F. E. WOLCOTT.

DISH WASHING MACHINE.

APPLICATION FILED APR. 9, 1919.

1,390,223. Patented Sept. 6, 1921.

Fig. 1.

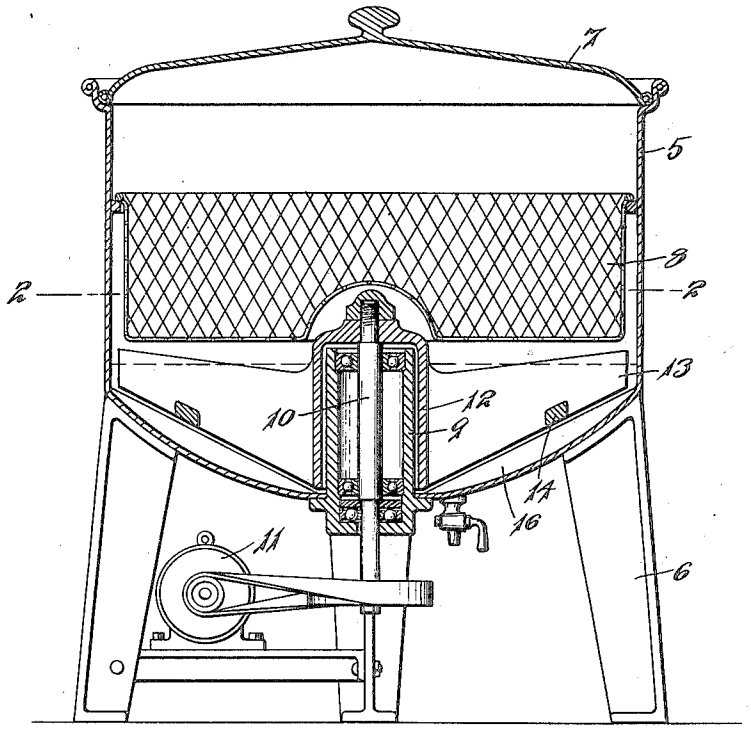
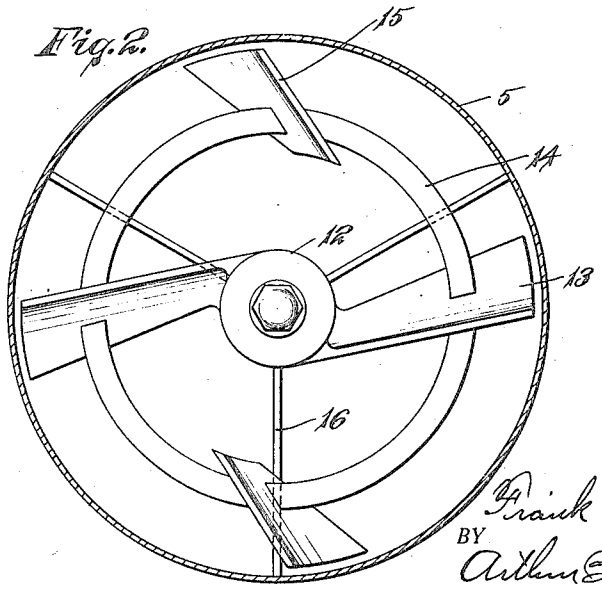


Fig. 2.



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DISH-WASHING MACHINE.

1,390,223. Specification of Letters Patent. Patented Sept. 6, 1921.

Application filed April 9, 1919. Serial No. 288,724.

To all whom it may concern:

Be it known that I, FRANK E. WOLCOTT, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented a new and Improved Dish-Washing Machine, of which the following is a specification.

My invention relates to the class of devices employed for cleansing dishes, and an object of my invention, among others, is to provide a device of this class that shall be extremely durable, simple in construction and effective in operation.

One form of device embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained, is illustrated in the accompanying drawings, in which—

Figure 1 is a view in vertical central section through a dish washing machine embodying my invention.

Fig. 2 is a view in horizontal section on plane denoted by dotted line 2—2 of Fig. 1.

