

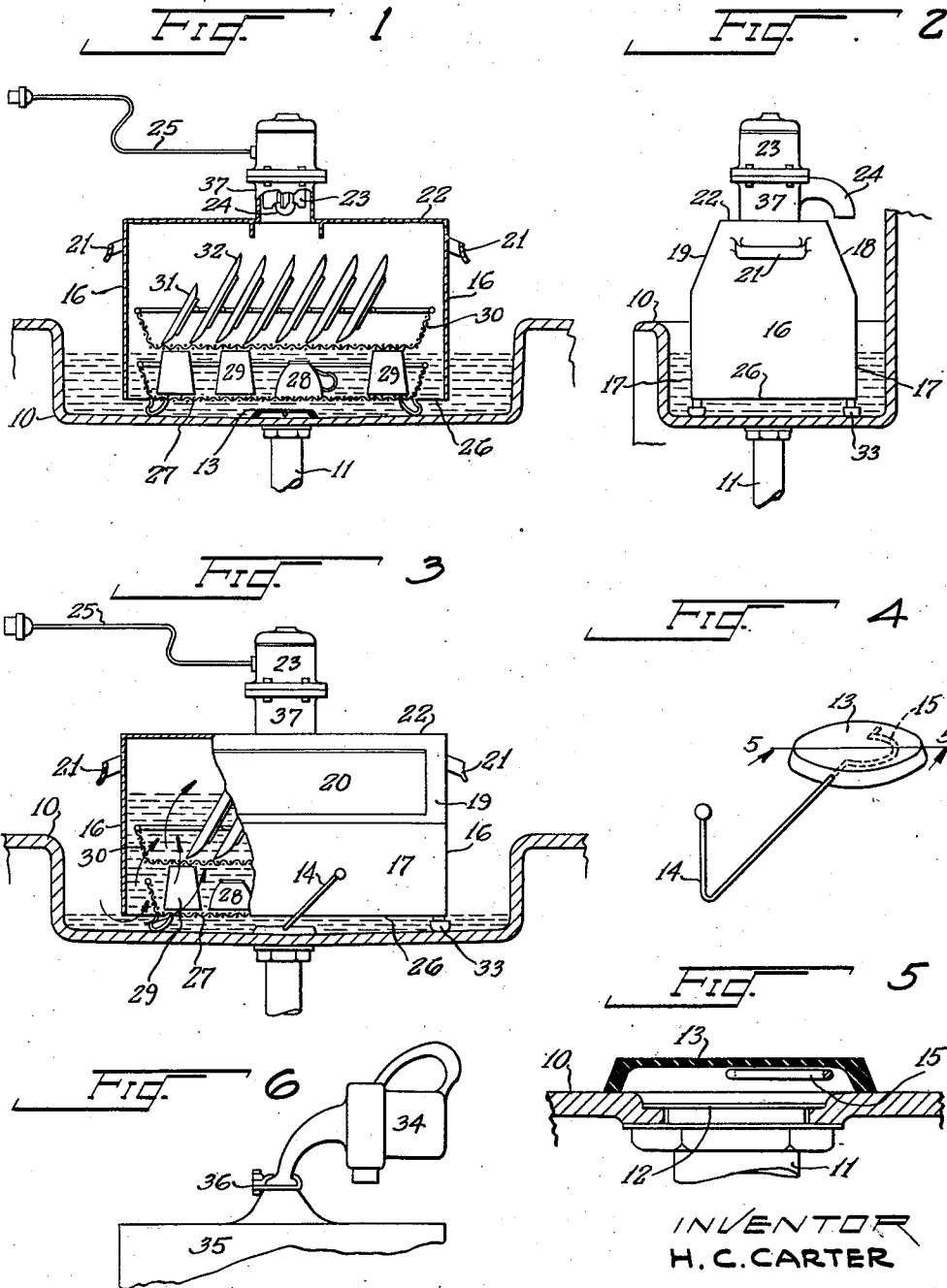
Dec. 11, 1934.

H. C. CARTER

1,983,931

DISHWASHING MACHINE

Filed April 24, 1931



INVENTOR
H. C. CARTER

BY *E. B. Birkenhead*
ATTORNEY

UNITED STATES PATENT OFFICE

1,983,931

DISHWASHING MACHINE

Haskell C. Carter, Portland, Oreg.

Application April 24, 1931, Serial No. 532,441

2 Claims. (Cl. 141—9)

This invention relates generally to dish washing machines, and particularly to motor driven suction type machines.

The main object of this invention is to provide an exceedingly simple and efficient form of dish washing machine which will thoroughly cleanse the dishes without any danger of breaking same, and without requiring the dishes to be carefully placed in position, as is commonly necessary in machines of this character.

The second object is to produce a dish washing machine which can be used in connection with the ordinary sink, thereby taking advantage of the water supply and waste connections provided therein.

The third object is to provide a special form of basket for holding the dishes during the washing operation.

These, and other objects, will become more apparent from the specification following as illustrated in the accompanying drawing, in which:

Fig. 1 is a longitudinal section through the device.

Fig. 2 is a transverse section through a sink showing the washer in elevation.

Fig. 3 is a longitudinal section through a sink with a portion of the washer broken away in section showing the action of the water.

Fig. 4 is a perspective view of a representative form of waste pipe closure.

Fig. 5 is a vertical section taken along the line 5—5 in Fig. 4.

