

Feb. 7, 1928.

1,658,548

W. B. BARLEY

DISHWASHING MACHINE

Filed July 3, 1924

2 Sheets-Sheet 1

Fig. 1

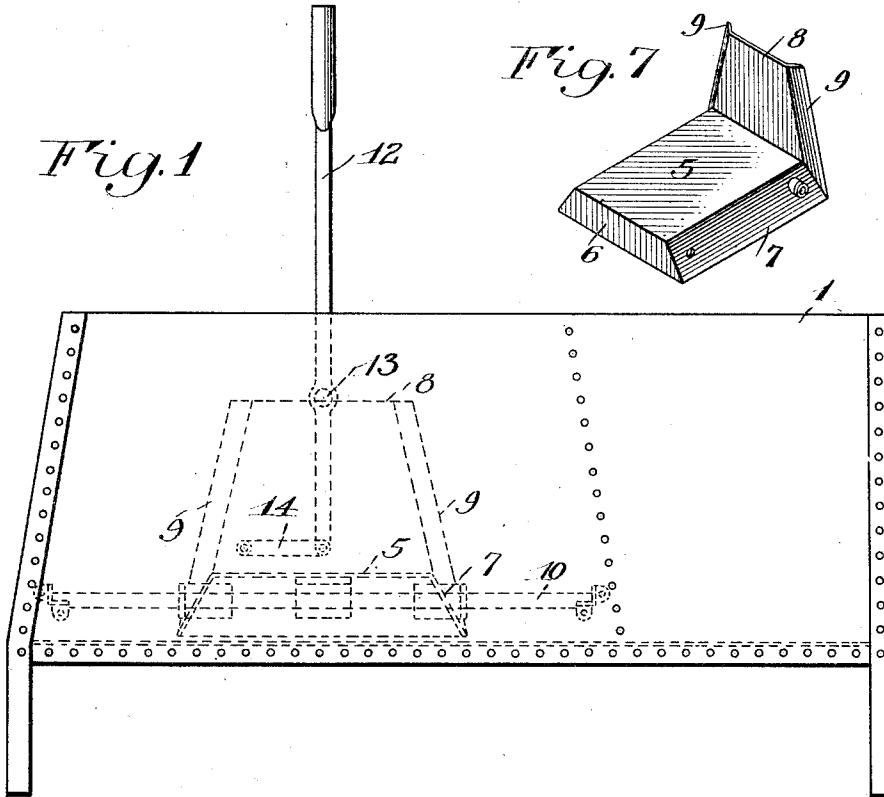


Fig. 7

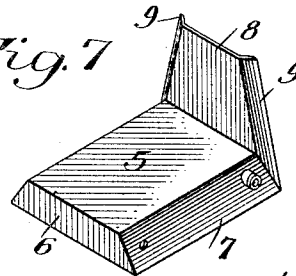


Fig. 2

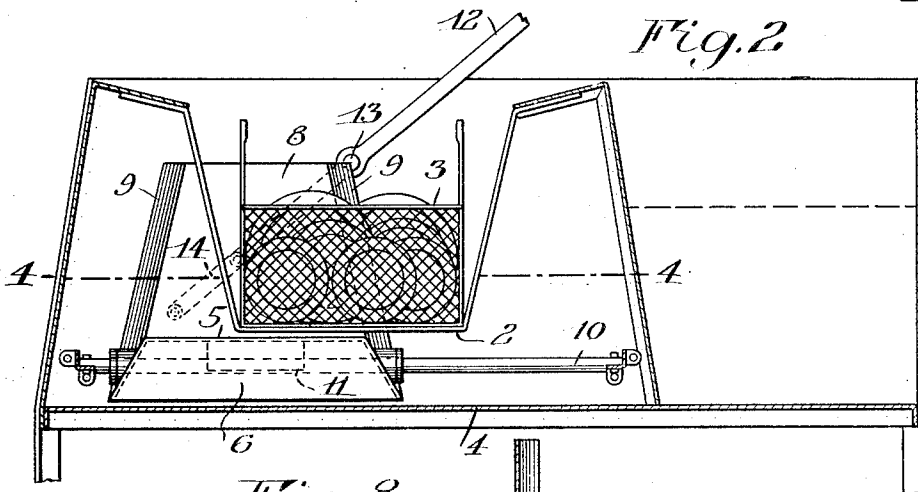
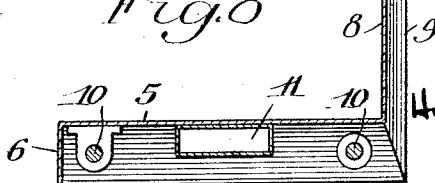


Fig. 8



INVENTOR.

