(No Model.)

G. I. McCARTEN & A. R. DICKASON.

DISH CLEANER.

No. 522,565. Patented July 3, 1894.

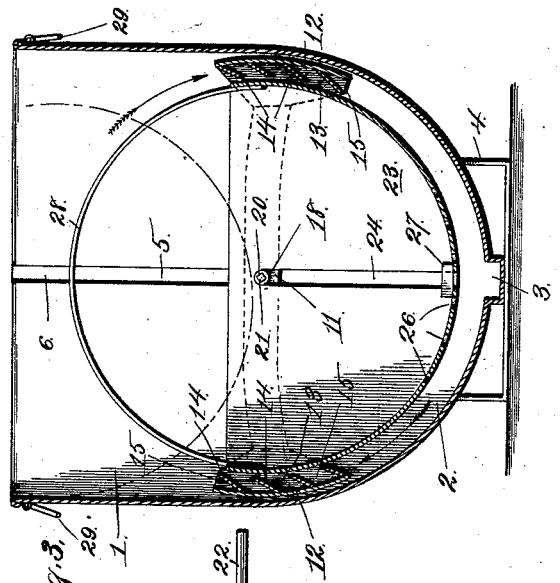

Fig. 3.

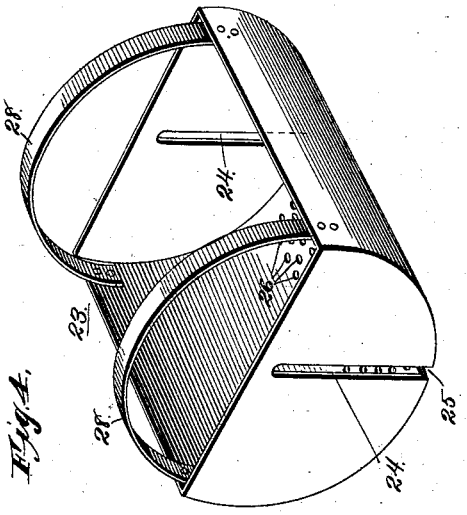

Fig. 4.

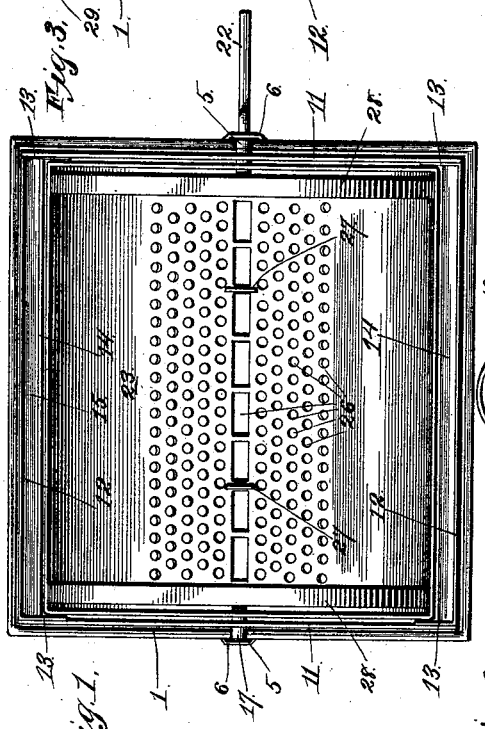

Fig. 1.

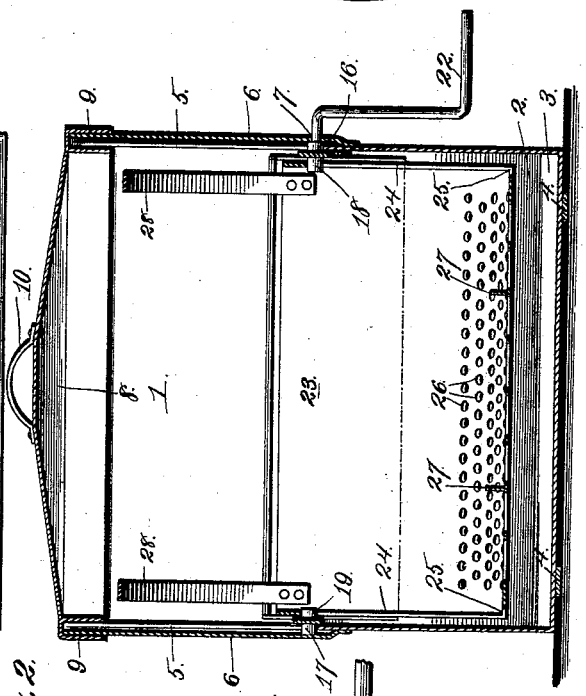

Fig. 2.

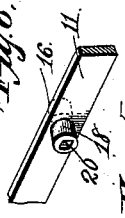

Fig. 6.

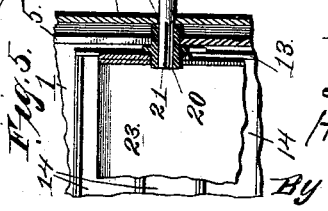

Fig. 5.

