

(No Model.)

D. W. HAWKES & F. D. HARDING.
DISH CLEANER.

No. 576,117.

Patented Feb. 2, 1897.

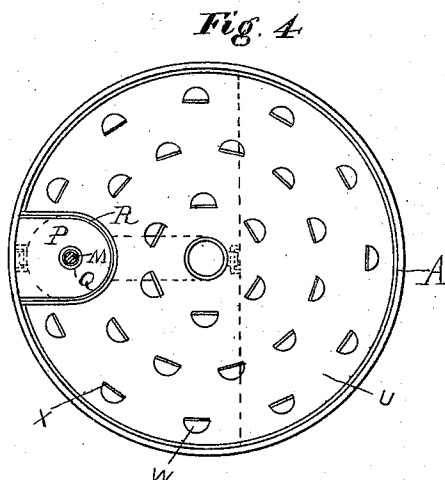
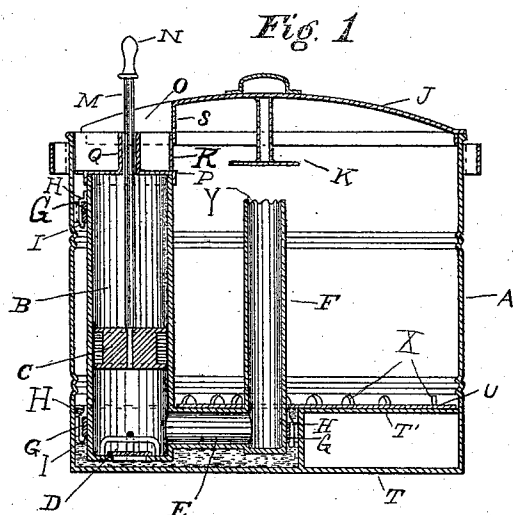
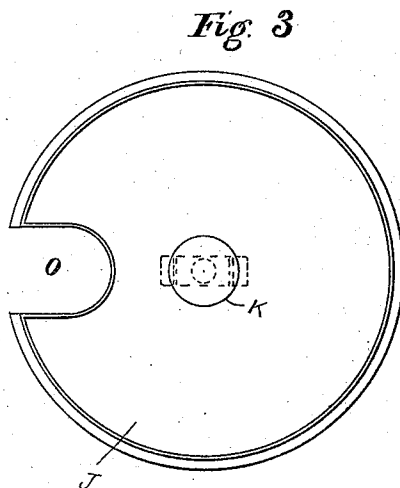
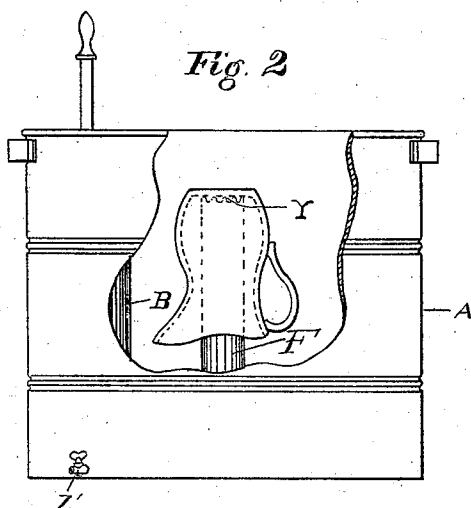
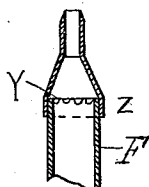


Fig. 5



Witnesses:

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UNITED STATES PATENT OFFICE.

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DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 576,117, dated February 2, 1897.

Application filed July 3, 1896. Serial No. 597,973. (No model.)

To all whom it may concern:

Be it known that we, DANIEL W. HAWKES, of Deering, and FRED D. HARDING, of Baldwin, in the county of Cumberland and State of Maine, citizens of the United States of America, have invented certain new and useful Improvements in Dish-Washers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in dish-washers. It is designed to afford easy and rapid means for thoroughly cleansing dishes. It is further designed to reduce to a minimum the amount of water required therefor and to render the tank and operating mechanism capable of being readily cleansed.

We have illustrated the construction of our improved dish-washer in the drawings herewith accompanying, in which—

Figure 1 is a central vertical sectional view of our dish-washer, taken on a line passing through the pump-barrel and delivery-spout. Fig. 2 is a side elevation of the same, showing cover removed and a portion of the side broken out to show its use in washing pitchers and similar vessels. Fig. 3 is a bottom plan view of the cover, showing water-spreader. Fig. 4 is a plan view of our improved device, the cover being removed; and Fig. 5 is a detail vertical sectional view showing a reducing-nozzle applied to the end of the delivery-spout.

Same letters refer to like parts.

In said drawings, A represents a suitable tank, which may be made of galvanized iron, tin, or any suitable material. Mounted in said tank is a pump consisting of a barrel B, piston C, valve D, and delivery-spout consisting of horizontal portion E and vertical portion F. The vertical portion of said delivery-spout should be substantially concentric with the tank. The pump is removably connected to the tank, as follows: Brazed or otherwise secured to the walls of the tank are a series of loops or supporting-brackets G, and to the barrel and delivery-spout is secured flanges or tongues H, adapted to engage said loops and support the pump therein.