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Fig. 3

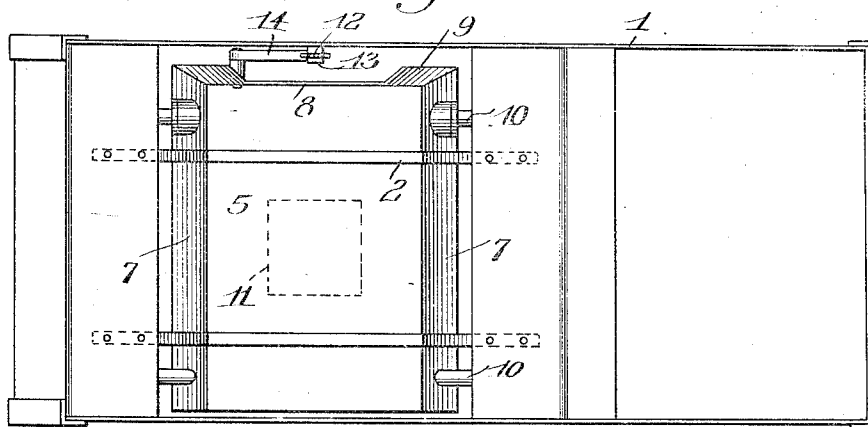


Fig. 4

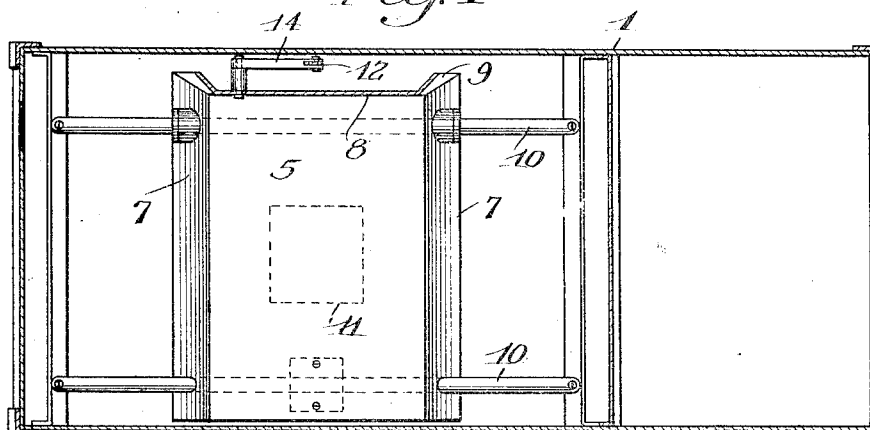


Fig. 5

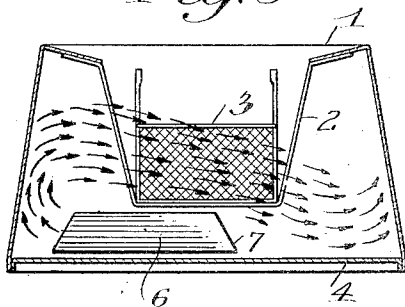
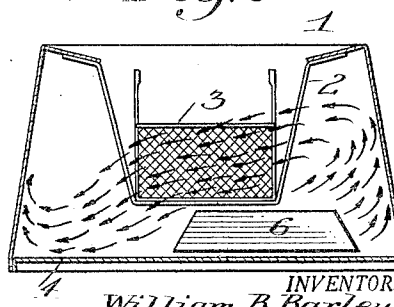


Fig. 6



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Patented Feb. 7, 1928.

1,658,548

UNITED STATES PATENT OFFICE.

WILLIAM B. BARLEY, OF PITTSFORD, NEW YORK.

DISHWASHING MACHINE.

Application filed July 3, 1924. Serial No. 723,990.

My invention relates to a dish washing machine, and has for its purpose to afford a simple and practicable mechanism that can be readily and economically manufactured, and lends itself to use in restaurants and hotels, with considerable facility and efficiency.

A more particular object of the invention is to afford a structure in which the dishes are stationary, and the water is brought into contact therewith violently and continuously, maximum agitation of the water being created to bring about a quick and thorough cleansing action.

With these and other ends in view, the invention comprises the structure that will appear clearly from the following description, when read in conjunction with the accompanying drawings, the novel features being pointed out in the claims following the detailed description.

In the drawings:

Figure 1 is a side view of a dishwashing machine incorporating one embodiment of the invention;

Figure 2 is a longitudinal vertical sectional view;

Figure 3 is a plan view;

Figure 4 is a horizontal sectional view on line 4—4 of Figure 2;

Figure 5 is a transverse vertical sectional view showing one position of the water displacer, the arrows indicating the flow of water produced by the displacer;

Figure 6 is a similar view with the water displacer in its opposite position, and the arrows indicating the corresponding reverse movement of the water;

Figure 7 is a perspective view of the water displacer, and

Figure 8 is a sectional view of the water displacer.

In the construction disclosed, which is understood to be merely illustrative of one practical embodiment of the invention, 1 designates a water receptacle, while 2 is a dish support upon which the loaded dish basket 3 may be positioned in the usual manner in this class of machinery.