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By

UNITED STATES PATENT OFFICE.

GEORGE I. McCARTEN AND ALEXANDER R. DICKASON, OF KANSAS CITY, ASSIGNORS OF ONE-THIRD TO BERNARD J. O'NEILL, OF ARMOURDALE, KANSAS.

DISH-CLEANER.

SPECIFICATION forming part of Letters Patent No. 522,565, dated July 3, 1894.

Application filed February 20, 1894. Serial No. 500,894. (No model.)

To all whom it may concern:

Be it known that we, GEORGE I. McCARTEN and ALEXANDER R. DICKASON, of Kansas City, Wyandotte county, Kansas, have invented certain new and useful Improvements in Dish-Washing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to dish-washing machines, and has for its object to produce a machine of this character which is thorough and reliable in operation, and which is simple, durable, and inexpensive of construction.

Our invention consists in certain peculiar and novel features of construction and combinations of parts, as hereinafter described and claimed.

In order that our invention may be fully understood, reference is to be had to the accompanying drawings, in which—

Figure 1. is a plan view of a dish-washing machine, constructed in accordance with our invention. Fig. 2. is a vertical longitudinal section of the same taken through the middle, and showing the cover thereon. Fig. 3. is a vertical central transverse sectional view of the same without the cover. Fig. 4. is a detail perspective view of the foraminous dish-receptacle. Fig. 5. is a vertical longitudinal sectional view of a portion of the machine enlarged. Fig. 6. is a detail perspective view of a portion of the dasher.

In the said drawings, 1 designates a casing, preferably of rectangular form in plan view, and this casing is formed semi-cylindrical at its lower end, as shown at 2, and is also formed longitudinally of the bottom, with a channel or recess 3; the object of which is hereinafter explained. A pair of approximately U-shaped brackets 4, form the legs or supports of the machine, but it is to be understood that any other suitable supporting legs may be used in lieu thereof. The end-walls of the casing are vertically and centrally slotted as shown at 5; these slots extending from the axial line of the cylindrical portion 2 of the casing, through the upper margin of the casing, for a purpose hereinafter explained. Secured vertically to the outer side of the end-walls of the casing, are strips 6, and these strips extend from the upper margin of the casing, to a point a suitable distance below the lower ends of the slots 5, and are soldered or otherwise secured at their lower ends and side margins to the end walls of the casing, so as to close, practically, the slots 5, and prevent any water splashing or escaping therethrough when the machine is in operation. One of the slot-covering strips 6, is formed with a circular bearing-hole 7, which is longitudinally aligned with the lower ends of the slots 5. A cover 8, of any suitable construction, is fitted upon and closes the upper end of the casing, and this cover 8, is provided with centrally projecting offsets 9, at its ends which close the upper ends of the spaces between the end-walls and the strips 6, and the upper open ends of the slots 5. The cover 8, is also provided with the usual handle 10.

A dasher comprises a pair of parallel and transversely extending end-plates 11, which are arranged adjacent to the inner side of the end walls of the casing, and these end-plates are connected at their outer ends by the segmental plates 12, which are arranged concentrically to the axial point of the cylindrical portion 2 of the casing. The plates 12, at their opposite ends are bent inwardly at right angles, as shown at 13, and these end portions 13, are soldered or otherwise secured to the end plates 11. A series of inclined plates 14, extend longitudinally of the machine, and each plate 14 is secured at one longitudinal margin, to the inner side of one of the segmental plates 12, and at its opposite ends to the inner side of the end-portion 13; thus forming practically a series of buckets 15 at each end of the end-plates 11. When the machine is in operation, the end plates 11, occupy the horizontal position shown in Fig. 3, and the mouths of the buckets at one end thereof, are presented upwardly, while the mouths of the buckets at the opposite end of said end-plates 11, are presented downwardly. It will be apparent, that when the dasher is operated in the direction indicated by the arrows, Fig. 3, the mouths of the buckets presented downwardly, will occupy the reverse position, or will be presented upwardly, after

the dasher has been turned about one hundred and eighty degrees, or half of a revolution. Longitudinally aligned, and projecting centrally from the outer sides of the end-plates 11, are the cylindrical trunnions 16 and 17, each occupying or resting upon the lower end or bottom of the slots 5, which support the dasher in its rotatable or operative position, and projecting inwardly from the inner sides of the said end-walls 11, are a pair of similar cylindrical trunnions or bosses 18 and 19, and these cylindrical trunnions or bosses 18 and 19, are longitudinally aligned with the trunnions 16 and 17. The end plate 11, having the trunnions 16 and 18, is provided with a squared opening 20, which also extends longitudinally through said trunnions, and this squared opening 20 receives the correspondingly-shaped or squared end 21 of a crank-handle 22.

From the foregoing, it will be seen that by operating the crank-handle 22, the dasher will be rotated. It is to be understood, however, that we do not wish to confine ourselves to the use of a crank-handle for operating this dasher, as the dasher may be run or rotated by any suitable motor power;—by mounting a pulley upon a shaft substituted in the place of the crank-handle.

