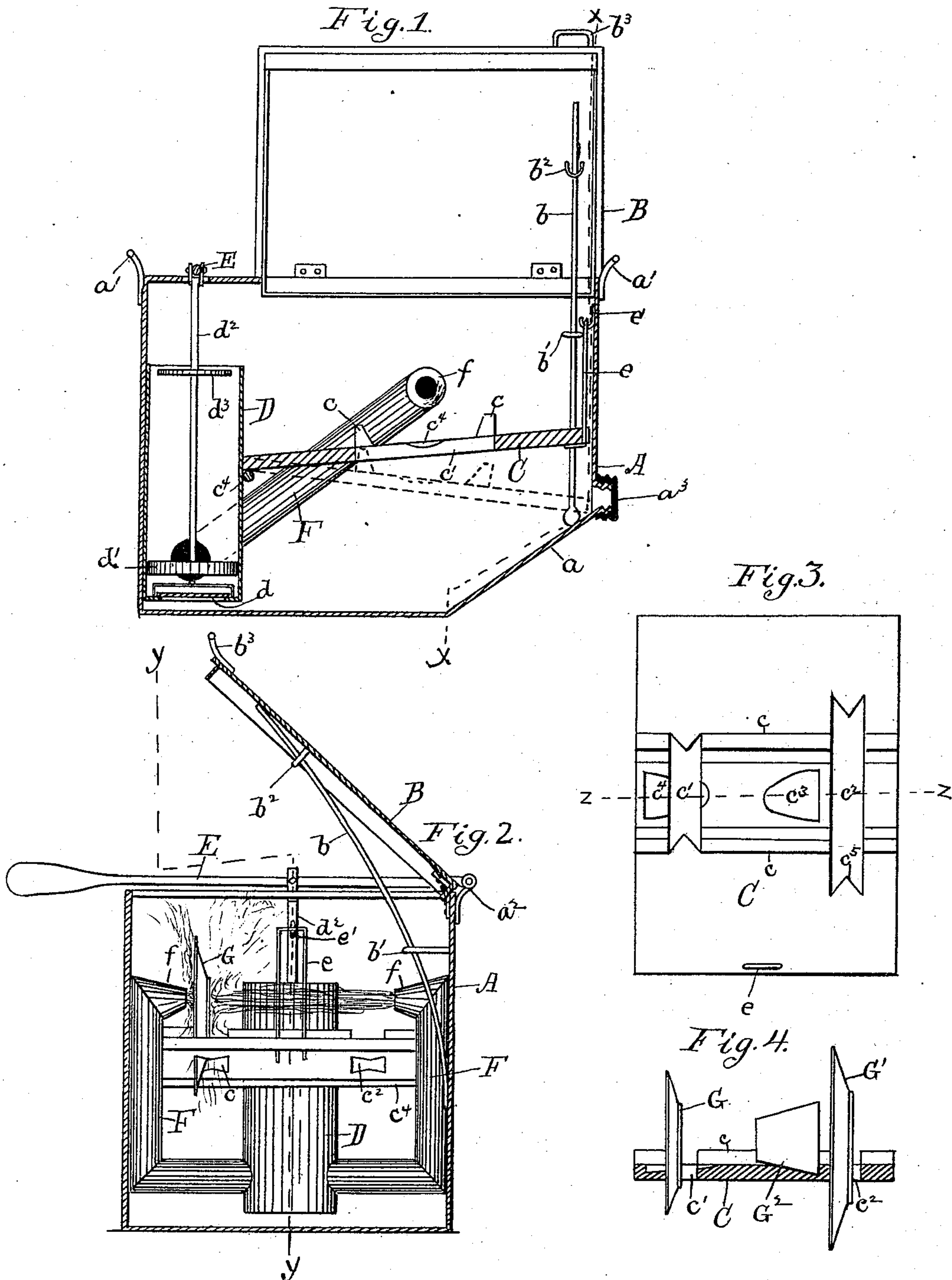


(No Model.)

F. D. HARDING.  
DISH CLEANER.

No. 485,690

Patented Nov. 8, 1892.



Witnesses:

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# UNITED STATES PATENT OFFICE.

FRED D. HARDING, OF BALDWIN, MAINE.

## DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 485,690, dated November 8, 1892.

Application filed January 18, 1892. Serial No. 418,367. (No model.)

*To all whom it may concern:*

Be it known that I, FRED D. HARDING, a citizen of the United States, residing at Baldwin, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Dish - Washing Machines; and I 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.

My invention relates to a machine for washing dishes; and the object of the invention is to provide a device wherein two streams of hot water can be simultaneously forced against the inside and outside of the dish, thereby removing the dirt which adheres to the surface.

The invention consists of the various novel features and combinations of parts, as set forth in the claims.

In the accompanying drawings I have represented a machine constructed according to my invention.

In the drawings, Figure 1 is a section on Y Y of Fig. 2. Fig. 2 is a section on X X of Fig. 1. Fig. 3 is a plan view of the rack for holding the dishes, and Fig. 4 is a section through  $z z$  of Fig. 3.

