(No Model.) 2 Sheets—Sheet 1.

F. S. MILLER.

DISH WASHER.

No. 414,562. Patented Nov. 5, 1889.

Fig. 1.

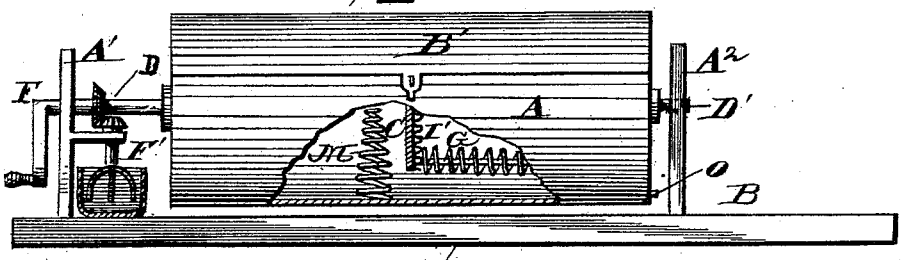


Fig. 2.

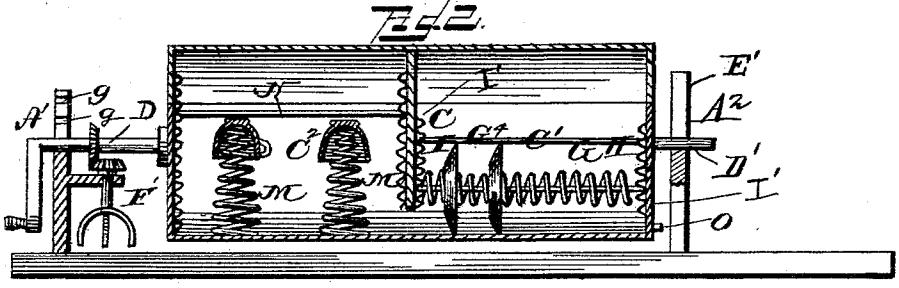


Fig. 3.

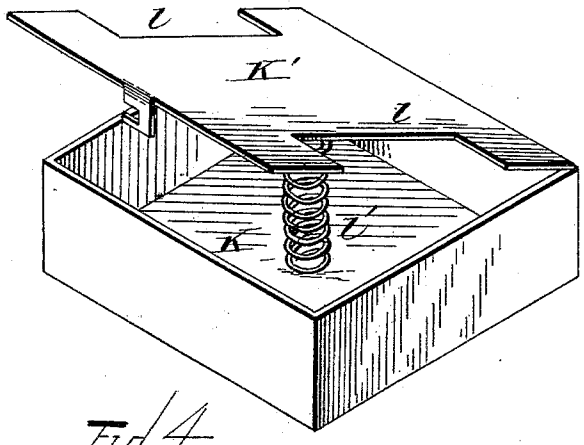
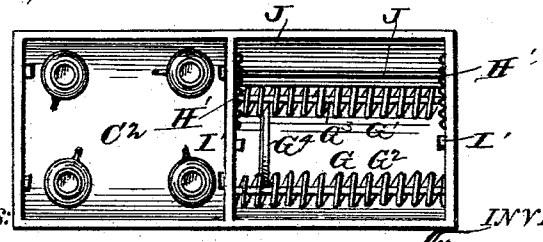


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

F. S. MILLER.

DISH WASHER.

No. 414,562. Patented Nov. 5, 1889.

