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APPARATUS FOR WASHING AND COOKING.

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Fig. 1

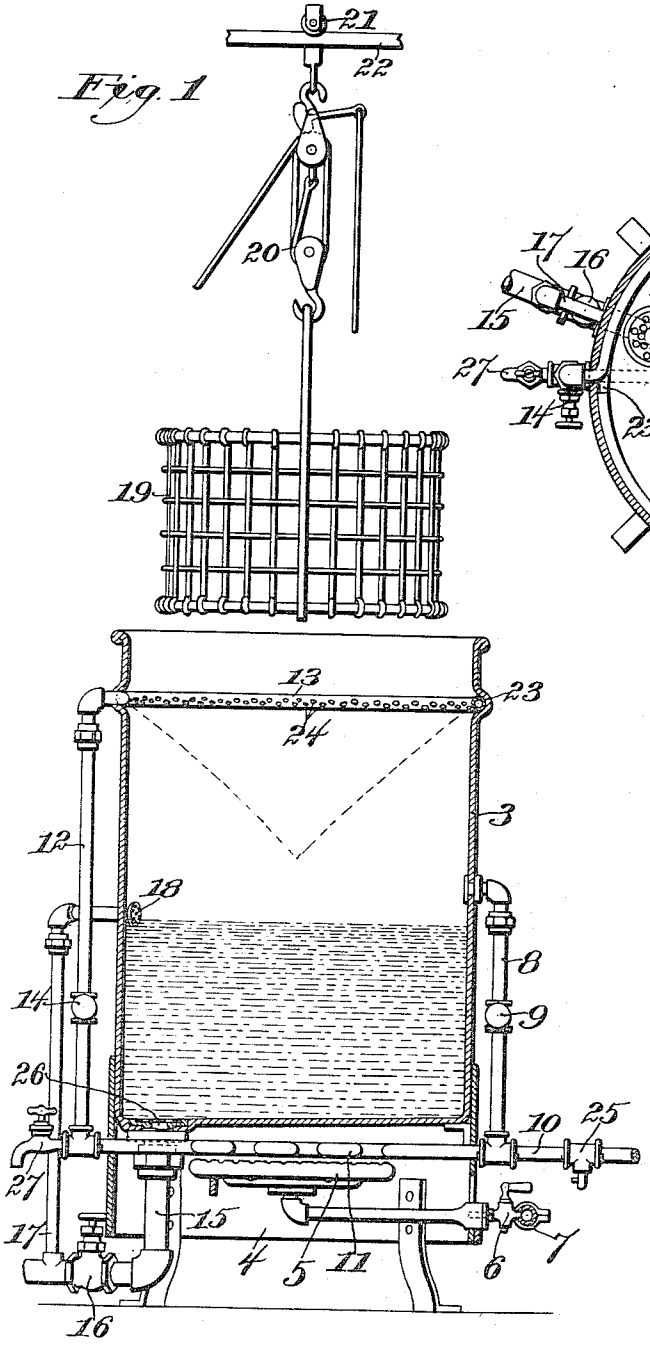
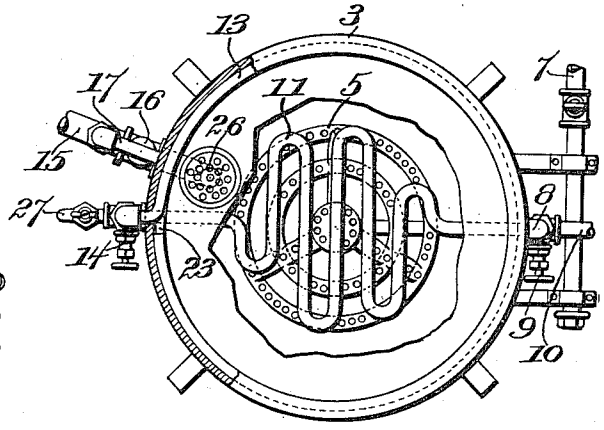



Fig. 2




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by his Attorneys

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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR WASHING AND COOKING.

