No. 640,428.

Patented Jan. 2, 1900.

C. H. STERLING.

DISH WASHER.

(Application filed Aug. 23, 1899.)

(No Model.)

Fig. 1.

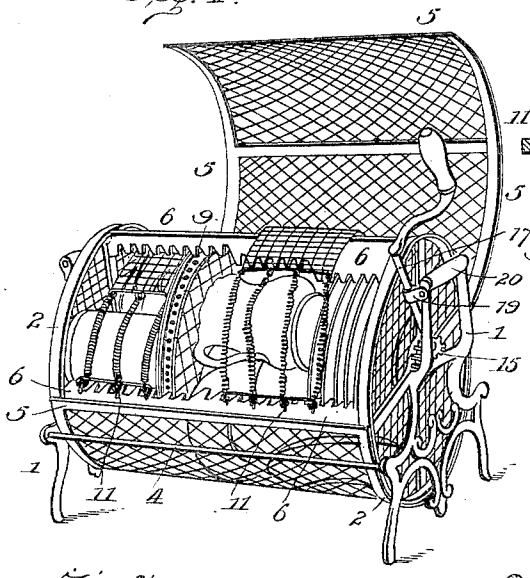


Fig. 5.

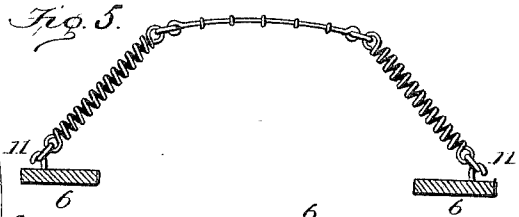


Fig. 2.

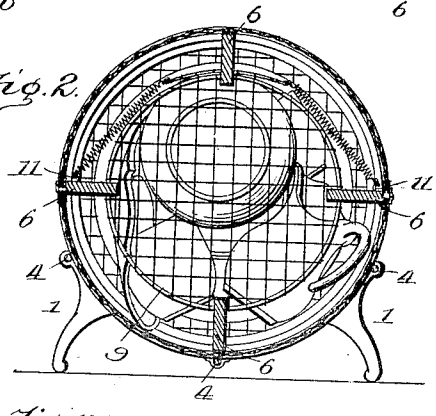


Fig. 7.

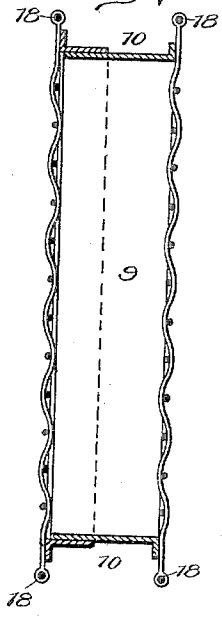


Fig. 9.



Fig. 10.

Fig. 3.

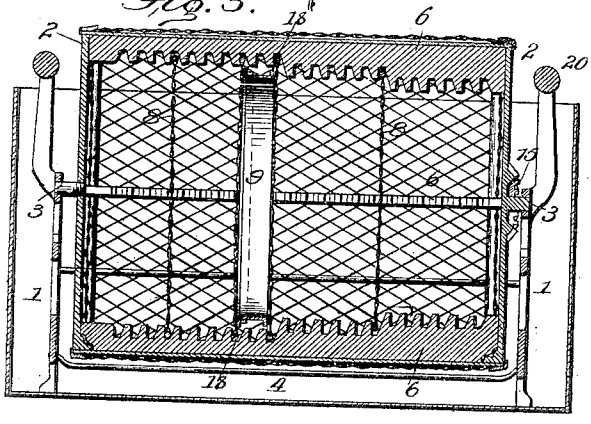


Fig. 6.

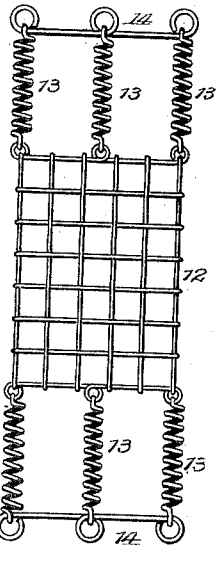


Fig. 8.

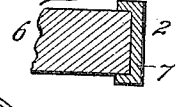


Fig. 4.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLOTTE H. STERLING, OF GAMBIER, OHIO.

DISH-WASHER.

SPECIFICATION forming part of Letters Patent No. 640,428, dated January 2, 1900.