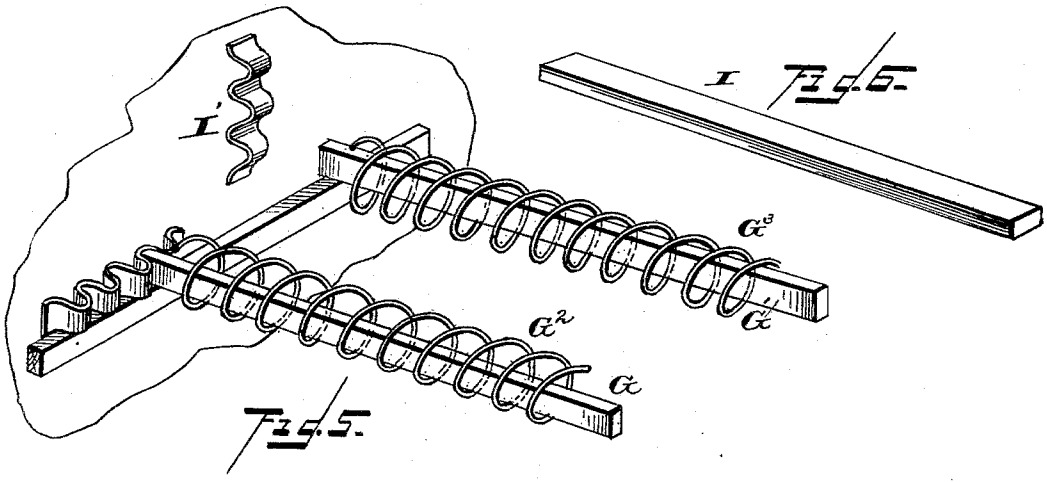


Fig. 5. Fig. 6.

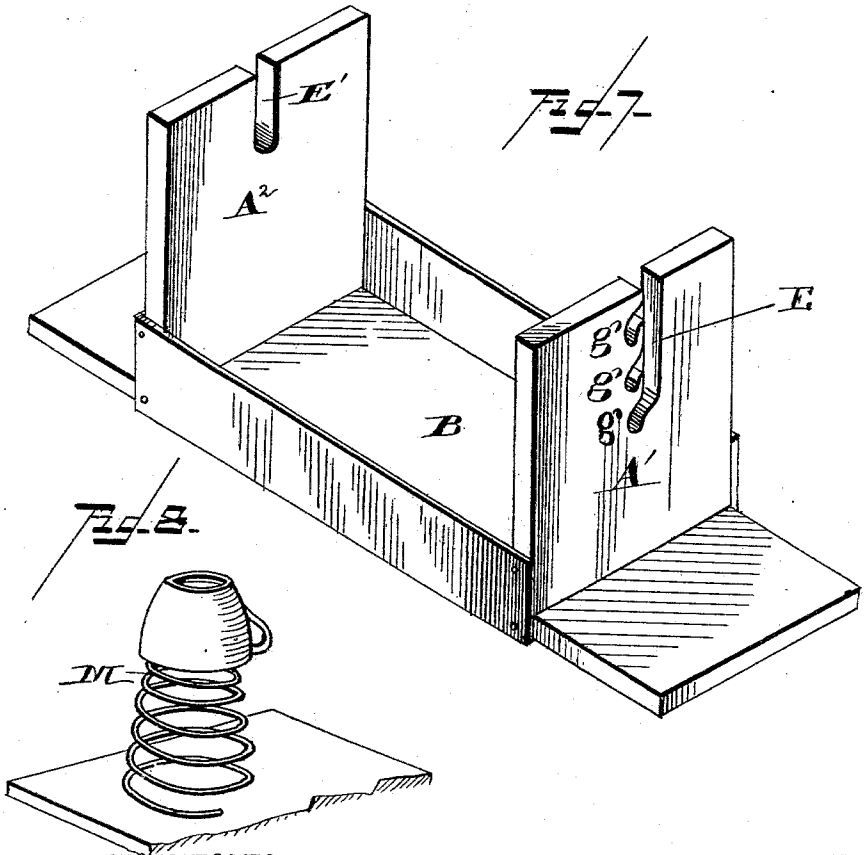


Fig. 7.

Fig. 8.

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UNITED STATES PATENT OFFICE.

FLORENCE SHANKLAND MILLER, OF HOOPESTON, ILLINOIS.

DISH-WASHER.

SPECIFICATION forming part of Letters Patent No. 414,562, dated November 5, 1889.

Application filed August 16, 1889. Serial No. 320,946. (No model.)