1,266,167. Specification of Letters Patent. Patented May 14, 1918.

Application filed December 4, 1916. Serial No. 135,012.

*To all whom it may concern:*

Be it known that I, RUSSELL A. SEARS, a citizen of the United States, residing at Quincy, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Apparatus for Washing and Cooking; 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.

This invention relates particularly to an apparatus in which articles to be washed or cooked may be subjected, first, to immersion in a body of water contained in a vessel, and thereafter, to a spray of water while still contained in the same vessel.

In washing dishes and other articles it has been found that the best results are attained by subjecting the articles to a spray of clean water as the last step in the operation, the articles being thus free of all soap or other washing-material to which they may have been previously subjected, so that they will dry in a perfectly clean condition.

The object of the present invention is to produce a machine in which articles may be washed by subjecting them first to immersion, more or less prolonged, in a body of water, and then to a spray of clean water, preferably heated, and in which both of these operations may take place while the articles remain in the same vessel or receptacle, so that the successive operations may be performed conveniently and with a minimum amount of handling.

To the foregoing end it is proposed to employ a vessel with an open top, into which the dishes or other articles to be treated may be introduced while contained in a basket or other suitable container. This vessel is provided, at an intermediate point in its height, with an overflow opening to regulate the depth of liquid in the vessel, while near the top of the vessel a spray-pipe is mounted in such a manner as to direct a spray upon articles supported in the upper part of the vessel. The apparatus is also preferably provided with self-containing means for heating both the water contained in the lower part of the vessel and the water which is discharged through the spray-pipe.

Other objects of the invention, and the features of construction by which they are carried out, are set forth in connection with the following description of the preferred embodiment of the invention.

In the accompanying drawings Figure 1 is a side-elevation, partly in section, of apparatus embodying the present invention; and Fig. 2 is a plan-view of the vessel, with certain parts broken away.

The invention is illustrated as embodied in an apparatus comprising a cylindrical metal vessel 3, which is open at the top and closed at the bottom. A casing 4 depends from the bottom of the vessel and incloses a gas-burner 5 of ordinary form which may be fed through a gas cock 6 from a supply-pipe 7 as usual.

Water may be introduced to the vessel 3 through a pipe 8 controlled by a shut-off valve 9, the pipe 8 leading from a water-supply pipe 10. A heating-coil 11 arranged directly above the burner is supplied with water from the supply-pipe 10, and this coil is connected, by a pipe 12, with a spray-pipe 13 mounted near the top of the vessel 3. This spray-pipe is annular in form, and is seated in and guarded by a channel 23 on the inner surface of the wall of the vessel. The spray-pipe is provided with perforations 24 in its inner portion, through which a spray of water may be directed inwardly and downwardly, as indicated by dotted lines in Fig. 1. The flow of water to the spray-pipe is controlled by a shut-off valve 14 in the pipe 12.

The vessel 3 has an outlet 26 at the bottom, which is connected with a drain-pipe 15 controlled by a shut-off valve 16. The vessel is also provided, at an intermediate point of its height, with an overflow-opening covered by a strainer 18, this opening discharging through an outlet-pipe 17 which enters the drain-pipe 15 and maintains the water at a uniform level.

For the purpose of washing dishes or similar articles a cylindrical wire basket 19 may be employed, this basket being suspended by ordinary hoisting-tackle 20 from a trolley 21 which runs on a trolley-rail 22.

