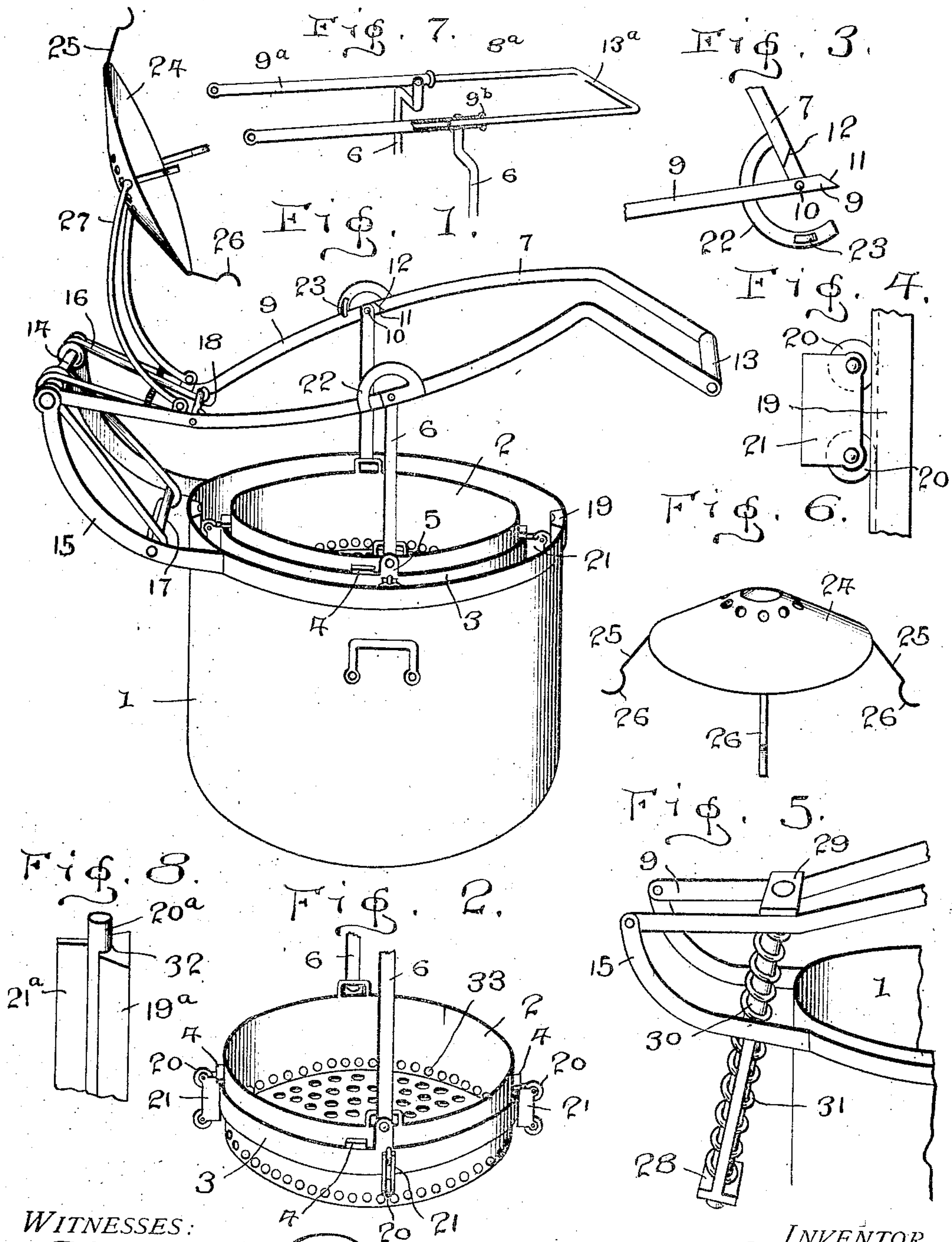


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J. M. GILBERT.
DISH WASHER.

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WITNESSES:

Thomas W. Riley
E. H. Gill

J. M. Gilbert
INVENTOR

BY
W. J. Fitzgerald & Co
Attorneys

UNITED STATES PATENT OFFICE.

JOEL M. GILBERT, OF WEST SOMERS, NEW YORK.

DISH-WASHER.

No. 898,354.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOEL M. GILBERT, a citizen of the United States, residing at West Somers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Dish-Washers; 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 dish washers and is more particularly an improvement over my former patent #867968, issued the 15th day of October, 1907, and my object is to provide spring-operated means for suspending a tray of dishes in position to be immersed in water.

A further object is to provide means for reducing friction between the parts of the washer.

