June 17, 1941. F. J. OSUCH 2,246,104

WASHING APPARATUS

Filed Nov. 22, 1938 2 Sheets-Sheet 1

Fig. 1.

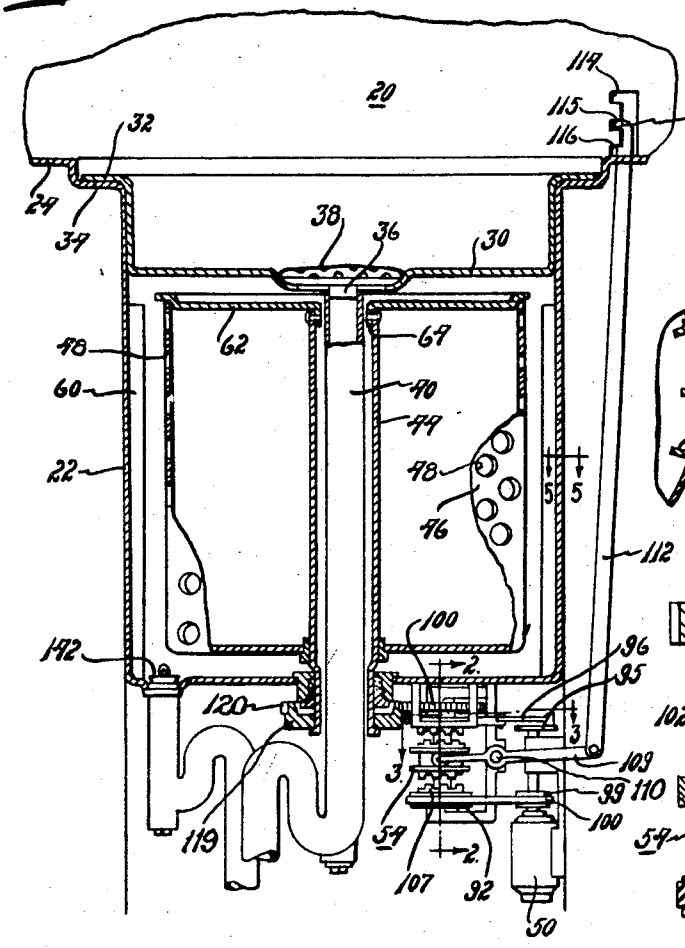


Fig. 4.

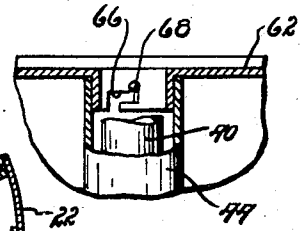




Fig. 5

Fig. 2.

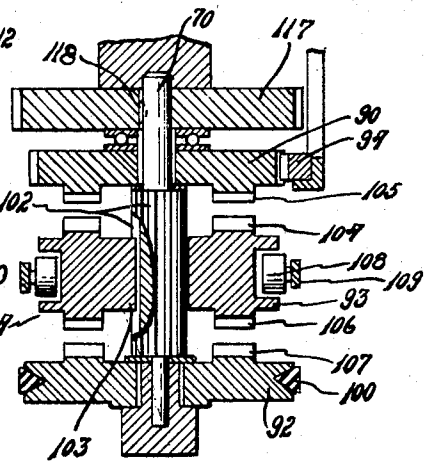
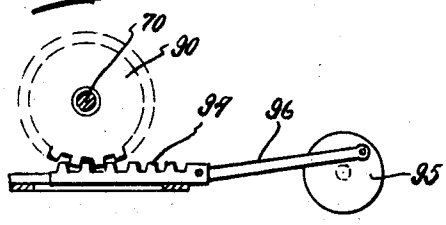


Fig. 3.



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Fig. 6.

