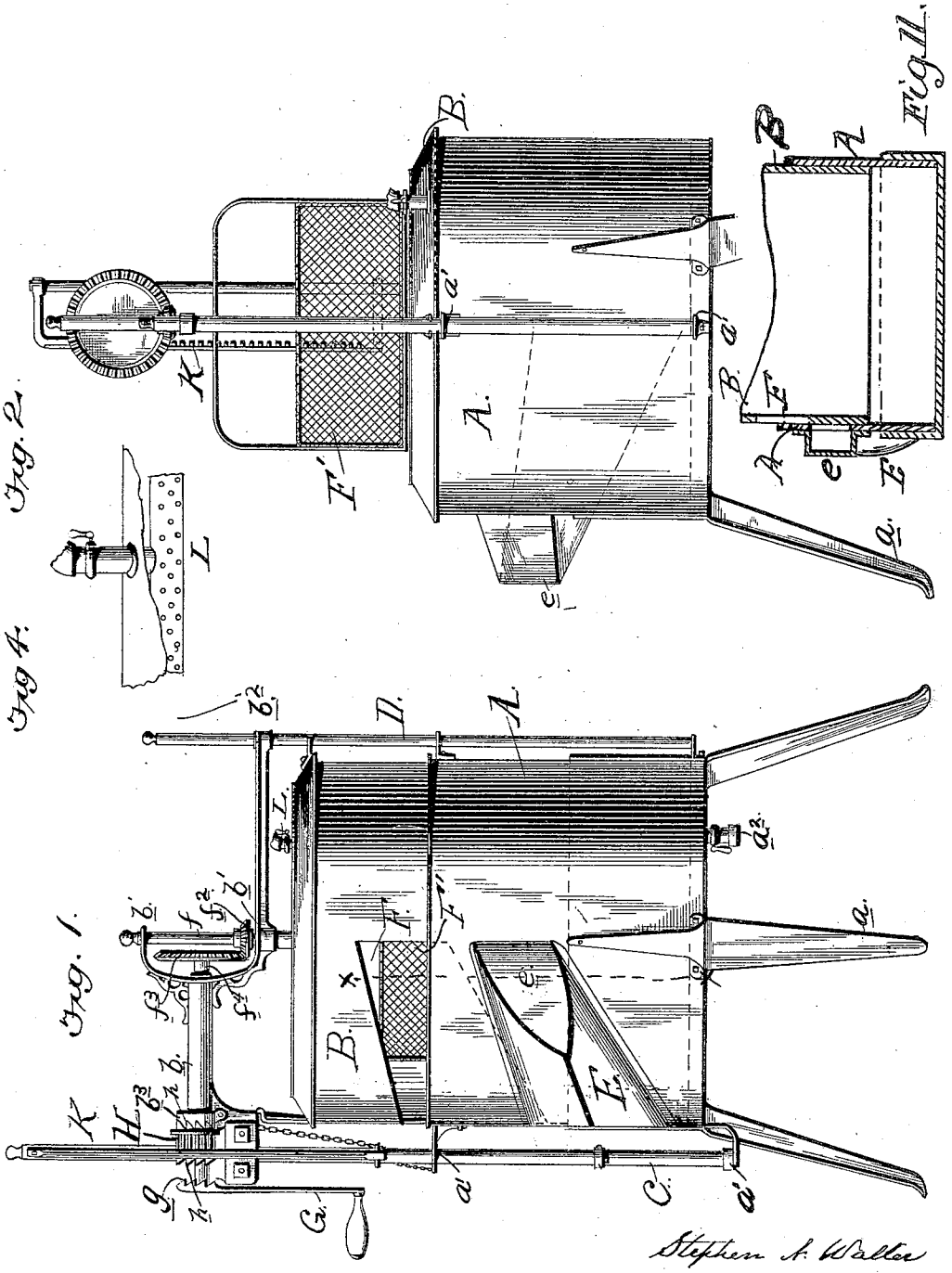
(No Model.) 2 Sheets—Sheet 1.

S. A. WALTER.

DISH CLEANER.

No. 511,920. Patented Jan. 2, 1894.



Witnesses
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

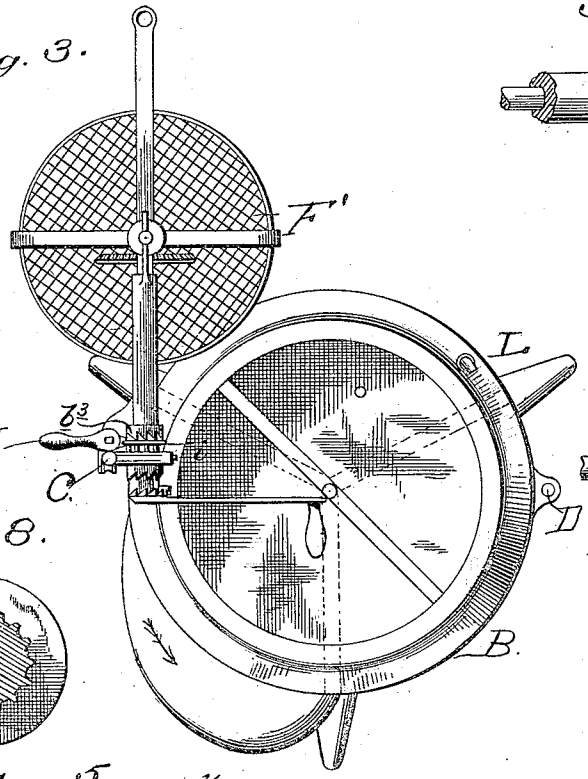


Fig. 6.