A still further object is to provide a cover for the tray, whereby the water will be prevented from splashing over the sides of the washer and a still further object is to provide means for disposing the outer end of the operating lever in such position that the tray containing the dishes may be readily introduced or removed from the washer.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a perspective view of my improved washer complete. Fig. 2 is a perspective view of the dish tray and supporting frame removed from the washer. Fig. 3 is a detail elevation of a portion of the operating lever, showing the outer end thereof elevated. Fig. 4 is a detail elevation on an enlarged scale of an anti-friction device. Fig. 5 is a detail perspective view of a slightly modified form of supporting spring. Fig. 6 is a perspective view of the cover removed from the washer. Fig. 7 is a perspective view of a slightly modified form of operating lever, and, Fig. 8 is a detail perspective view of a slightly modified form of anti-friction device.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the tank or body of my improved dish washer, in which is adapted to be disposed a tray 2, said tray being smaller in diameter than the diameter of the body 1 and is supported by means of a circular frame 3, the

outer face of the tray 2 having lugs 4 thereon adapted to extend over and engage the upper edge of the frame 3 and limit the downward movement of the tray in the frame. Extending upwardly from the frame 3 and at diametrically opposite sides thereof, are ears 5, to which are pivotally secured the lower ends of standards 6, the upper ends of said standards being in turn pivotally secured to an operating lever 7. The lever 7 is preferably constructed of parallel bars and said bars are divided into sections 8 and 9, the sections 8 being hingedly secured to the sections 9 by introducing pins 10 through the overlapping ends of the sections 8 and 9, said pins also extending through the upper ends of the standards, thereby pivotally securing the standards to the sections 9 and to limit the downward movement of the sections 8, the ends of the sections 9 to which the sections 8 are secured, are tapered downwardly as shown at 11, while that portion of the sections 8 engaging said tapered ends are oppositely tapered as shown at 12, thereby forming a stop for the sections 8 in their downward, pivotal movement. The forward ends of the sections 8 are connected together by means of a bar 13, which bar forms a handhold whereby the lever may be readily operated while the rear ends of the sections 9 are pivotally mounted upon a shaft 14 carried by the upper ends of curved parallel arms 15, the lower ends of said arms being in turn fixed to the upper edge of the body 1.

The frame 3, carrying the tray 2, is normally held at the upper edge of the body 1 by means of springs 16, said springs being preferably formed from one piece of wire which is first bent substantially U-shaped and the parallel sections thereof twisted one or more times around the shaft 14 at a point adjacent the longitudinal center of said parallel sections, the joined ends of said sections being hooked around a rod 17 carried by the arms 15, while the free ends of said parallel sections are hooked around a similar rod 18 carried by the parallel sections 9, said springs being so arranged that downward pressure on the lever 7 will exert tension on said spring, the tension of said springs being such as to normally retain the frame and tray at the upper edge of the body until downward pressure is applied to the lever 7 and it will be readily seen that when the frame and tray have been lowered into the body and downward pressure removed from the lever 7, said

springs will immediately elevate the tray and frame to their initial position, thereby rendering the operation of immersing the dishes in the water in the body an easy task. As the frame 3 is pivotally suspended and liable to swing when the lever is rocked to immerse the tray 2, I provide means for centering the frame in the body 1 and at the same time reducing friction by providing track-ways 19 at intervals around the interior of the tank 1, said track-ways having longitudinal gutters, the surfaces of which are curved, with which are adapted to engage anti-friction rollers 20 carried in brackets 21 on the outer face of the frame 3 the peripheries of said rollers being likewise curved to fit the contour of the gutters and as said rollers are rotatably mounted in said brackets, it will be readily seen that they will travel longitudinally of the track-way 19 with a minimum amount of friction and that they will at all times hold the frame at a uniform distance from the wall of the tank;

The object in pivoting the sections 8 and 9 of the lever 7 is to permit the sections 8 to be moved upwardly and rearwardly, whereby the tray may be readily introduced into or removed from the frame 3 and in order to hold said sections 8 normally fixed with the sections 9, the pivoted ends of the sections 8 are provided with semi-circular spring arms 22, the free ends of said arms extending into engagement with the outer faces of the sections 9 and are provided with tapered fingers 23, which are adapted to snap over the upper edge of the sections 9 when the sections 8 are lowered and by pressing outwardly on the free ends of the spring arms, the fingers are moved from over the sections 9, when the sections 8 may be drawn upwardly and as soon as the fingers have passed below the sections 9, the spring arms will press against the sections 9 and hold the sections 8 in their elevated position.