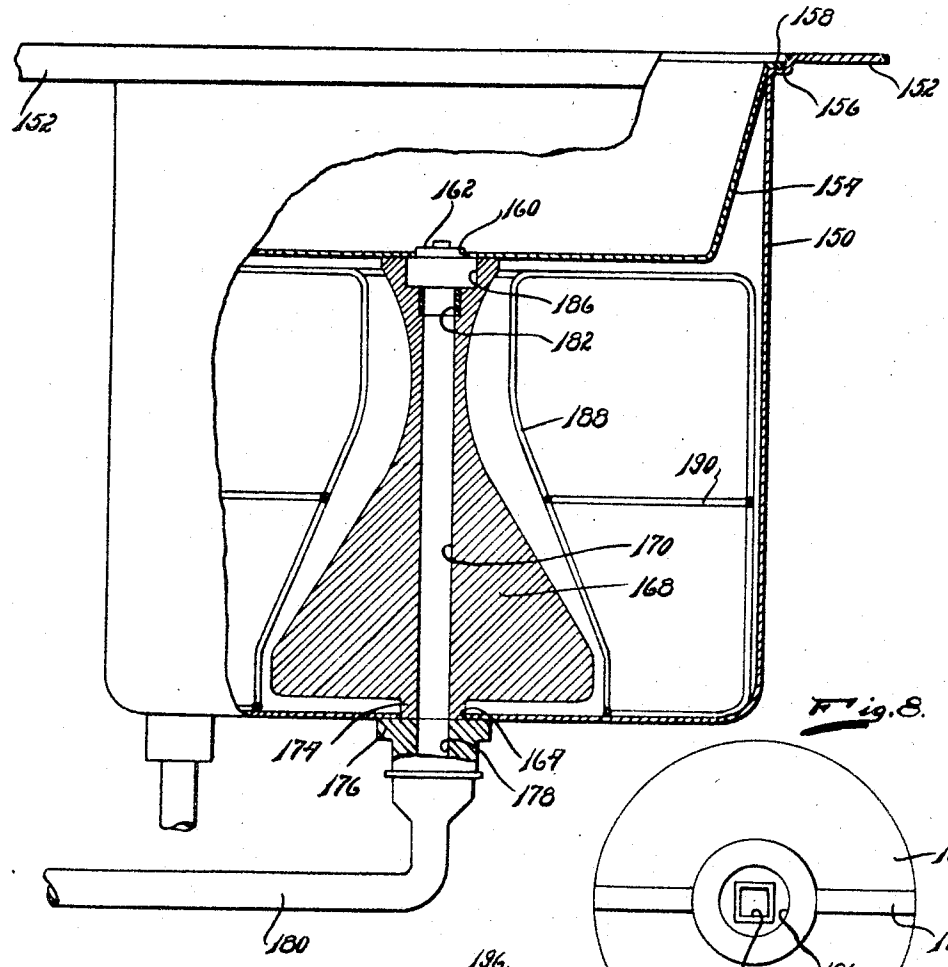
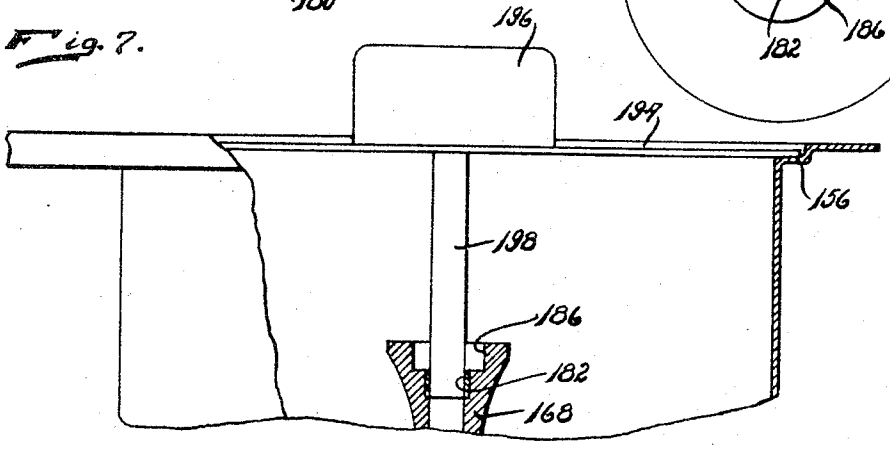


Fig. 8.

Fig. 7.



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2,246,104

WASHING APPARATUS

Francis John Osuch, Grosse Pointe, Mich.

Application November 22, 1938, Serial No. 241,818

4 Claims. (Cl. 68—13)

This invention relates to combination tub, sink and washing apparatus.

The present application is a continuation in part of my copending application Serial Number 43,876 filed October 7, 1935, now Patent Number 2,173,564, for Washing and drying apparatus.

One of the objects of my invention is to provide an improved washing device for dishes, clothes and the like.

Another object of my invention is to provide a combination tub, sink and washing device of the agitator type wherein the sink is removably nested in the upper part of the tub and the agitator positioned in the tub and to arrange the agitator so that it is hollow to permit the drain water from the sink to pass from the sink to a drain pipe.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawings, wherein a preferred form of the present invention is clearly shown.

In the drawings:

Fig. 1 is a vertical view in cross section of an apparatus embodying features of my invention;

Fig. 2 is a view taken along the line 2—2 of Fig. 1;

Fig. 3 is a view taken along the line 3—3 of Fig. 1;

Fig. 4 is an enlarged view of a portion of the apparatus shown in Fig. 1;

Fig. 5 is a fragmentary view taken along the line 5—5 of Fig. 1;

Fig. 6 is a view, partly in elevation and partly broken away, of a modified form of apparatus embodying features of my invention;

Fig. 7 is a view of a portion of the apparatus shown in Fig. 6 with the sink pan removed and a power element mounted in place thereof for operating the agitating mechanism; and

Fig. 8 is a plan view of the agitator embodying features of my invention.