Said tongues have set-offs I, which, when the tongues are inserted in the loops, engage the lower ends of the loops and prevent the pump from being detached. Combined with said tank is a cover J of suitable construction to fit closely the top of the tank. Secured to the under side of the cover is a water-spreader K, which, when the cover is in position, is directly over the open end of the delivery-spout. Said cover has a hole in the side thereof through which projects the piston-rod M, which rod terminates at the top in a convenient handle N. The cover has a re-entrant cut at the edge, as at O, and the pump-barrel has at the top a cap P, removably secured thereto, and is provided with a sleeve Q, through which the piston-rod passes. Secured to the top of the cap is a partition R, which, with the flange S, surrounding the re-entrant cut in the cover, completely closes the space between the top of the pump-barrel and the tank, so that no steam or water can escape from the tank through the hole in the cover. The removable cap to the barrel also renders it convenient to remove the piston, so that the barrel and delivery-spout of the pump can be thoroughly cleansed.

To enable the machine to operate with a small quantity of water, and at the same time to have a tank sufficiently large to contain a considerable quantity of dishes, we provide the tank with a bottom of two parts T and T' at different elevations, the bottom of the pump and delivery-spout extending down into the lower portion of the bottom, so that a comparatively small quantity of water will submerge the bottom of the pump-barrel and the horizontal arm of the delivery-spout.

To support conveniently the dishes in a position best adapted to receive the water as it is thrown downwardly by the spreader, we place in the bottom of the tank a rack which consists of a disk U of metal, having a re-entrant cut to surround the pump and delivery-spout. Said rack has perforations to permit the water to pass through into the bottom of the tank and raised projections X to hold the dishes from slipping thereon. The perforations and projections are formed in any convenient manner, as, for example, by

cutting and bending up portions of the rack in concentric circles, the projections standing upwardly at right angles to the plane of the surface of the rack.

5 It is found that certain dishes of which the pitcher is a type are not always sufficiently washed when placed on the rack on account of the peculiar shape of the dish. To provide for this, the spreader is attached to the
10 cover and is removable therewith. When thus arranged, the pitcher may be held over the end of the delivery-spout and thus be thoroughly cleansed without danger of the water being thrown upon the operator. If
15 the end of the delivery-spout is scalloped, as seen at Y in Fig. 2, the pitcher or other dish may be placed upon the end of the delivery-spout, as seen in Fig. 2, the water escaping through the scallops in the upper end of the
20 spout and being spread out laterally in all directions, thus completely washing the dish.

To adapt our improved dish-washer to wash bottles and dishes with very narrow necks, we may attach to the top of the delivery-spout
25 a reducing-nozzle Z, as seen in Fig. 5. It is sometimes desirable to remove the first water before the dishes are dried and give them a second washing. This may be conveniently done by having a waste-pipe and faucet Z'
30 at the bottom of the lower level in the tank, as seen in Fig. 2.

The operation of our improved dish-washer is as follows: The dishes are placed upon the rack, the edges engaging the projections
35 thereon, and the dishes in the main being inclined against the wall of the tank or against each other, as the case may be. A sufficient quantity of water is then placed in the tank at least to submerge the horizontal arm of the
40 delivery-spout. The pump is then operated, the water being thrown from the delivery-spout upwardly against the spreader attached to the cover or directly into the disk placed over the end of the spout, as the case
45 may be.

To cleanse the tank or the pump, remove

the pump and rack, which permits access to every part of the tank.

Having thus described our invention and its use, we claim—

1. In a dish-washer, in combination, a tank, 50
a pump having a vertical delivery-spout mounted therein, and a cover to said tank having a pendent water-spreader on its under side supported by a rod lying wholly between 55
the cover and back of the spreader and so located that, when the cover is in position, the face of said spreader will be directly over the open end of said spout, substantially as and for the purposes set forth. 60

2. In a dish-washer, a suitable tank having its bottom in two parts at different elevations, the lower elevation including somewhat more than half of the tank, a pump secured in said tank consisting of a barrel extending into the 65
lower part of the tank, a delivery-spout having a horizontal part lying wholly within said lower part and a vertical part substantially at the center of and concentric with the tank, and a cover having attached thereto a spreader 70
so located that when in position it is directly over the open delivery end of the spout, substantially as and for the purposes set forth.

3. In a dish-washer, in combination, a suitable tank, a cover therefor provided with a re- 75
entrant cut, a downwardly-extending flange and a water-spreader, and a pump provided with a piston, a piston-rod delivery-spout and a removable cap, said cap being provided with a sleeve to guide the piston-rod and with a 80
guard to engage said flange to prevent the escape of steam or water from the tank through the reentrant cut in the cover, substantially as and for the purposes set forth.

In testimony whereof we affix our signatures in presence of two witnesses. 85

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Witnesses:

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