Fig. 6 illustrates an alternative arrangement in which the device is used as an attachment for an ordinary vacuum sweeper.

Similar numbers of reference refer to similar parts throughout the several views.

Referring in detail to the drawing, there is shown the ordinary kitchen sink 10 including the waste pipe 11 which, in this instance, is shown as being located in the middle of the sink. Over the strainer 12 of the waste pipe 11 is placed a stopper 13 of flexible rubber which will make same self-sealing. In order to make it possible to open the drain of the sink there is provided a lifter 14 in the form of a wire provided with a bent end 15 which journals in the walls of the stopper 13. Normally the handle end of the member 14 is upright and an appropriate movement thereof causes a lifting action to be exerted against the stopper 13 and permits the water to escape. On sinks having a side strainer the ordinary stopper may be employed. Obviously, any other form of closure for the sink waste pipe

that will meet the requirements of this invention will be satisfactory.

Referring particularly to my device same will be seen to consist of a rectangular box-like structure whose end walls 16 are vertical, as well as the lower portions 17 of the side walls. The upper portions 18 and 19 of the side walls 17 preferably slope inwardly for the purpose of providing clearance for the water faucets on one side and giving better visibility of the washing operation on the other side. The portion 19 is provided with a transparency 20, through which the water level, as well as the washing operation itself, may be easily observed. The end walls 16 are provided with handles 21 for moving the device to and from the sink.

A flat top 22 joins the ends 16 and the sides 18 and 19. On the top 22 is mounted an electrically driven suction fan 23 provided with a downwardly curved outlet 24. Current is supplied to the fan 23 through the flexible cord 25. The fan 23 is similar to the type employed in the ordinary vacuum cleaning device.

The entire structure is so supported that its lower edge 26 is raised above the bottom of the sink 10. It will be understood that there is no bottom to the box-like structure or shell itself.

The dishes are placed in a wire basket somewhat after the fashion of rinsing and drying racks now in use, although it is preferable to provide a lower basket 27 in which are placed cups 28 and glasses 29 in an inverted position. A second tray 30 is placed on top of the cups and glasses in which are placed, in inclined positions, flat dishes such as saucers 31 and plates 32.

The operation of the device is as follows: The dishes are stacked in the baskets 27 and 30 and the washer is placed over same. The stopper 13 is put into position after which hot water is admitted to the sink and a suitable cleanser added. The fan 23 is then operated causing the water in the sink 10 to be drawn under the edge 26 into the shell, preferably to the extent of entirely submerging the dishes. This can be controlled to a nicety by merely admitting more water to the sink until the desired level is attained. However, as soon as the water level in the sink 10 has dropped to the edge 26 there commences a violent agitation of the water within the washer, due to the passage of air therethrough, and this action is not vertical alone, as might be generally supposed, but reciprocating as well, due to the alternate breaking of the seal at the opposite ends of the washer occasioned primarily by the inclined position of the dishes themselves, as

well as an irregularity in the level of the water occasioned by the violent action taking place therein. The legs 33 are preferably of rubber or soft material to prevent marring of the surfaces on which they rest.

In Fig. 6 there is shown a slight modification of the device in which the ordinary vacuum cleaner 34 is attached to a specially constructed washer 35 by means of a fitting 36.

It is desirable in either of the forms of the device herein illustrated to provide a column 37 between the top 22 and the fan 23 in order to prevent water and suds from being blown through the fan. Naturally this height will be controlled largely by the capacity of the fan 23.

After the dishes have been sufficiently washed the rinsing may be accomplished by first lifting the washer from over the dishes and then setting the basketful of dishes onto the drain board for rinsing in the ordinary manner while other dishes are being washed in extra baskets, using the same water if desired. If this method is not to be followed the dishes may be rinsed directly in the sink itself by opening the waste pipe 11 while operating the fan to maintain agitation, allowing the water to escape rapidly from the washer in order to carry away the suds and any other substance which might be deposited loosely on the dishes, then rinsing out the sink 10 and admitting the desired amount of rinsing water, after which the fan 23 is again operated and the drain 11 opened, as previously stated, for the purpose of allowing the water to escape rapidly from the dishes.

At first glance it might appear that, owing to the violence of the agitation, the washing operation would be destructive to the dishes, but in actual practice it is found that there exists a

cushioning effect in the water itself which protects even dishes of the most fragile nature.

It can be seen that by this construction a dish washer is provided which is extremely simple to manufacture and which requires only a minimum amount of care in the arrangement of the dishes in the baskets in order to prevent breakage.

I am aware that washing machines for clothes have been constructed employing a somewhat similar principle but lacking means for holding the dishes and for preventing water and suds from passing through the fan; I therefore am not claiming broadly the principle involved herein, but I do intend to cover all such forms and modifications thereof as fall fairly within the appended claims.

I claim:

1. A dish washer comprising a kitchen sink having a sloping bottom, in combination with an elongated rectangular box structure having a completely open under side, and having means for holding said box structure in spaced relation to said sink, and means for exhausting air from the upper end of said box which is otherwise closed.

2. A dish washer comprising a kitchen sink having a sloping bottom, in combination with an elongated rectangular box having a completely open bottom and a closed top, the upper portions of whose longitudinal sides slope inwardly in a manner to make the top or closed side of the box narrower than is the bottom thereof, means for exhausting air from the closed end of said box, and means for supporting said box with its lower end in spaced relation to the sloping bottom of the sink.

HASKELL C. CARTER.