Referring to the drawings, and particularly to Fig. 1, there is shown an apparatus 20 embodying features of my invention. The apparatus 20 includes a tube 22 which is a continuation of drain boards 24. Within the tub 22 there is disposed a readily removable sink 30 having a flange 32 which rests on shoulders 34 of tub 22. The sink or pan 30 extends downwardly into the tub 22.

The sink 30 is provided with an outlet connection 36 which is covered by removable perforated member 38. The outlet connection 36 extends into a drain pipe 40. The drain pipe 40 extends from the lowermost portion of the sink 30 through the tub 22. Surrounding the drain 40 and in the tub 22 is a hollow standpipe 44. A perforated container or agitator 46 is secured to standpipe 44. The container or agitator 46 is provided with a series of perforations 48. In this embodiment of my invention, the standpipe 44 is operated through power received from a motor 50. The operation of the standpipe 44 and container 46 is controlled by means of a clutch 54.

Within the tub 22 there is provided a series of baffles 60 which are positioned within the inner peripheral edge of the tub so that when the container 46 is being actuated by the motor 50, the agitation of the water therein whirls out in eddy currents being set up within the tub so as to provide sufficient velocity for properly washing the objects within the container 46. The container 44 is closed on the upper part thereof by a readily removable disc shaped member 62, which is provided with a downwardly extending flange 64, as shown in Fig. 1, and the downwardly extending flange 64 is provided with a notch 66 for engagement with the pin 68 in the well known manner. This connection serves to hold the cover 62 downwardly as against any force which may tend to move said cover in an upward direction.

The clutch element 54, which is used for controlling the operation of the container 46, comprises, in general, a shaft 70, gear 90, pulley wheel 92, movable clutch element 93, gear rack 94 and wheel 95. The gear 90 is connected to wheel 95 by means of a tie member 96. The wheel 95 is actuated by motor 50. Pulley wheel 92 is actuated by motor 50 by means of pulley wheel 99 and belt 100. The movable clutch element 93 is attached to the shaft 70 by means of flutes 102 provided in shaft 70 and projections 103 provided within the central part of the element 93. By this type of attachment, the movable clutch element 93 may be slid longitudinally of the shaft 70 but same is prevented from lateral movement about the shaft. The motor 54 is adapted to effect rotary reciprocatory movement of the gear 90 at all times and the rotary movement of the pulley wheel 92 at all times. However, the movement of the gear 90 and wheel 92 does not effect movement of the shaft 70 unless the movable clutch element 93 is in engagement with one or the other. The movable clutch element 93 is adapted to effect driving connection with the gear 90 by means of teeth 104 of the element 93 and teeth 105 of the gear

90. The element 93 is adapted to effect driving engagement with the pulley 92 by means of teeth 106 of element 93 and teeth 107 of wheel 92. Thus, it is possible to selectively control the operation of shaft 70 so that same either operates with a continuous rotary motion or rotary reciprocatory movement. The movable clutch element 93 is moved upwardly and downwardly upon the shaft 70 by means of member 108 which is attached to lever 109. The lever 109 is pivoted as at 110. The lever 109 is attached to rod 112 which is provided with a handle 113. The handle 113 is adapted to move rod 112 upwardly and downwardly so as to effect movement of the lever 109 and member 108 to control the movement of the element 93. The handle 113 is adapted to be received in either one of the three recesses, namely; 114, 115 and 116. As shown, the handle 113 is received in recess 115, which is the neutral position of the clutch element. When the handle 113 is moved to recess 114, the clutch element 93 is moved downwardly so as to be driven by pulley wheel 92 in continuous rotary motion. When the handle 113 is moved downwardly to recess 116, the clutch element 93 is moved upwardly so as to be actuated in a rotary reciprocatory movement.

Shaft 70 actuates a gear 117 which is secured to shaft 70 by key 118, so that it will operate the same as shaft 70. Gear 117 cooperates with gear 119 having teeth 120, which is rigidly secured to standpipe 44 to control the operation of the standpipe 44 and container 46.

From the foregoing, it will be noted that I have provided an improved device for washing, and that I have made arrangements for supporting the objects to be washed in a movable container, and have made arrangements for either oscillating the rack or effecting a continuous rotary motion thereof. These characteristics are particularly advantageous for various washing actions desired for dishes and clothes. Any clutch mechanism having these characteristics may be used as the one disclosed is exemplary and others may be used to accomplish the same result.

