Dec. 3, 1929. N. H. HENDERSON 1,737,794

DISHWASHING MACHINE

Filed Oct. 20, 1925 2 Sheets-Sheet 1

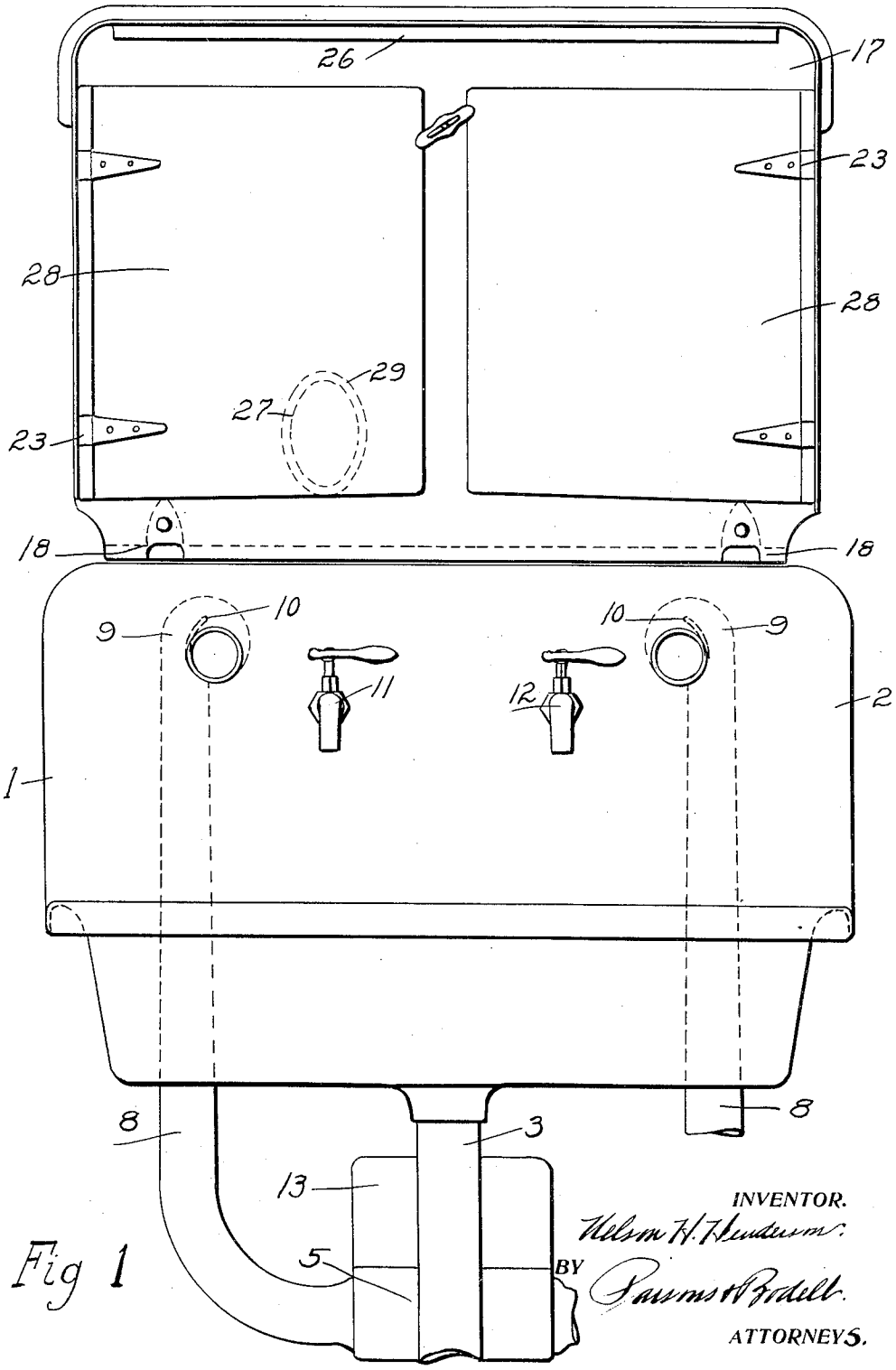


Fig 1

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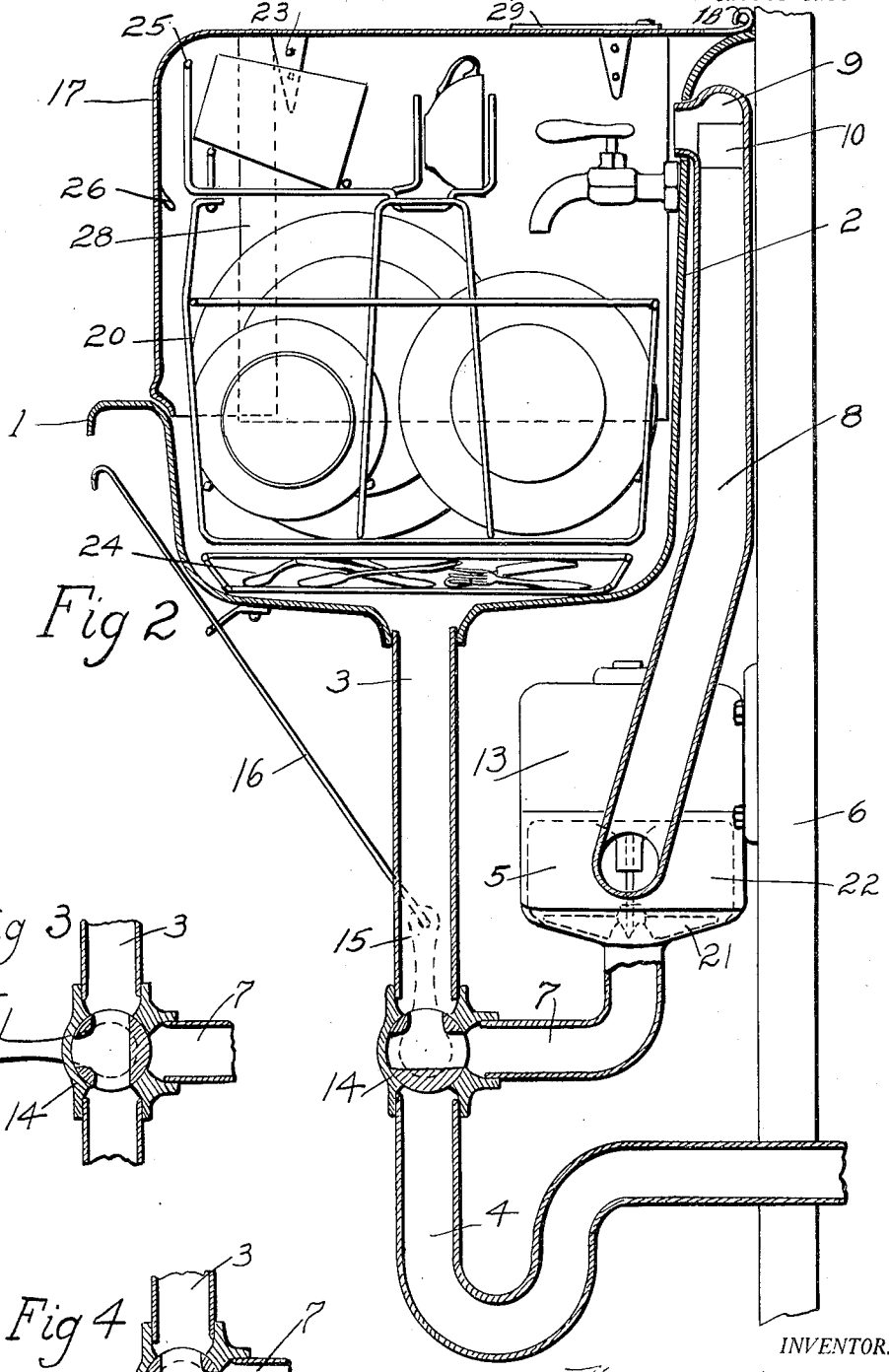


Fig 2.

Fig 3.

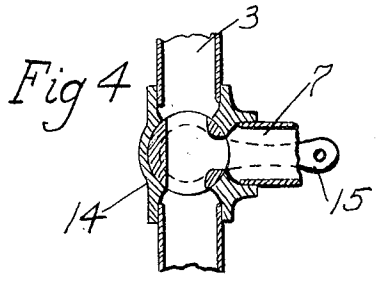


Fig 4.

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Patented Dec. 3, 1929 1,737,794

UNITED STATES PATENT OFFICE

NELSON H. HENDERSON, OF SYRACUSE, NEW YORK, ASSIGNOR TO SYRACUSE INDUSTRIAL GAS COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK

DISHWASHING MACHINE

Application filed October 20, 1925. Serial No. 63,631.

This invention relates to dish washing machines and has for its object a dish washing machine which can be used in connection with a sink or in which the sink is an integral part of a dish washing machine, but the dish washing feature does not interfere with the normal use of the sink.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a front elevation of a machine embodying my invention.

Figure 2 is a vertical cross-sectional view of the machine.

Figures 3 and 4 are detail views of the three-way valve in the drain pipe of the sink.