Application filed August 23, 1899. Serial No. 728,161. (No model.)

To all whom it may concern:

Be it known that I, CHARLOTTE H. STERLING, a citizen of the United States, residing at Gambier, in the county of Knox and State of Ohio, have invented certain new and useful Improvements in Dish-Washers, of which the following is a specification.

For cleaning dishes and tableware I have produced an improved rotating holder of open wirework for such articles wherein provision of spring bands or strips form interior attachments for holding loose articles in firm positions, so that they will not collide, and also the provision of a movable transverse annular closure or compartment within the holder for holding knives, forks, and spoons, so that in the rotation of the holder in a tank of water the articles will be subjected to the violent agitation of the water both for cleaning and rinsing them.

The accompanying drawings illustrate a dish-washer embodying my improvements, and in which—

Figure 1 is a perspective view showing the manner in which dishes and other articles are securely held within a rotatable open-wire-work holder. Fig. 2 is a transverse vertical section of the cleaning-cylinder, showing the spring-bands for spanning and holding the dishes. Fig. 3 is a vertical longitudinal section of the same, showing the removable cylindrical closure for containing small articles. Fig. 4 is an end view showing the means for rotating the dish-cleaner. Fig. 5 shows the spring-band in its spanning holding function. Fig. 6 shows the spring and wire construction of the dish-holding band. Fig. 7 shows in section the removable sectional closure for containing small articles. Figs. 8, 9, and 10 are details of the frame construction.

The holder is preferably mounted in a frame 1 by suitable bearings, and the frame has a construction by which it is supported in a tank containing water, within which the holder is rotated and is formed with handle-arms by which the frame is lifted to carry it from place to place.

Circular skeleton metal frames 2, which form the ends of the rotatable holder, have central gudgeons 3, which fit in bearings in the supporting-frame, while at their circumference said end frames are connected by horizontal bars 4. The rims of these end holder-frames are recessed on their inner sides, and in these recesses open-wire heads are soldered and supported against the inner sides of said frames, a ring-wire of the wire heads lying in the annular recess as within a groove, as in the detail Fig. 10. The cylindrical body is also of open wire, preferably of two equal sections, the edges of which are secured in the grooves of border or binder plates 5, Fig. 9, which are formed of strips of malleable sheet metal bent in U form and riveted together, making, in fact, a strongly-bound wire frame, and the mesh of this open-work is quite wide. One half of this cylinder is hinged, so as to be opened and closed, and is provided with fastening-hooks. The other half is riveted to the rim of the end frames. Bars 6, preferably four in number, are secured longitudinally to and between the wire heads, the arms of the end frames being provided with radial grooves 7, into which the ends of the bars are firmly seated, as in Fig. 8. These bars are of varying widths in their length and are formed with teeth along their inner edges adapted to receive the edges of plates between them and hold them firmly in separated relation. The middle or upper bar of the hinged section is removable when the latter is opened to permit of the placing and removal of the articles, and said bar is held down firmly by the pressure of the cover when the latter is fastened. For plates and articles which cannot be held by the toothed bars I provide wire partitions 8, Fig. 3, the ring-rims of which fit into the bar-notches the same as the edges of the plates, and these partitions may be so set to hold the dishes firmly between them. These partitions are of diameters to suit the notches. I utilize two of these open-wire partitions to form an annular transverse closure or compartment 9, Fig. 7, for holding knives, forks, and spoons and to make such closure preferably of two of such partitions, provided with rims 10, adapted to telescope, and are held in such telescoping relation by the ring-binders of the partitions engaging the bar-teeth, the closure forming rings or rim 10 for this purpose, being set within the circumference of the partitions. One of the inner walls of each of the teeth is beveled, so as to act with a sort of wedge

function to firmly hold the partitions when articles are placed between and against them. This is especially advantageous in holding the telescoping partition parts together by means of the rings 18, as in Figs. 3 and 5.