A is a tank, which may be of tin or any suitable metal. It is designed to be placed on a stove or over a heating flame, or it may be used with hot water, which is poured into it. One of the lower corners  $a$  is cut away, so as to leave a bearing well under the body of the tank, whereby the tilting of the same is facilitated. A hinged cover B is provided and is so arranged that it is held normally open by means of a spring  $b$ . The lower end of the spring  $b$  is secured by soldering or otherwise to the side of the tank, the upper portion of the spring passing through a loop  $b'$ , attached to the tank, and the loop  $b^2$ , attached to the cover. The tendency of the spring is to keep the cover lifted at all times, unless depressed by the handle  $b^3$ . The jets of water are thrown by means of a pump, of which D is an open-topped cylinder soldered or otherwise secured to the end of the tank, the lower end of the cylinder being raised a short distance from the bottom of the tank.

$d$  is a valve in the lower end of the cylinder.

$d'$  is the plunger and  $d^2$  the plunger-rod.

A lever or pump-handle E is pivoted at  $a^2$  to the top of the tank and to the upper end of the plunger-rod. An opening is left in the top of the tank, through which the rod passes, this opening being somewhat larger than the rod to allow for the necessary amount of play.

The plunger  $d'$  fits loosely within the cylinder, and to prevent the water which escapes around the plunger from coming out of the opening around the plunger-rod I place a diaphragm  $d^3$  on the rod  $d^2$  near its upper end.

The water is discharged from the pump through two pipes F F, which lead from opposite sides of the cylinder near the lower end. They terminate in two nozzles  $f f$ , one on each side of the tank. The nozzles are directly opposite and are pointed toward each other. Immediately below the nozzles is a rack C for holding the dishes to be washed.

One end of this rack rests on a horizontal rod  $c^4$ , and the opposite end is supported so that it can be raised and lowered. As here shown, it is hung from a hook  $e'$ , attached to the end of the tank by means of a loop  $e$ . This end of the rack may be dropped to rest on the bottom of the tank by detaching it from its support, as shown in dotted lines in Fig. 1.

The rack thus has two positions in which it can be readily placed. The rack has a slot or opening  $c' c^2$  on each side for supporting flat dishes, such as plates, saucers, &c. I prefer to make these slots of different lengths to adapt them for the reception of dishes of different diameters. These slots are adapted to receive and hold the dish to face toward either nozzle. This is provided for by forming at each end a V-shaped tongue, which projects into the slot. There is thus formed at the ends of the slots angles for receiving the edges of the plates whichever way the plate faces. Recesses  $c^3 c^4$  are also provided for receiving cups, bowls, &c., these dishes being placed on their sides in a horizontal position. Ribs  $c c$  extend across the rack at each side of the recesses  $c^3 c^4$  for holding the cups in position laterally. A discharge-opening is provided directly above the corner  $a$ , which is closed by a cap  $a^3$ .

G G' represent plates in position to be washed, and G<sup>2</sup>, Fig. 4, represents a cup. Fig.



4 shows two plates and a cup in position, but in actual practice one plate only is placed in at one time and two cups.

In operating my machine the lower portion 5 of the tank is filled with hot water. As before explained, the water may be heated in the tank by setting it over a stove, or hot water may be poured in. Plates or other flat dishes are washed, preferably one at a time, 10 by placing them in one of the slots  $c'$  or  $c^2$  in an upright position, closing the cover and holding it down by one hand, and then giving a few strokes of the pump. Two jets of hot water are forced against the plate simultaneously from either direction. This removes 15 the food from both sides of the plate at the same time, and the plate is at once removed. The cover on being released flies up and remains open until closed and held down by 20 hand. Cups, bowls, &c., are cleaned by placing them in the recesses  $c^3$   $c^4$  and pumping water on them, as before. I prefer to put in two cups at the same time, placed with their bottoms together. The jets of water are 25 thrown into their open ends, and each cup supports the other and prevents its being thrown away by the water-jet.

The rack C is placed in its upper or lower position, according to the size of the dish to 30 be washed, the design being to have the jets strike as near the middle of the dish as may be.

It will be observed that the machine can be operated with great rapidity, one hand being used to place the dish and close and hold down the cover, while the other hand is used to 35 manipulate the pump. It will be seen that it is necessary to close and hold down the cover while the machine is in operation, otherwise the water would fly out of the tank and over the operator. The water strikes the plates 40 with great force.

I claim—

1. In a machine for washing dishes, pipes for delivering jets of water toward each other, a rack for supporting flat dishes between said 45 jets, said racks being provided with a slot having at each end a V-shaped tongue projecting into the slot, substantially as described.

2. In a machine for washing dishes, pipes for delivering jets of water toward each other, 50 a rack for supporting dishes between said jets, one end of said rack being vertically adjustable, whereby dishes of varying size may be brought centrally in line with the jets of water, substantially as described. 55

In testimony whereof I affix my signature in presence of two witnesses.

FRED D. HARDING.

Witnesses:

S. W. BATES,

G. W. BRITTER.