The dish-receptacle, 23, is semi-cylindrical in form, and is provided in its end-walls, with the centrally arranged and vertical slots 24, the upper ends of which are rounded, and the lower ends of which terminate in the short longitudinal slots 25, formed through the bottom of the receptacle. These slots 25 are of sufficient length only, to allow the said receptacle to be lifted vertically out of the casing when necessary, without contact with the inwardly projecting trunnions 18 and 19, upon which the rounded ends of said slots rest. The receptacle 23, is formed of perforated metal, as shown, or may be wire mesh, or of any other suitable foraminous construction, and secured upon, and projecting upwardly from the bottom of said receptacle, are a number of cleats 27, which are employed as a brace or rest for the dishes placed within the receptacle. This receptacle is also provided with handles 28, in the form of a semi-circle; these handles projecting vertically upward from the receptacle adjacent to the inner side of each end-wall. These handles are semi-circular in form, and arranged as shown, so that they will not interfere with the rotatable operation of the dasher. In order that the machine may be conveniently portable, it is provided at each side with the ordinary loop handles 29.

In the operation of the machine, the dishes are first suitably arranged within the foraminous receptacle 23, and a suitable quantity of water is poured therein, and passing through the holes or openings thereof, fills the casing to the proper depth. The crank handle 22 is now operated in the direction of the arrows, Fig. 3, to cause the cups 15, successively, to gather up a quantity of water, and discharge the same into the receptacle 23, after the proper elevation has been reached. By having a series of these cups located at each end of the end-plates 11, and by swiftly rotating the said plates, it will be apparent that a perfect cataract or torrent of water will be continuously discharged upon the dishes within the said receptacle, and the friction thus engendered between the descending water and the dishes will thoroughly wash or cleanse the same. Any foreign substance or small particles which may be upon the dishes, and whose specific gravity is greater than that of the water, will be forced through the foraminous receptacle, and into the recess or channel 3 in the bottom of the casing, formed to receive them, and occupying such position will not interfere with the operation of the dasher. After the dishes are thoroughly washed by this process, the cover of the machine may be removed, and by grasping the handles 28, the receptacle 23 may be raised to the position shown in dotted lines, where it is supported by resting upon the inwardly projecting trunnions 18 and 19, and one side of the machine. In this position the dishes may be left to dry, or may be subjected to a second cleansing operation, by pouring scalding water upon them, which will drain to the bottom of the machine. After this scalding operation, the dishes will soon dry without being rubbed with a towel.

It will be observed that when the end-plates 11, occupy their normal or horizontal position, the lower end or margin of the segmental plates 12, project considerably nearer each other than the upper ends of margins of said plates, and this is so to allow of the easy removal of the foraminous dish receptacle when desired. It will be apparent that were the series of cups extended upwardly for any considerable distance beyond the point shown, the space therebetween would be too narrow to allow the foraminous dish receptacle to be lifted out of the casing, independently of the dasher, but at the same time it will be observed that any number of cups desired may be appended to the lower ends of said segmental plates 12.

By constructing this machine with the vertical slots in the end-walls, and mounting the trunnions of the dasher loosely therein, it will be apparent, by removing the crank handle, which is journaled in the opening 17 of the adjacent cover-strip 6, that the dasher may be lifted bodily out of the machine, so that it may be washed or cleansed of grease or any foreign particles which may have entered the cups 15, and have failed to become dislodged by the rotation thereof. It is to be understood, however, that we do not confine ourselves to this precise construction, nor to any particular manner of securing the dasher and dish receptacle within the casing, as it

may be found of equal advantage to mount the said dasher and dish receptacle permanently within the casing.

From the above construction, it will be seen, that we have produced a dish-washing machine, which is thorough and reliable in operation, and which is simple, durable, and inexpensive of construction.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a dish-washing machine, the combination with a casing, having its end-walls vertically slotted, and having cover-plates fitting over said slots, and a cover fitting upon the upper end of the casing and said slot-covering plates, of a dasher, comprising a pair of end-plates, having trunnions resting in said slots, and trunnions projecting inwardly, and a series of cups connecting the ends of said plates, and a dish-receptacle located within the casing, and having its slotted end-walls resting upon said inwardly projecting cylindrical bosses or trunnions, and means to rotate the dasher, substantially as set forth.

2. In a dish-washing machine, the combination with a casing having slotted end-walls, and cover-plates closing said slots, of a dasher having trunnions rotatably mounted in the lower ends of said slots, one of said trunnions having a squared opening, and a foraminous dish-receptacle suspended within the casing, and having cleats upon its bottom, of a shaft rotatably mounted in the opening of one of said slot-covering strips, and having a squared portion engaging the squared opening of said trunnion, and a handle secured to said shaft, substantially as and for the purpose set forth.

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

GEORGE I. McCARTEN.
ALEXANDER R. DICKASON.

Witnesses:
G. Y. THORPE,
M. R. REMLEY.