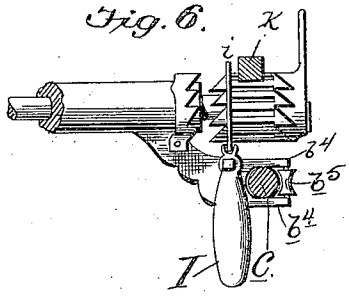


Fig. 7.

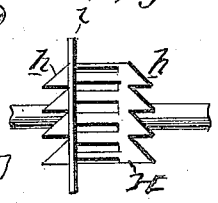


Fig. 8.

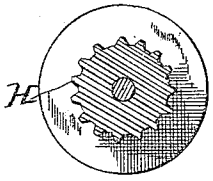


Fig. 9.

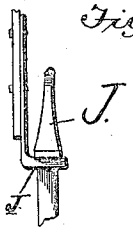
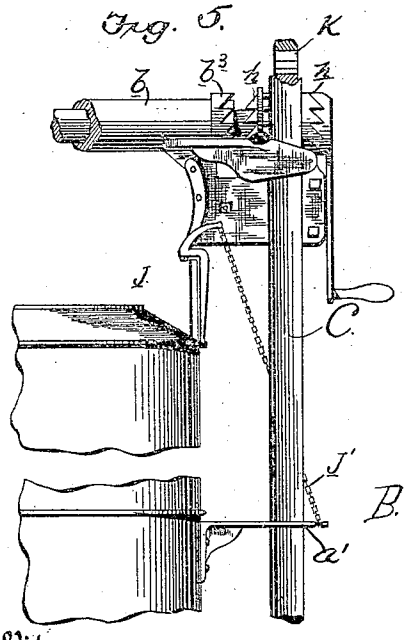
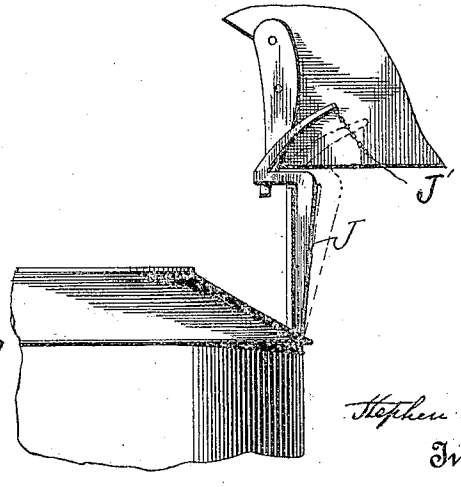


Fig. 10.

Fig. 5.





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THE NATIONAL LITHOGRAPHING COMPANY,
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UNITED STATES PATENT OFFICE.

STEPHEN A. WALTER, OF MOLINE, ILLINOIS, ASSIGNOR TO THE ACME MACHINE COMPANY, OF SAME PLACE.

DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 511,920, dated January 2, 1894.

Application filed February 6, 1893. Serial No 461,091. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN A. WALTER, a citizen of the United States, residing at Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Dish-Washing Machines, as set forth in the accompanying drawings, forming a part of this specification, in which—

Figure 1, is a side view of the dish-washer showing the dish basket and vessel elevated, and the latter just in the act of dropping. Fig. 2, is a similar view, taken at right angles to Fig. 1, showing the vessel after it has dropped. Fig. 3, is a top plan view showing the dish basket swung outward. Fig. 4, is a detail view of the swinging device. Fig. 5 is an enlarged view of the clutch and the automatic releasing mechanism for the inner vessel. Fig. 6 is a top plan view on an enlarged scale of the clutch mechanism. Fig. 7 is a similar view of the sprocket pinion. Fig. 8 is a vertical cross section of the same. Fig. 9 is an enlarged view of the spring latch. Fig. 10 is a similar view showing its connection with the inner vessel. Fig. 11 is a sectional view of the tank and its bulged portion taken on line x—x Fig. 1.

My invention relates to a dish washing machine, and is an improvement on my former Patent No. 482,706, granted to me September 13, 1892.

To enable others skilled in the art to which the invention appertains to make and use the same, I will now describe its construction and indicate the manner in which the same is carried out.