If desired, a hood or cover 24 may be placed over the tray 2 to prevent the water from splashing over the upper end of the body 1 when the tray is lowered into the water, said hood being preferably conical and securely held in position over the tray by means of spring tongues 25 engaging the peripheral edge of the tray, the outer ends of said tongues having curved terminals 26 adapted to snap over and bind upon the peripheral surface of the tray and if desired, the hood may be suspended by means of links 27, which links are secured at one end to the hood, while the opposite ends thereof are pivotally secured to the sections 9 of the lever 7 and when the hood is so mounted, it may be swung upwardly and rearwardly, as shown in Fig. 1 when the tray is being introduced into or removed from the frame, or if desired, the links 27 may be dispensed with and the hood set in position over the tray or removed

therefrom and set to one side when the washing process is completed.

In Fig. 5 of the drawing I have shown a slightly modified form of spring and in this instance a stirrup 28 is extended downwardly from the arms 15 and a plate 29 extended across the ends of the sections 9 at a point immediately above said stirrup, the plate 29 carrying a plunger 30, the lower end of which extends through the lower end of the stirrup 28, a spiral spring 31 being introduced around the plunger between the plate 29 and lower end of the stirrup 28 so that when the lever 7 is lowered, the tension of the spring 31 will be increased.

In Fig. 7 of the drawings, I have shown a slightly modified form of operating lever and instead of pivotally mounting the two sections of the lever together, the sections 8^a are telescopically mounted in sections 9^a, the ends of the sections 9^a receiving the sections 8^a, having any suitable form of ball-bearings 9^b and by terminating the sections 9^a adjacent their pivotal connection with the standards 6^a, practically the same result will be accomplished by moving the sections 8^a inwardly until the bar 13^a thereof engages the ends of the sections 9^a, as when the sections 8 are thrown upwardly and rearwardly and instead of curving the sections forming the lever outwardly to conform to the peripheral contour of the frame 3, the sections 8^a and 9^a are straight throughout their length and the standards 6^a bent inwardly and upwardly at their upper ends to engage the sections 9^a.

Instead of providing the anti-friction rollers 20, a slide bar 20^a may be secured to the peripheral face of the frame 3 by means of a bracket 21^a and by forming the slide bar 20^a with a curved outer face and a gutter 32 in the face of the track-way 19^a to receive the slide bar, the friction will be reduced to substantially the same extent as when the anti-friction rollers are employed.

In operation, the tray 2 is filled with the dishes and introduced into the frame 3, after which the hood is introduced over the upper end of the tray and the proper amount of water to thoroughly cleanse the dishes, placed in the tank 1. The lever 7 is then moved upwardly and downwardly raising and lowering the tray in the tank 1, this operation causing the water to pass through the series of openings 33 in the tray 2 and between the dishes placed in the tray, the compression caused by raising and lowering the tray in the tank causing the water to thoroughly cleanse the dishes as it is forced between the same. When the dishes have been thoroughly washed, the outer end of the lever 7 is thrown upwardly or moved inwardly as shown in Fig. 7 and the tray containing the dishes removed from the frame and dried.

It will thus be seen that I have provided a very cheap and economical form of dish

washer and one that may be readily and easily operated and it will further be seen that parts of the washer may be quickly disposed in position to introduce or remove the tray when desired.

What I claim is:

1. In a dish washer, the combination with a tank and a frame; of means to suspend the frame in the tank, comprising a lever formed in two sections which are pivotally secured together, spring actuated means carried by one of the sections adapted to engage the opposite sections and hold said sections rigid with each other and supporting arms for one end of said lever.

2. In a dish washer, the combination with a frame and standards thereon; of a two-section lever pivotally secured to the upper ends of said standards, means to pivotally mount one end of the lever, spring arms carried by one section of the lever and fingers on the free ends of said arms adapted to engage the opposite section and hold the two sections rigid.

3. In a dish washer, the combination with a tank, a tray, and a frame for supporting said tray; of standards carried by the frame, and levers pivotally carried at one end by

the tank, each of said levers being formed in sections pivoted one to the other and to a standard of the frame by a common pivot.

4. In a dish washer, the combination with a tank, a tray, and a frame for supporting said tray; of standards carried by the frame, and levers pivotally carried at one end by the tank, each of said levers being formed in sections pivoted one to the other and to a standard of the frame by a common pivot, and means carried by certain of the sections of the levers acting in conjunction with the remaining sections of the levers to hold said sections rigid with each other.

5. In a dish washer, the combination with a tank, a frame insertible therein and a tray engaging the frame; of parallel levers pivotally carried by the tank in connection with the tray, each of said levers being formed in sections movable one with relation to the other.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOEL M. GILBERT.

Witnesses:

THOS. A. EVANS,
G. H. FROST.