In the accompanying drawings the numeral 5 indicates a receptacle of any suitable form and material supported upon legs 6 and having a cover 7 attached in any desired manner and provided with means to receive a basket 8 in which the dishes are placed, this basket being preferably of wire mesh and being supported in any suitable manner. A bearing sleeve 9 projects upwardly from the bottom of the receptacle, in the structure herein shown this sleeve projecting through an opening in said bottom and being secured in place in any desired manner. A shaft 10 projects upwardly through this sleeve, the latter having any suitable means for supporting the shaft for rotation therein, and the shaft may be connected in any suitable manner with a motor 11 as a means for rotating it.

The bearing sleeve 9 is extended to a point above the level of the liquid contents of the receptacle, so that liquid will not gain access to the opening in the bottom of the receptacle through which the shaft extends. I also provide a hub 12 secured to the upper end of the shaft 10 and having its side walls surrounding the sleeve 9 and extending to a point near the bottom of the receptacle. In the structure herein shown this hub is in the form of a housing completely inclosing the bearing, but I do not necessarily limit my device to such structure, as its main purpose is a support for blades 13 that project from the hub and that are preferably inclined to a vertical plane, in the structure herein shown two of these blades being employed.

A ring 14 is secured to the blades in any desired manner, this ring providing weight for the structure and thereby serving to balance it to a greater or lesser extent. In the operation of the device the dishes to be cleansed are placed within the basket 8 and a proper cleansing liquid is placed in the bottom of the receptacle but not enough to overflow the top of the sleeve 9. The blades 13 being now rapidly revolved, the liquid will be thrown upwardly into contact with the dishes in the basket 8.

Centrifugal action caused by the rotation of the blades 13 tends to pile up a wall of water about the inner wall of the receptacle and in order to counteract this effect and break down this wave and throw the water upward thereby increasing the amount and force of the water projected against the dishes within the basket, auxiliary blades 15 are mounted upon the ring 14. These blades extend from close to the outer wall of the receptacle but a short distance inward beyond the ring and they are preferably disposed so as to extend tangent to a circle of different diameter than the circle to which the blades 13 are tangent, as shown in Fig. 2, whereby their action will cause currents which will interfere with the currents produced by the blades 13 and enable the water to be more directly thrown up against the dishes in the basket above.

In order to prevent a swirling motion of the liquid within the receptacle I provide a number of baffle plates 16, in such number as may be desired, these plates being disposed edgewise upon the bottom of the receptacle and underneath the plane of rotation of the lower edges of the blades 13 and the ring 14.

My improved device herein described embodies means whereby a shaft may be readily mounted in the receptacle to extend upwardly thereinto from underneath and without liability of liquid to escape from the receptacle through such opening. The arrangement of the blades is such that the liquid is projected upon the dishes in a manner to most effectively cleanse them and the structure is one of extreme simplicity.

In accordance with the provisions of the

patent statutes, I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative, and that the invention may be carried out by other means.

I claim—

1. A dish washing machine comprising a closed receptacle, an openwork basket removably supported within the receptacle, a motor shaft passing through the bottom of the receptacle, a hollow hub fastened to the motor shaft within the receptacle, propeller blades extending on diametrically opposite sides from said hub outward to close proximity to the wall of the receptacle, a ring connecting said blades intermediate the hub and the wall of the receptacle, and propeller blades extending inward from close proximity to the wall of the receptacle but partway toward the hub and fastened to said ring intermediate the first mentioned blades, both sets of said blades being in substantially the same horizontal plane and having substantially the same pitch for throwing water upward from the lower part of the receptacle through the basket.

2. A dish washing machine comprising a closed receptacle, an openwork basket removably supported within the receptacle, a motor shaft passing through the bottom of the receptacle, a hollow hub fastened to the motor shaft within the receptacle, propeller blades extending on diametrically opposite sides from said hub outward to close proximity to the wall of the receptacle, a ring connecting said blades intermediate the hub and the wall of the receptacle, propeller blades extending inward from close proximity to the wall of the receptacle but partway toward the hub and fastened to said ring intermediate the first mentioned blades, both sets of said blades being in substantially the same horizontal plane and having substantially the same pitch for throwing water upward from the lower part of the receptacle through the basket, but extending tangent to concentric circles of different diameters.

FRANK E. WOLCOTT.