When the dishes are to be washed the apparatus is operated in the following manner: The valve 9 is opened to permit the vessel 3 to be filled with water up to the overflow-opening, and the valve 9 is then closed. The burner 5 being lighted, the water in the vessel is heated, and soap or other detergent material is added to the water. The burner heats, at the same time, the coil 11 and the water with which it is filled. The basket 19 is filled with dishes at any convenient point, and is then hoisted, by means of the tackle

20, high enough to clear the top of the vessel 3. The basket and the trolley are then moved along the rail 22 until they are directly above the vessel, as shown in Fig. 1. The basket is then lowered to the bottom of the vessel, thus submerging the articles contained in the basket in the hot soapy water contained in the lower part of the vessel. To promote the cleansing action of the water the basket may be repeatedly raised and lowered within the receptacle. After the articles in the basket have been washed substantially clean, the basket is raised above the surface of the water in the vessel, but allowed to remain suspended just below the spray-pipe 13. The shut-off valve 14 is then opened, and a spray of boiling hot water is projected upon the articles in the basket, so as to rinse them thoroughly, the water being heated to a high temperature in its passage through the coil 11. The basket may then be hoisted out of the vessel, and, owing to the fact that the articles in it have been raised approximately to the temperature of boiling water, the small amount of hot water adhering to their surfaces dries off immediately, thus dispensing with the necessity of wiping or otherwise drying the articles. The basket may then be removed by the use of the trolley and refilled, or another basket may be brought to the vessel in the same manner. It will be observed that an important feature of my apparatus lies in the fact that the distance between the bottom of the vessel and the overflow drain as well as the distance between said overflow drain and the spray pipe is equal to at least the depth of the basket, so that the basket may be first completely immersed in the water and then raised into the spraying zone above and entirely out of the water and allowed to remain there until the dishes are thoroughly rinsed.

The apparatus is adapted to use both gas and water with economy, for the water by which the dishes are sprayed drains into the lower part of the vessel, thus constantly renewing the water therein, while at the same time the level never rises above the out-let opening, and thus it is unnecessary for the user of the machine to regulate the depth of the water. Since the spray-water is nearly at boiling temperature, it tends to maintain the desirable high temperature of the water in the vessel, and the burner also helps to maintain that temperature economically by the surplus heat which is not absorbed by the heating-coil 11.

The location of the spray-pipe 13 in the channel 23 not only provides for a firm support of the spray-pipe, but it also prevents interference by the spray-pipe with the movement of the basket 19 in lowering and raising the latter within the vessel, and protects the spray-pipe from injury.

The constant renewal of the water in the vessel through the spray-pipe results in carrying off the dirt and spent washing material in the water, but the vessel may be drained periodically, if necessary, through the outlet-opening 26.

A safety valve 25 is introduced in the water-supply pipe to permit the escape of steam in case the coil 11, owing to interruption in the use of the machine, be heated to such a high temperature as to produce a dangerous pressure in the coil. A faucet 27 is attached to the heating-coil 11, so that hot water may be drawn off from the coil whenever required for extraneous use.

While the apparatus of the present invention is preferably used with hot water, the vessel with its various water-connections and the spray-pipe may also be used for washing with cold water. It will be apparent also that the apparatus, while described particularly as a washing-machine, may also be useful in cooking, since articles contained in the basket 19 may be subjected to various combinations of boiling, steaming and spraying. In using the apparatus for cooking an imperforate receptacle may be substituted for the basket 19, where it is desired to retain the liquors of the articles cooked.

The apparatus may also be used for the production of decoctions, and in this case the hot-water spray is useful in washing off and saving the last traces of the useful soluble elements of the material which has been previously boiled in the lower part of the vessel.

The nature and scope of the present invention having been indicated, and its preferred embodiment having been specifically described, what is claimed as new is:

An apparatus of the character described comprising a vessel with an open top and having a main drain in its bottom as well as an overflow drain at a distance above its bottom, said vessel also having an annular spray pipe arranged within its upper part at a distance from its rim, a supply pipe connected to said spray pipe, drain pipes connected to the aforesaid drains, a basket adapted to be lowered into said vessel, the distance between the overflow drain and the bottom of the vessel as well as the distance between said overflow drain and said spray pipe being at least equal to the depth of the basket, whereby the basket may be immersed in the water in the lower part of the vessel or suspended in the zone between the normal level of the water and the spray pipe.

RUSSELL A. SEARS.