As a means for more safely holding certain bulky articles in place I provide the two diameter bars 6 of the fixed cylinder-section with hooks 11, with which elastic holders, formed, preferably, of spring bands or straps, are engaged and which span the cylinder-chamber, extending over the articles and pressing upon them to hold them in firm relation, as in Figs. 2 and 5. For this purpose the strap is of considerable width and preferably made of a wide mediate section of open wirework 12 and a series of separate coil-springs 13, attached to its opposite ends, and which are, by means of a wire rod 14, connecting them, readily engaged with the hooks of the toothed bars and released from said hooks and turned over with the cover when the articles are to be removed. By this manner of attaching the spring-straps they are caused to encompass half of the cylinder-chamber and the articles therein, bearing upon them with equal pressure, similar in function to a pair of hands holding them down upon the non-hinged cylinder-section. This spring-grasping strap may be sprung over the top removable toothed bar, as in Fig. 1, to hold it down firmly and also strap the articles on each side of the bar. These flexible bands or straps may be used on each side of the transverse closure, and they may be of different widths and formed of any suitable material that will stretch when pulled over and upon the ware and fastened with a holding function upon it. The closure for the articles of silver is filled by placing the articles loosely in the deepest-rimmed part and then telescoping the other rimmed part like a closing-cover, place the projecting ring edges properly within the notches of the toothed bars, which when the hinged cylinder-section is closed and fastened prevent the separation or opening of the telescoping-rim parts, and the rims may or may not be perforated.

For rotating the cylindrical holder one of the end frames is preferably formed with a bevel-gear 15, concentric with the bearing, while a bevel-pinion 16, fixed on a crank-shaft 17, stands obliquely upward with its handle above the water-containing tank. To obtain this arrangement of the crank-shaft, it is supported in a boss 18 on the handled frame and secured at its upper end by a bracket-bearing 19, riveted to the upper end of the handle 20, so that the shaft stands between the handle and the end of the rotating cylinder. The tank itself may also be provided with handles, and it will be understood that hot soapsuds will be used in the cleaning operation and the water changed for rinsing.

The silver-containing closure, the partitions, and the elastic grasps are removable, and it will be noted that these spanning grasps can be used at any place in the length of the cylinder, and for that purpose the hooks are set along the toothed bars, as in Fig. 1. I make the mediate section of these grasps of open wire, so as to prevent it from folding on the articles, while its flexibility allows it to be pulled upon high and low parts of the articles, and it is obvious that these spring spanning grasps may be used without the changeable partitions and silver-containing closure.

I claim—

1. In a dish-cleaner, and in combination with the rotatable washing-cylinder, and means for holding articles of tableware therein, an annular closure or compartment fixed transversely within the cylinder-chamber and formed of extensible partitions each having a side telescoping rim, and means for retaining said extensible parts to form the closure.

2. In a cleaner for tableware and in combination with the rotatable washing-cylinder, and means for holding the ware therein, an annular closure or compartment transversely fixed within the cylinder-chamber, and formed of separable partitions having telescoping rims and circumferential rims projecting beyond the telescoping rims, and means for retaining the parts to form the closure.

3. In a cleaner for tableware, and in combination with the rotatable washing-cylinder, and means for holding ware therein, an annular closure or compartment transversely fixed within the washing-chamber, formed of separable partitions each with a rim adapted to telescope within the diameter of the partitions, and toothed bars adapted to engage the annular projecting edges of the partitions outside of telescoping rims.

4. In a dish-washer and in combination with the rotatable washing-cylinder, and changeable transverse partitions for the chamber thereof, of an elastic band or strap fixed to one side of the cylinder, adapted to span the chamber and be attached to the other side of the cylinder whereby to hold the articles firmly together within the washing-chamber.

5. In a dish-washer, and in combination with the rotatable washing-cylinder, and longitudinal bars having hooks along their length, of elastic grasps adapted to span the chamber, and hooks set along the length of the cylinder for engagement with the said spanning grasps.

6. In a washer for tableware, and in combination with the rotatable washing-cylinder, having hooks set longitudinally diametrically along its opposite sides, of grasps composed of an open-wire section, coil-springs, and a rod connecting the springs for engaging the hooks, to form grasps adapted to span the cylinder-chamber.

7. In a dish-cleaner, and in combination with a rotatable washing-cylinder, and means for holding articles of tableware therein, a removable closure composed of circular head-pieces each having a face-rim of less diame-

ter than the heads adapted to telescope and toothed bars with the teeth of which the edges of the separate heads engage for holding them together.

8. In a dish-washer, and in combination with a rotatable washing-cylinder, a closure formed of separate telescoping heads, each head having a rim projecting beyond the body of the closure and means in the cylinder for engaging the rim of each separate head to hold them together whereby the area of the closure may be varied to suit a greater or less number of articles.

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

CHARLOTTE H. STERLING.

Witnesses:
H. P. A. SPOFFORD,
JULIA SPOFFORD.