(No Model.)

2 Sheets—Sheet 1.

W. BUTTS.

DISH WASHER.

No. 397,533. Patented Feb. 12, 1889.

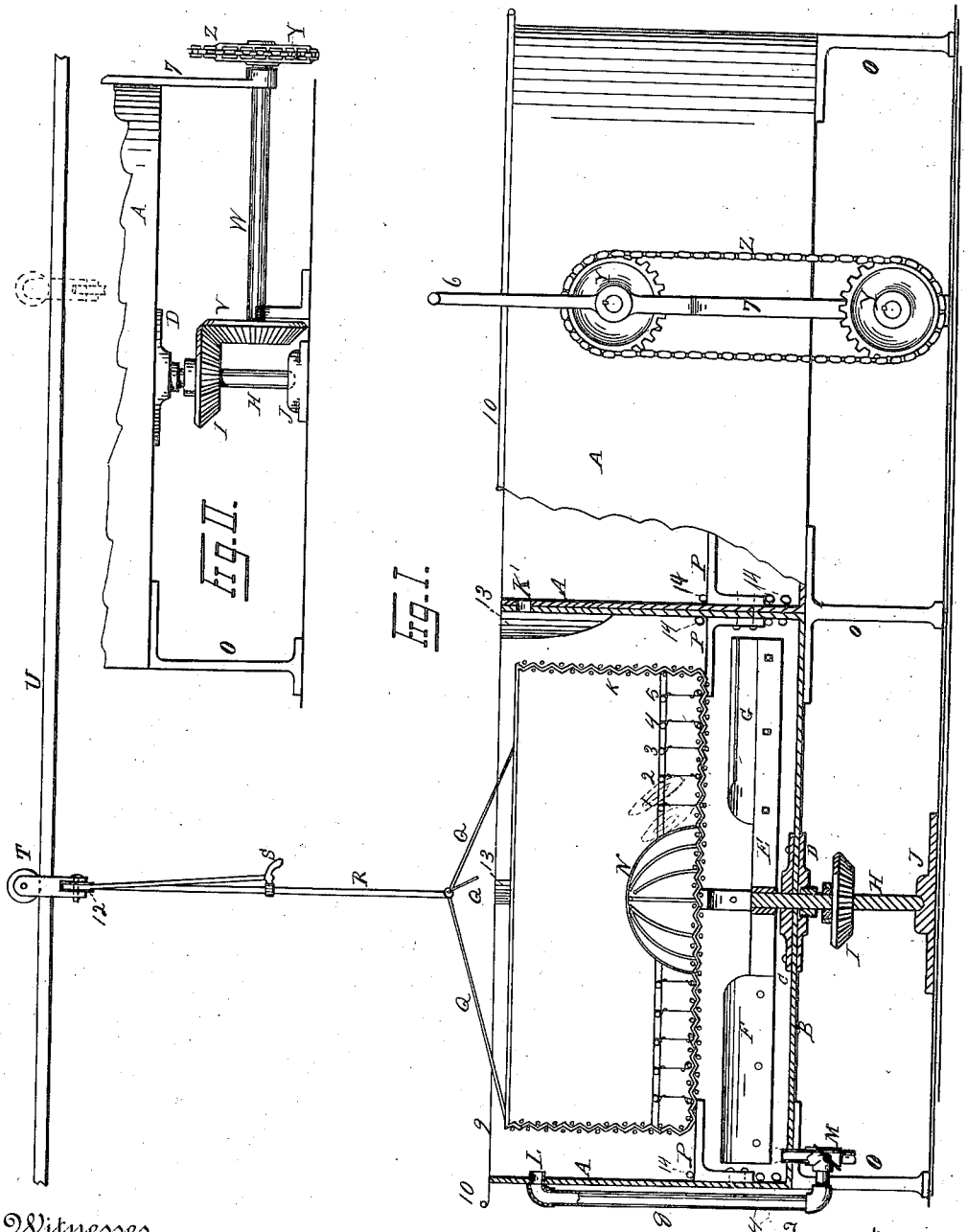


Fig. I.

Fig. II.

Witnesses,
B. M. Whitaker.
F. K. Moore.

Inventor,
William Butts.
By Attorney G. L. Chapin.

(No Model.)