Referring now to Figs. 6 to 8, inclusive, there is shown a tub 150 which is formed as a continuation of drain boards 152. Within the upper portion of tub 150 is positioned a readily removable sink or pan 154 which is supported on shoulders 156 of the tub by a flange 158 on pan 154. The sink is provided with opening 160 in the central portion of the bottom wall thereof closed by a removable stopper 162. The tub 150 is provided with an opening 164 in the central portion of the bottom wall thereof, which opening is substantially in alignment with the opening 160 in the sink 154. Within the tub 150 there is disposed agitating means 168 having a hollow portion or passage 170 extending vertically and from the lowermost to the uppermost portion of the agitator. The agitator is provided at the lowermost portion thereof with a bearing portion 174 which is adapted to engage a bearing 176. The bearing 176 is provided with a hollow portion 178 so that when the bearing 174 is placed within the opening 164 of tub 150, the bearing 174 will engage bearing 176 to effect the seal to prevent leakage from the tub while at the same time the passage 170 and the passage 178 will be in alignment to effect a continuous passage from the opening 160 in the pan 154. By this arrangement it is possible to remove the plug 162 in sink 154 to permit the water to be drained from the sink through passages 170 and 178 into a drain pipe 180 which is connected to the bearing member 176. Within the upper portion of the agitator is provided a bearing member 182 which is preferably square in horizontal cross section and is adapted for receiving a drive connection of a shaft of an electric motor about to be described. The bearing is preferably made of bronze. Immediately above the bearing 182 and in the passage 170 is an enlarged portion as at 186 which is immediately below the opening 160 in the sink 154. Surrounding the agitator 168 and within the tub 150 is a wire rack 188 having a shelf 190. The rack may be of any suitable design and as shown is designed to follow the shape of the agitator. The shelf 190 may be used for supporting large dishes and smaller dishes may be placed on the lower portion of the rack. This type of rack may be made of wire of any suitable design for holding dishes when dishes are being washed in the tub 150. When it is desired to wash clothes and other fabrics in the tub 150, the rack 188 is removed. This may be accomplished by simply removing the sink 154 and lifting the rack from the tub.

When it is desired to utilize the tub 150 and the agitating mechanism 168 for washing clothes or dishes, the sink 154 is preferably removed and a closure member 194 mounted on the supports 156 for supporting an electric motor 196. The motor includes a shaft 198 which, when placed in the position shown in Fig. 8, the shaft 198 extends into the bearing member 182 so that operation of the motor 196 will cause operation of the agitator 168. The motor 196 may be either of the oscillating or continuous rotation type, or both combined, so as to give either rotary or oscillatory movement of the agitator. Motors of this type are well known and it is believed that further description is unnecessary.

The apparatus herein disclosed is particularly adapted to be used in connection with the cabinet shown in my copending application, Serial No. 232,063 filed September 28, 1938, for Kitchen equipment. The apparatus herein disclosed may be used in that cabinet and in the same position as the combination tub and sink is disclosed in that application.

In the use of the combination tub and sink as herein disclosed, the readily removable sink as herein disclosed may be used as a tray for taking dishes from the dining table to be carried to the tub and placed therein for washing.

From the foregoing, it will readily be apparent that I have provided a combination tub, sink and washing apparatus and arranged this combination of parts in such a manner that the drain water from the sink may be removed without the provision of drain pipes and the like which would in any way interfere with the agitating mechanism in the tub. This is accomplished by providing hollow agitating means having hollow portion arranged in alignment with the outlet of sink so that the drainage from the sink may pass to the drain pipe. The agitating means may be stored in the tub when not in use or it may be removed therefrom.

Although only a preferred form of the invention has been illustrated, and that form described in detail, it will be apparent to those skilled in the art that various modifications may be made therein without departing from the spirit of the

invention or from the scope of the appended claims.

I claim:

1. A device of the character described comprising a tub, a sink pan nested in the upper portion of said tub and having an outlet drain, and agitating means in said tub for agitating a washing fluid, said agitating means having a hollow portion in axial alignment with said outlet drain and in axial alignment with an opening in said tub and extending between said outlet drain and said opening to facilitate drainage from said sink pan.

2. A device of the character described comprising in combination, a tub having an opening, a sink positioned in said tub and having a drain opening, and agitating means having a portion engaging said tub to seal the opening in said tub and having a passage in axial alignment with and extending between said openings.

3. A device of the character described comprising in combination, a tub having an opening in its bottom wall, a hollow bearing member adjacent said opening, agitating means carried by said bearing member, a sink removably nested in the upper portion of said tub and having a drain outlet, said agitating means having a hollow portion extending between said drain outlet and the hollow portion of said bearing and means for actuating said agitating means.

4. A device of the character described comprising a tub having an opening in its bottom wall, a drain pipe extending into said tub through said opening, agitating means within said tub including a vertically extending hollow member surrounding said drain pipe, means secured to said hollow member below said tub for actuating said agitating means and a sink pan positioned in the upper part of said tub and having a drain outlet over the hollow portion of said member and in axial alignment with said drain pipe.

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