To all whom it may concern:

Be it known that I, FLORENCE SHANKLAND MILLER, a citizen of the United States, and a resident of Hoopeston, in the county of Vermilion and State of Illinois, have invented certain new and useful Improvements in Dish-Washers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has specific relation to certain new and useful improvements in devices for the washing and cleaning of knives, forks, spoons, dishes, cups, and the like; and it consists more particularly in the hereinafter-described details of construction, combination, and arrangement of parts.

Referring to the drawings, forming a part of this specification, Figure 1 is a side elevation of my improved device, showing a portion thereof being broken away for the purpose of illustrating the arrangement of the dishes and holding devices. Fig. 2 is a longitudinal section; Fig. 3, a detail view of the knife-and-fork-washing chamber; Fig. 4, a plan view of the dish-and-cup-washing chamber; Fig. 5, a detail view showing the strips and surrounding springs for holding the dishes; Fig. 6, a detail view of the adjustable dish-retainer; Fig. 7, a detail view of the frame with the washing apparatus removed therefrom, and Fig. 8 a detail view of the cup-holding springs with cups secured thereon.

Similar letters of reference are used to denote corresponding parts throughout the entire specification and several views of the drawings.

The letter A represents my improved washing apparatus secured between the uprights A′ A^2 of the frame B, and which, by preference, I construct cylindrical in shape.

B′ indicates the usual cover, secured to the cylindrical washer, and by means of which access may be had to the washing-chambers.

The washing apparatus is divided by means of the partition C into two compartments or chambers C′ C^2—one adapted for the cleansing of knives, forks, spoons, and dishes, the other for cups and the like. This partition extends within a short distance of the bottom of the chamber, thereby leaving free passage for the circulation of water from one chamber to the other. To the outer end of the dish-washing chamber C′ is secured the axle D′, and the outer end of the chamber C^2 is provided with the trunnion D.

The upright A′ has formed therein an elongated slot E, as shown, which slot is intersected by inclined slots *g g g*, and the upright A^2 is provided with bearing E′. Between the upright is secured the washing-cylinder by the securing of the trunnion D′ in the bearing E′ and the axle D in the elongated slot E. The outer end of the axle D has fastened or secured thereto the crank-handle F, by means of which said washing-cylinder is revolved.

I provide, as shown in the drawings, Fig. 1, to one side of the cup-washing chamber the supplementary chamber F′, said chamber being adapted for the cleaning of kettles, but which, being of ordinary construction, calls for no specific description herein. If so desired, this chamber may be dispensed with entirely without affecting the result or working of my apparatus.

Within the dish-washing chamber C′ are secured the longitudinal strips G G′, which strips are surrounded by the spiral springs G^2 G^3, between the coils of which the dishes or plates G^4 are secured. In order that the springs and strips may be adapted to varying diameter of different plates, I provide the strip and spring G G^2 with means for permitting of the adjustability of the same. This adjustability is accomplished through the medium of the spring-corrugated strips H H, secured to the side walls of the chamber C′. It will be readily understood that should it be found necessary to decrease the distance of one spring from the other, in order to permit of the securing between the coils thereof of plates of small diameter, it is only necessary that the ends of the longitudinal strip G be removed from the corrugations in the spring-strips to one in advance. The bottoms of the plates, when secured between the coils of the springs, rest upon the bottom of the chamber, and in order to provide against

the slipping thereof from within the coils when the cylinder is hastily revolved, I provide the dish-retaining strip I, which strip rests over the top of the plates, and as the ends thereof are secured within the corrugation of the vertical strips I′ I′, attached to the walls of the chamber, the plates are held firmly within position, and are thus prevented from falling out. This strip, through the medium of the vertical corrugated strips, also permits of an adjustable character being had in a manner similar to the strips G′, so as to allow for securing or locking of plates varying in height.

Attached to the front wall of the dish-washing chamber and above the plane of the strips G G′, and resting upon horizontal strips J J, is the fork-cleaning department or chamber, which consists of the rectangular receptacle K, provided with the hinged cover K′, said cover being provided with vertical openings *l l* to permit of free passage and circulation of water therethrough. To the under side of the cover are secured springs *l′ l′*. The cover is provided with the usual locking device in order to secure the same to the casing.

