig. 3

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JOHN A. DE VITO, OF BOSTON, MASSACHUSETTS.

AUTOMATIC DISH-WASHER.

No. 880,637.

Specification of Letters Patent.

Patented March 3, 1908.

Application filed May 6, 1907. Serial No. 372,154.

To all whom it may concern:

Be it known that I, JOHN A. DE VITO, a citizen of the United States, and a resident of the city of Boston, in the county of Suffolk and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Automatic Dish-Washers, of which the following is a full, clear, and exact description.

The object of this invention is the construction of a device by means of which dishes may be automatically washed by means of water from the customary hot and cold water faucets; the hot water serving to soften and dissolve the dirt, and the cold water performing the mechanical work of agitating the hot water.

To this end I provided the dish receiving compartment with a vertical rotary agitator turned by means of a jet-wheel located beneath the compartment and actuated by the water received from the cold water faucet; at the same time hot water being admitted to the compartment from the hot water faucet.

Referring to the drawings forming part of this specification, Figure 1 is a perspective view of a dish washer made in accordance with my invention. Fig. 2 is a plan view of the same, with parts thereof broken away. Fig. 3 is a vertical section, nearly full size, of the lower portion of the device. Fig. 4 is a face view of one of the vanes of the water agitator. Fig. 5 is an edge view of one of the buckets of the jet-wheel.

The dish receiving compartment 1 is preferably made rectangular in plan, with the sides sloping inward toward the bottom; the rectangular shape enabling plates and platters of a larger size to be placed therein than would be the case were the compartment circular. Beneath said compartment is a flange or base 2 circular in plan, within which is located a jet-wheel 4 fixed upon a vertical shaft 5 rising centrally within said compartment. This wheel, and hence its shaft, is rotated by a jet of water delivered through the nozzle 10, and received from the cold water faucet 13 through a suitable length of rubber hose 11. Holes 3 in the base 2 permit of the escape of the water from the wheel after having done its work. Fixed upon said shaft are several vanes or blades 15, 15', each located in planes making angles of substantially forty five degrees with the shaft, but fixed at

right angles with each other upon opposite sides of the shaft as shown in Fig. 3. These blades or vanes are each approximately semi-circular, when sufficiently flattened to cause each to appear semi-circular when viewed from above.

When the jet-wheel 4 is set in motion, and hot water admitted to the compartment 1, said blades act in three ways; First, to elevate the water and cause it to rise upward and outward at the surface, and hence inward along the bottom. Second, to throw the water radially outward throughout its entire depth; and finally, to give a rotary and tangential motion to the water. These three effects upon the water are produced by the angles and also the flatness of the blades. Were the blades more nearly horizontal, they would act to raise the water more than to throw it outward; but being half way between horizontal and vertical, they act almost equally to elevate the water and force it outward. Hence, the plates and platters having been laid against the sides of the compartment, and the smaller spaces between the same and the netting guard 20, which is fixed about the agitator, filled with the smaller dishes, the hot water is admitted to the compartment, and the cold water permitted to impinge against the jet wheel. One or two pieces of soap are dropped into the water and permitted to sink to the bottom, and provide all the grease-dissolving element needed. The agitator will now cause a central ebullition up and along the surface of the water and thence downward between the dishes and the sides of the compartment, and between the dishes themselves, to the bottom. Here it flows toward the center to take the place of the upward current. In addition there are the various currents thrown radially and tangentially from the revolving blades in all directions, which also descend along the compartment sides and between the dishes to the bottom. As a result of all these currents of hot water, amply charged with soap from the pieces thereof lying upon the compartment-bottom, every particle of dirt, grease and stain on the dishes is entirely removed in a few moments. Ordinarily, three minutes are ample for the operation. At the end of this time, the screw-plug 30 is removed, a thumb piece 31 being provided for its easier turning, and the

water within the compartment allowed to drain out. Then, if desired, a quantity of boiling water can be poured over the dishes to rinse them, and to permit them to be

5 dried with the minimum of wiping.

This machine can be used with good results without the hot-water faucet, by simply partially filling the compartment with water from a tea kettle. I prefer, however, to take the hot water from a faucet, as 10 14, and for this purpose provide a conduit at one corner formed by a partition 23 reaching from the top nearly but not quite to the bottom of the compartment, as shown 15 in Figs. 1 and 2. I also provide overflow openings 24 near the edge of the compartment. By this arrangement, all the clean water enters at the bottom, and all that overflows is the dirty water and scum. I 20 prefer to locate a piece of soap on the bottom of the compartment between this partition and the agitator in order that the incoming hot water may, from the very beginning, be supplied with dirt and grease dissolving 25 means.

I prefer to support the upper end of the shaft 5 in a cross bar 25, which also serves the purpose of a central handle or bail, and at the same time holds the netting guard 20 30 strongly in position. At the bottom of the compartment is fixed a ring 21 to act as a wall for the prevention of forks and the like from sliding along the compartment-bottom into accidental engagement with the agitator blades. This is formed with a few small 35 holes 22 to permit the water to drain therefrom, as shown in Fig. 3. I usually form the jet wheel 4 by soldering a suitable number of

L-shaped vanes 4^a between two disks, as shown in Figs. 2, 3 and 5. 40

In Fig. 1, the dish washer is represented as standing in a sink, with a portion of the sink-front broken away to avoid interference with the sight of the lower part or base of the compartment. 45

What I claim as my invention and for which I desire Letters Patent is as follows, to wit;—

A dish washer comprising a dish receiving compartment, a horizontal water wheel located beneath said compartment, a vertical 50 shaft rising from said wheel into said compartment, agitator blades fixed to said shaft within said compartment, a nozzle for directing a stream against said wheel, a base surrounding said wheel and supporting said 55 compartment and having outlet openings, through the lower part thereof, and a flexible tube joined to said nozzle and adapted to be connected with a source of water under 60 pressure; said water wheel being supported at a substantial distance above the bottom of said base; whereby the washer being stood on any suitable drained surface, as a sink, and said tube connected to the cold 65 water faucet of such sink, said agitator blades will be continually operated and the waste water from said wheel not interfere with the latter's action.

In testimony that I claim the foregoing invention, I have hereunto set my hand this— 70 3—day of May, 1907.

JOHN A. DE VITO.

Witnesses:

A. B. UPHAM,
LOWELL M. MAXHAM.