2 Sheets—Sheet 2.

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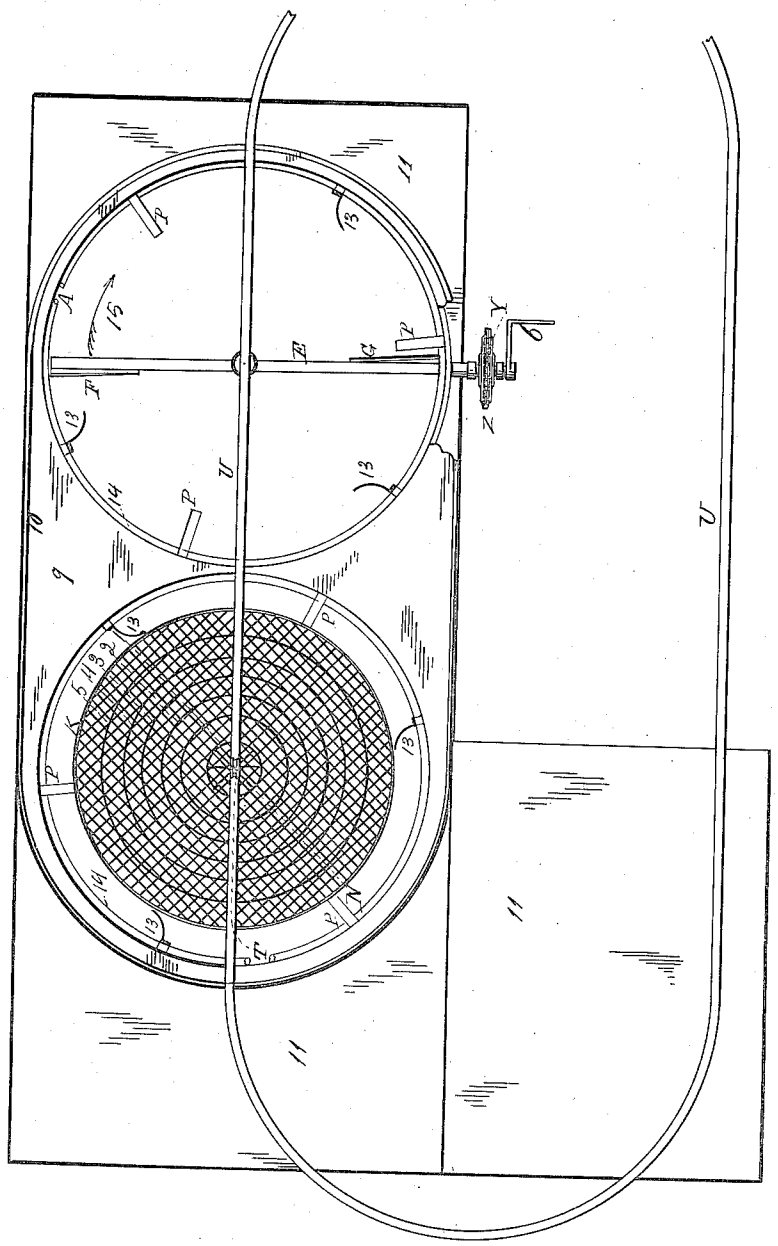


Fig. III.

Witnesses,
B. M. Whitaker.
J. K. Moore.

Inventor
William Butts
By Attorney G. L. Chapin

UNITED STATES PATENT OFFICE.

WILLIAM BUTTS, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO JAMES F. SOMES, OF SAME PLACE.

DISH-WASHER.

SPECIFICATION forming part of Letters Patent No. 397,533, dated February 12, 1889.

Application filed April 16, 1887. Serial No. 234,999. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BUTTS, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented new and useful Improvements in Dish-Washers, of which the following is a specification, reference being had to the accompanying drawings, two sheets illustrating the invention, in which—

Figure 1, Sheet 1, is a vertical sectional and partial side elevation of my improved dish-washer as constructed for use; Fig. 2, same sheet, an end view of the lower part of Fig. 1, showing a side view of the gearing; Fig. 3, Sheet 2, a top or plan view on a smaller scale than Fig. 1, showing one driving-gear and the tables connected with the washing devices.

This invention relates to machines for washing dishes; and the nature of the invention, in brief, consists of one or more tanks in which the basket holding the dishes is placed and the dishes subjected to water forced onto them by a rotating agitator in the bottom of the tank, acting in combination with deflectors attached to the inside of the tank; and, further, in combination with the water-tanks a continuous track placed above the wash-tanks for supporting and moving the basket of dishes from one tank to the other, and carrying them to a table for drying and removal, and in uniting the tanks where more than one are used with a surrounding narrow table to prevent water from being splashed onto the floor. Suitable gearing is employed to rotate the agitators in the bottoms of the wash-tanks, and deflectors are attached to the insides of the top portion of the wash-tanks, arranged to break or change the direction of the current created by said agitators, thereby deflecting toward and tending to keep the water centrally in the tanks, the agitators in the bottoms of the tanks being also constructed to throw the water onto the dishes, as herein fully described and shown.