The knives, forks, and spoons to be washed are placed indiscriminately within the receptacles, wherein they are retained by reason of the downward pressure of the cover-springs, and then subjected to the free circulation of the water passing through the openings formed in the cover during the revolving of the washing-cylinder. This receptacle or frame is made, by preference, removable from within the dish-washing chamber.

The cup-washing chamber has provided therein a series of springs M M M, which, by preference, are helical. These springs may be permanently secured or removably to the bottom proper of the chamber. If so desired, these springs may be situated on the side walls as well as attached to the bottom. During the process of washing, the cups are secured directly to the springs, and are prevented from falling off during the revolution of the cylinder, so as to subject the same to the free action of the water, by means of the longitudinal strips N N, secured in a similar manner to the dish-retaining strips, hereinbefore fully described.

By having the elongated opening E, formed in the upright A′ of the frame, intersected by inclined slots *g g g*, I am enabled by the raising or lowering the handle and axle D (so as to fit in the different inclined slots) to regulate the depth of the water in the dish-retaining compartment, inasmuch as should the handle end of the cylinder be raised a greater quantity of the water will be caused to flow into said dish-retaining compartment, whereas, on the other hand, if the handle end of the cylinder is lowered by placing the handle D in one of the lower inclined slots, the water will be more evenly distributed throughout the cylinder. This construction is made desirable when the washing of dishes alone is being accomplished, inasmuch as in that case the greater proportion of the water within the cylinder may be utilized within the dish-washing compartment alone.

The bottom of the cylindrical washer is provided with a suitable outlet O, so as to permit of the escape of the dirty water from therein.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a washing apparatus, the combination of the cylindrical rotating washer, transverse horizontally-arranged corrugated spring-strips secured to the end pieces of the casing, adjustable longitudinal strips having their ends passing between any of the series of corrugations in the transverse horizontally-arranged spring-strips, coiled springs encircling said longitudinal strips, vertically-arranged corrugated spring-strips secured to the end pieces of the casing, and of the vertically-adjustable dish-retaining strips located above the plates and intermediate the transversely-adjustable strips, substantially as set forth.

2. In a washing apparatus for dishes, the combination of the cylindrical rotating washer subdivided into communicating compartments, transverse horizontally-arranged corrugated spring-strips secured to one of the ends of the casing and to one side of the central subdividing partition, transversely-adjustable longitudinal strips having their ends passing between any of the series of corrugations in said horizontally-arranged spring-strips, coiled springs encircling said longitudinal strips, vertically-arranged corrugated spring-strips secured to the end pieces of the casing and to opposite sides of the central partition, the vertically-adjustable retaining-strips, and the helical springs secured to the bottom of one of the compartments, substantially as set forth.

3. In a dish-washing apparatus, the combination of the rotating cylindrical washer subdivided into compartments, helical springs secured within said compartments, and of the adjustable strips secured above the springs for retention of the articles to be washed upon said springs, substantially as and for the purpose herein shown and described.

4 In a dish-washing apparatus, the combination of the rotating washer, longitudinal strips secured in said washer, springs surrounding said strips, horizontal corrugated plates, adjustable strips the ends of which fit within the corrugations formed in said corrugated plates, springs surrounding the adjustable strips, vertical corrugated spring-plates, and the adjustable dish-retaining strips, the ends of which fit within the corrugations of the vertical spring-plates located above the line of plates, substantially as herein shown and described.

5. In combination with the herein-described

dish-washing apparatus, the knife and fork retaining receptacle secured within the rotating cylindrical washer, horizontal support for the receptacle secured to the sides of the compartment, slotted cover therefor, springs secured to the under side of the cover, and the fastening for locking of the cover, substantially as and for the purpose herein shown and described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

FLORENCE SHANKLAND MILLER.

Witnesses:
LILLIS EVANS,
C. M. BRIGGS.