The water is agitated in the receptacle and forced through the dish basket by a displacer, so constructed as to displace a substantial volume of water. As the displacer travels from one part of the receptacle to another, it houses and moves with it a substantial volume of water and an equal

amount of water is constantly rushing in behind to occupy the space previously filled by the displacer, which at the same time is driving water ahead of it. In this way, a very thorough and powerful agitation is created and good results are obtained by moving the displacer back and forth beneath the dish support. Preferably the volume of water so displaced is substantially equal to the volume between the bottom of the dish support and the bottom of the water container and which the latter houses and moves along. As the displacer travels back and forth under the dishes, a considerable body of water is sucked in behind the displacer and a corresponding volume of water is forced in front of the displacer upwardly through the dish basket, as indicated by the arrows in Figures 5 and 6. To accomplish this, the dish support 2 is located in spaced relation above the bottom 4 of the water receptacle, affording a space underneath the dish support to permit movement of the water displacer that will now be described.

The water displacer may be constructed and have a movement other than that specifically disclosed, but in its preferred form, comprises a bottomless housing having a top wall 5, front wall 6, and side walls 7. The side walls 7 are inclined downwardly, as shown in Figures 2 and 7, so as to reduce the resistance to the back and forth travel of the water displacer.

The displacer having no bottom, its interior is filled with water which moves back and forth therewith. Thus the displacer has no tendency to float, and the omission of the bottom renders it comparatively light, resulting in an easier operation. At its rear, the displacer is provided with an upwardly extending deflecting portion including a central wall 8 and side walls 9, the latter being inclined rearwardly. This deflecting portion is located to one side of the dish support and dish basket and travels along the side thereof, tending to concentrate the water more or less toward the center of the water receptacle and direct it with greater effect through the dish basket.

10 designates guide rods arranged longitudinally of the water receptacle beneath the dish support, and adapted to receive the displacer which is slidable back and forth thereon. In order to further assist the displacer in its movement and reduce the amount of power required in operating the

machine, a float or air chamber 11 may be secured to the displacer underneath the top thereof, as shown in Figure 8. The displacer may be operated in any suitable way either by hand or motor power, and as a possible means of accomplishment, I have illustrated an operating lever 12 pivoted at 13 and connected by the link 14 to the vertical wall 8 of the displacer.

The machine being properly filled with water, a basket loaded with dishes is placed on the dish support 2 and the lever 12 is then oscillated, causing the water displacer in the bottom of the container to reciprocate beneath the dish support. The water displacer confines a substantial volume of water, moving the same back and forth, at the same time causing the water in the receptacle in advance of the displacer to move with considerable violence upwardly and laterally through the dish basket, first in one direction and then in the other, while the water behind the displacer is rushing toward it to fill the void created by movement of the displacer.

While I have described the invention with reference to a particular embodiment, it is not confined to the details set forth, and my improvement may be carried out in various other ways without departing from the fundamental features of the invention or the scope of the following claims.

I claim:

1. A dishwashing machine comprising a water receptacle, a dish support located in spaced relation above the bottom of the receptacle, and a water displacer approximately as wide as the dish support and movable back and forth under the dish support and comprising an open bottomed housing with top and side walls acting to confine and move a substantial body of water, the dish support being open at the bottom to permit free passage of water upwardly or downwardly.

2. A dishwashing machine comprising a water receptacle, a dish support arranged in spaced relation above the bottom of the receptacle, guide rods extending longitudinally of the receptacle beneath the dish support, and an open bottomed water displacer approximately as wide as the dish support and movable back and forth on said guide

rods, said water displacer having top and side walls and acting to confine a body of water therewithin, the dish support being open at the bottom to permit free passage of water upwardly or downwardly.

3. A dishwashing machine comprising a water receptacle, a dish support located in spaced relation above the bottom of the receptacle, and an open bottomed water displacer approximately as wide as the dish support and movable back and forth beneath the dish support, said water displacer including a top wall and downwardly inclined side walls, the dish support being open at the bottom to permit free passage of water upwardly or downwardly.

4. A dishwashing machine comprising a water receptacle, a dish support located in spaced relation above the bottom of the receptacle, a water displacer movable back and forth beneath the dish support, said water displacer including a top wall, one end wall, downwardly inclined side walls, and a vertically extending deflecting portion at the opposite end of the displacer and movable along one side of the dish support.

5. A dishwashing machine comprising a water receptacle, a dish support located in spaced relation above the bottom of the receptacle, a water displacer movable back and forth under the dish support and including a top wall, one end wall, downwardly inclined side walls, a vertically extending deflecting portion at the opposite end having rearwardly inclined side walls and movable along one side of the dish support, guide rods extending longitudinally of the water receptacle, the displacer being movable on said guide rods, and a float chamber carried by the displacer.

6. A dishwashing machine comprising a water receptacle, a dish support located in spaced relation above the bottom of the receptacle and having an open bottom to permit free passage of water upwardly or downwardly, and a hollow water displacer movable back and forth horizontally beneath the dish support and in the same chamber therewith, said water displacer acting to displace a substantial volume of water.

In witness whereof, I have hereunto signed my name.

WILLIAM B. BARLEY.