Referring to the drawings for a more complete explanation of my invention, A represents a tank or vessel of suitable form and construction supported upon legs a and adapted to contain water.

Secured to the sides of the tank are supports a' in which is mounted and supported the rod C. On the opposite side of the tank is secured against movement a vertical rod D, shorter than the rod C. The tank is opened at its upper end and from its bottom projects an outlet of draw-off cock a^2 by means of which the tank may be emptied of dirty water and cleansed when desired. The inner vessel B is of somewhat smaller diameter than the tank A, and has an open top and bottom.

Mounted above the tank on the rods C and D is a casting having a horizontal sleeve b, coincident boxes b' and box b^2, the outer end of the sleeve b having a ratchet face b^3. Said casting is also provided with parallel ears b^4 between which is journaled a guide roller b^5 for the rod C.

In the side of the tank is formed or provided a bulged portion E, which is inclined, and which decreases in diameter from its lower to its upper end which is curved inwardly as seen at e. The casing A is cut away and the bulged portion E placed over the opening formed. There is no partition of any kind between the bulged portion and the interior of the casing. The inner vessel is provided with an opening F corresponding to the bulged portion.

The dish holding basket F′ is made of wire or other reticulated material and by means of its vertical shaft f is journaled in the boxes b' b'. Upon this shaft is fixed a pinion f^2 which is in mesh with a gear wheel f^3 mounted on a shaft f^4 journaled in the sleeve b. Upon the extreme outer end of this shaft is a crank lever G the head of which is provided with a ratchet face g.

Loosely mounted on the shaft is a sprocket pinion H having each of its faces provided with ratchet teeth h. To slide the pinion into engagement with the ratchet portions g, b^3 I pivot to the casting a shipper I, which engages an annular collar i on the sprocket pinion. A spring latch J is screwed to the vessel B and hooks into a lug j of the casting. This latch is connected to the tank by a chain J′.

K denotes a rack-bar meshing with the sprocket pinion and secured to the rod C; and L a spraying device; the construction and operation of each are substantially the same as set forth in my patent hereinbefore mentioned.

The operation of my invention is as follows: Into the tank A the requisite amount of water is placed and the vessel B having been lowered into the position shown in Fig. 2 and the basket also lowered, a rotary motion is given to the basket by turning the crank G. The

basket with its charge of dishes being submerged in the body of the water in the tank and being turned in the direction of the arrow in Fig. 3 causes a rotary movement to be given the water which entering the bulge E diverts the rotary course of the water and causes the same to be directed inwardly at right angles and through the open basket onto the dishes thereby cleaning them, which are subjected to a combined washing action due to the circular movement of the water in the tank and the cross current due to the bulge. In my patent above mentioned I employ wings to accomplish this result, but in some respects have found them objectionable. Occasionally the wings will not fold open and will defeat the object for which they are used. In my present case I find that I obtain an increase of water power and at the same time I secure a positive action. The shipper is now operated to throw the pinion H into engagement with the crank handle, which latter being operated causes the pinion to raise the rack bar K and vessel B with the basket to the position shown in Fig. 1 the said devices being guided by the uprights C and D until the box b^2 has passed off the end of the upright D. At this point in the operation the chain J' becoming taut withdraws the latch J from its lug j and allows the vessel B to drop as shown in Fig. 2. The crank handle is now held while the shipper is operated to throw the ratchet face of the pinion into engagement with the ratchet teeth b^3 of the casting and thereby hold the basket in its elevated position above the water in the tank whereby the dishes may be drained and subjected at all points to the atmosphere to assist in drying the same. If desired the cock of the spraying device may now be opened to allow a spray of hot water to be discharged upon the dishes. After having been thoroughly drained and dried the dish basket is swung outward as in my patent above mentioned as shown in Fig. 3, and from whence they may be removed.

Having thus described my invention, I claim—

1. In a dish washing machine, the combination with a tank provided with a bulged portion increasing in diameter from its water inlet end to its discharge end which is curved, of a dish basket located in said tank and means for rotating said basket, substantially as herein described.

2. In a dish washing machine, the combination with a tank having a bulge in its side, said bulge being curved at its outlet end, of a vessel fitted to slide vertically in said tank and having an opening corresponding to said bulge, a dish basket, means for rotating said basket, and means for elevating the vessel and the basket substantially as herein described.

3. In a dish washing machine, the combination with the tank, a vessel adapted to slide vertically therein, a dish basket connected with said vessel, to move upwardly therewith and means for automatically releasing said vessel from said basket to allow the vessel to drop within said tank when the basket has reached a predetermined height, substantially as herein described.

4. In a dish washing machine, the combination with a tank, of a vessel within the tank, a latch carried by the vessel a basket inclosed within said vessel, a casting, mechanism supported thereby for elevating said basket and vessel, a lug carried by the casting with which the latch is engaged and a chain secured to the catch and the tank to automatically disengage the latch from the lug when the vessel has reached a predetermined height, substantially as herein described.

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