This washing machine comprises, generally, a sink having an outlet, a pump arranged below the sink and having an inlet communicating with the outlet and a discharge pipe having a nozzle arranged to discharge into the sink on the dishes therein and a motor for actuating the pump. Preferably, the outlet is the ordinary drain pipe of the sink and the intake of the pump is connected to this outlet, a suitable valve being provided operable into three positions in one of which positions, the drain pipe is open so that the water can drain from the sink in the usual manner. In another of which positions, communication is established between the pump and the sink through the outlet or drain pipe but the drain pipe is closed and in a third of which positions, the water is free to drain both from the sink and from the pump.

1 designates the sink which may be of any suitable form, size and construction and having the usual back 2.

3 is a drain pipe leading from the sink and discharging into a waste pipe through the usual trap 4.

5 is the pump located below the sink and supported on the wall 6 on which the sink is mounted or on any other suitable support, the pump having an intake pipe 7 opening into the drain pipe 3 of the sink. The pump also has one or more, here shown as two, discharge pipes 8 extending upwardly within the hollow back 2 of the sink and having nozzles 9 arranged to discharge through the back into the sink onto the dishes therein. These nozzles are scroll or spiral shape as shown at 10 in order to whirl the water as it is discharged into the sink. The sink is also provided with the usual hot and cold water faucets 11 and 12.

The fan is centrifugal and is mounted in the casing to rotate about an upright axis and may be of any suitable form, size and construction. It is of the type of fan shown in my pending application Sr. No. 698,778 filed March 12, 1924, now Patent No. 1,626,194, granted April 26, 1927. It is driven by a motor 13 mounted on the fan casing 5 in axial alinement with the rotor of the fan. There are two discharge pipes 8 leading from diametrically opposite sides of the pump casing.

14 designates the three-way valve in the drain pipe, this being operable in any suitable manner as by a rock arm 15 mounted on the axis of the valve 14 and having a suitable handle 16 connected thereto. The valve 14 is normally in the position shown in Figure 3 in which the drain pipe 3 is open in the normal use of the sink. It is shiftable into the position shown in Figure 2 whereby communication is established between the pump 5 and the sink 1 through the drain pipe in which position, the drain pipe is closed below the intake 7 of the pump. The valve 14 is further operable into a third position shown in Figure 4 in which the water is free to drain from the sink and from the pump and all passages of the washing machine.

17 is a cover for the sink, it being here shown as boxlike in form including a top, front and end walls, the latter being arranged to rest on the edges of the sink. The top wall is hinged at 18 to the back of the sink or to the wall 6 and is movable on its hinge upwardly so as not to interfere with the sink in the normal use thereof, and may swing into a cabinet 19 located above the sink.

The dishes may be placed either directly in the sink or in a basket as 20, and the valve 14

turned into the position shown in Figure 2 in which the drain pipe is closed. Water may then be allowed to flow from the faucets into the sink, the water filling up around the rotor of the pump. Also soap or other cleansing material can be placed in the water. The cover 17 is then lowered into the position shown in Figure 2 and the pump started whereupon the water is drawn from the sink by the pump and discharged through the nozzle 10 into the dishes in the sink. This operation is continued as long as desired when the valve can be moved into the position shown in Figure 4 permitting all water to drain out of the sink and the pump. The valve then can be again shifted to the position shown in Figure 2 and a clear or rinsing water circulated in the same way and when the rinsing is completed, the valve 14 can be shifted into the position shown in Figure 4 permitting the water to drain out of the sink and the pump.

In the normal use of the sink, the valve 14 is shown in the position shown in Figure 3 in which the water drains into the sink out into the waste pipe without passing into the pump.

What I claim is:

1. A dish washing machine comprising a sink having a drain pipe, a pump including an upright casing having its inlet at its lower end and its outlet extending upwardly from the upper portion of the casing and a rotor in the lower end of the casing mounted to rotate about a vertical axis, a pipe connecting the inlet at the lower end of the casing and the drain pipe of the sink, a pipe connecting the outlet of the casing and arranged to discharge into the sink and to drain into the casing, a motor for actuating the rotor of the pump and a valve operable to close the drain pipe and establish communication between the drain pipe and the inlet of the pump or to open the drain pipe and the inlet of the pump whereby the inlet of the pump serves as an outlet and all fluids can drain from the sink and the pump when the pump is idle.

2. In a dish washing machine, the combination of a sink serving as a receptacle for the dishes and for the cleansing fluid, the sink having an upright hollow back, a pump located below the receptacle and having its inlet connected thereto and an outlet extending upwardly behind the hollow back and opening through the wall thereof to discharge into the receptacle, a cover for the sink, the cover forming with said sink a closed chamber, the cover having its lower and rear side open whereby the cover opens at its bottom into the sink and the rear wall of the sink closes the rear end of the cover.

In testimony whereof, I have hereunto signed my name, at Syracuse, in the county of Onondaga and State of New York, this 25th day of September, 1925.

NELSON H. HENDERSON.