A B A B represent two tanks, which are made of suitable material, either wood or metal, and for ordinary purposes they should be about two and one-half feet in diameter. The tanks rest on suitable legs, O, and by means of a plate, C, placed on the inside of the bottom B, and a plate, D, placed on the outside of the bottom, and the two plates riveted to clamp the bottom B between them, a bearing is formed for support of a vertical shaft, H, which extends into the tank and to it is secured arms E, to which are attached agitators F G for driving the water through between the dishes in basket K. The shaft H has a step, J, secured either to the floor of the wash-room, to the foundation on which the machine is placed, to a suitable support formed by a wooden or metal stick or tie extending from one to the other or others of the legs of the tub, or to the bottom of the tank or tub. A gear, I, is made fast to the shaft H, and a gear, V, on shaft W meshes into gear I. A depending standard, 7, is attached to each of the tanks, and its lower end supports the outer end of shaft W, and the outer end of the shaft W supports a sprocket-wheel, Y, and the upper end of the standard supports a sprocket-wheel, Y, of a like construction. A chain, Z, passes around these sprocket-wheels, whereby a crank, 6, attached to the shaft of the upper sprocket-wheel, may be operated to rotate the agitators E F G in the tank A B. Each tank is provided with the same driving-gear for the same purpose, and with brackets P, three or more, for the support of the dish-basket K. This basket is made of strong wire woven together in the ordinary manner with meshes large enough for the water in the tank freely to pass into it and between the dishes placed therein. In the middle portion of the bottom of the basket is formed a semi-globular elevation, N, of wire-work for the inner tier of dishes to bear against and be held in partly upright positions—better for the water to be forced between them.

The better action of the water on the dishes, which is secured by the construction of the semi-globular elevation referred to, is due partially to the free and uninterrupted movement of the water in the space formed thereby and its rising therein and moving outward upon the dishes.

Five rings of wire, 1 2 3 4 5, (more or less,) are placed around the support N and supported by wires fastened to them and to the bottom of the basket, the purpose of which

is to form partitions between which the dishes are put and are kept sufficiently apart for water to come in contact with all sides of them. During the washing process the basket rests on the brackets P; but for the purpose of moving the basket from one tank to the other a three-barred bail, Q, is attached to the rim of the basket, and a rope, R, is attached to the bail and extended over a pulley, 12, in a sheave-block, T, and is brought down and connects with an ordinary sliding lock, S, whereby the basket may be elevated above the tank A B and held in position to be carried on the continuous track U to any point desired.

Deflecting wings 13 are attached to the inside of the top of the tanks for the purpose of keeping the water in the central portion of the tank and in contact with the dishes in such force as to remove the dirt therefrom. Inasmuch as some little water will drip from the dish-basket when being removed from one tank to the other, a metal table, 9, is secured closely to the tops of the tanks and a rim, 10, is raised around it to keep the water from falling to the floor.

11 represents a table which may extend in any direction desired from the tanks for the convenience of scraping the dishes, putting them in, or removing them from the basket.

In practice the tanks may be filled with hot water, or the water may be heated and kept hot in the tanks by steam-coils 14 in the ordinary manner of heating water by steam. Soda or soap may be used in the water of one tank, if desired, the basket K being in the position shown at Fig. 1, and filled with dishes. The crank 6 is to be turned to rotate the agitators in the direction indicated by dart 15, Fig. 3, for about a half minute. The basket is then removed and placed in the other tank in hot rinsing water and the agitators rotated, and from thence removed for the dishes to dry. K′ represents an overflow-pipe connecting the tanks, and L *q* a lower overflow-pipe connecting with a waste-pipe, M.

Where a dish-washer is to be employed in a large hotel three tanks will serve a better purpose, using the first tank to remove the thickest dirt.

For all sizes of the washer a suitable number of baskets are to be employed, so that the washing process may go on without interruption.

Having thus described my invention, I claim as new—

1. In dish-washing machines, the tanks A B A B, provided with the rotating agitators E G F, deflectors 13, and brackets P, in combination with the open wire-work dish-basket K, which is provided with the elevated center support, N, and surrounding partition-wires 1 2 3 4 5, as and for the purpose specified.

2. In a dish-washing machine, the tank A B, provided with a rotating agitator, E G F, deflectors 13, and brackets P, in combination with an open net-work dish-basket, which may be placed in said tank and suitable for the reception of dishes, all substantially as and for the purpose specified.

3. In a dish-washing machine, the combination of a tank having a rotating agitator therein, deflectors arranged to break or change the direction of the current created by the movement of said agitator in the liquid contained in said tub and deflect said liquid or current toward the center of the tub, with an open net-work dish basket or receptacle, in which dishes or other like articles may be placed and alternately exposed to said currents, or removed therefrom and from said tub, as and for the purpose specified.

WILLIAM BUTTS.

Witnesses:
G. L. CHAPIN,
ANNA D. JOHNSON.