

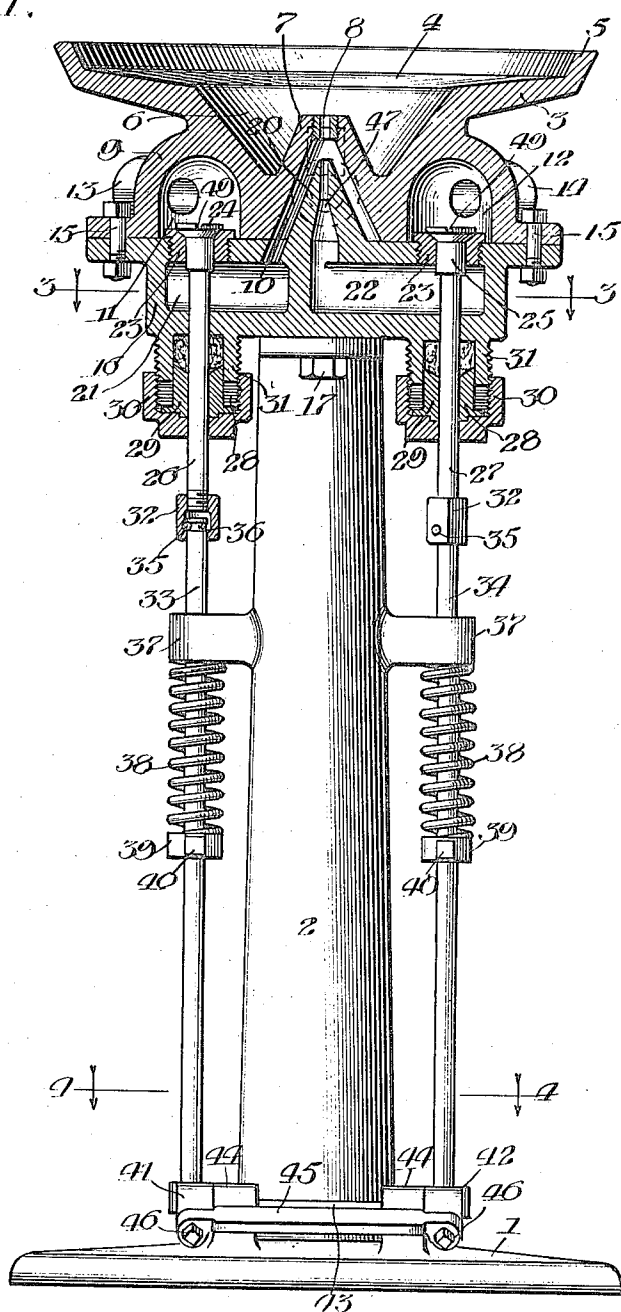
A. H. GOODHUE.
CAN WASHING MACHINE.
APPLICATION FILED JAN. 31, 1911.

1,165,664.

Patented Dec. 28, 1915.

4 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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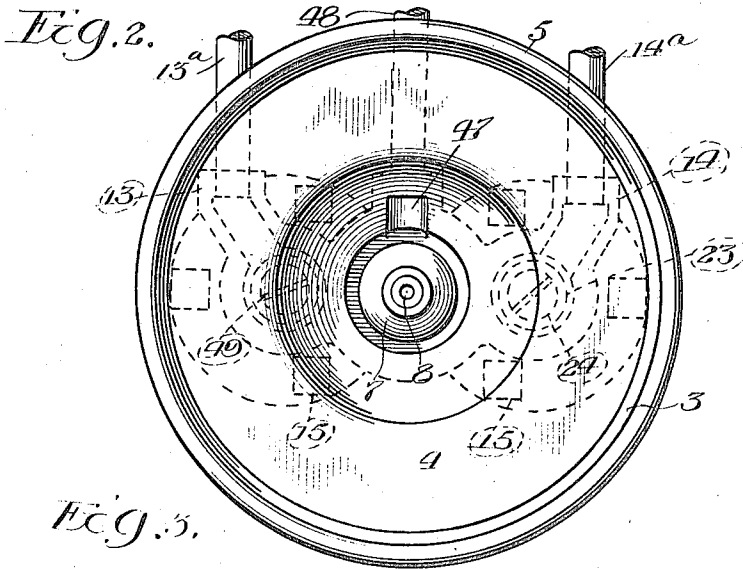


Fig. 3.

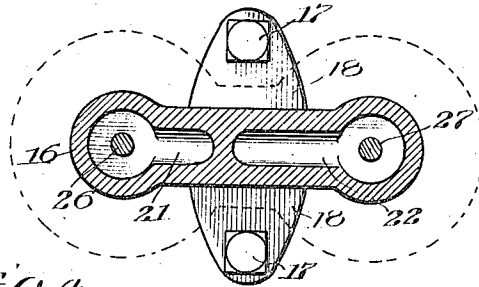
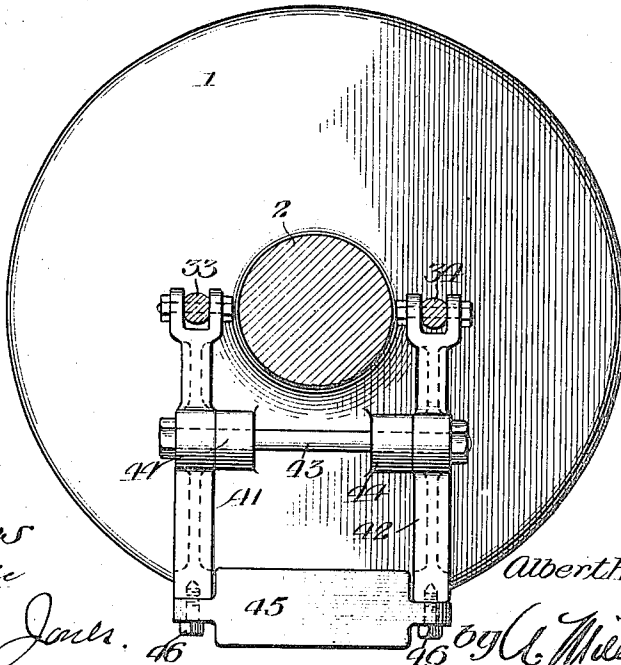


Fig. 4.



Witnesses

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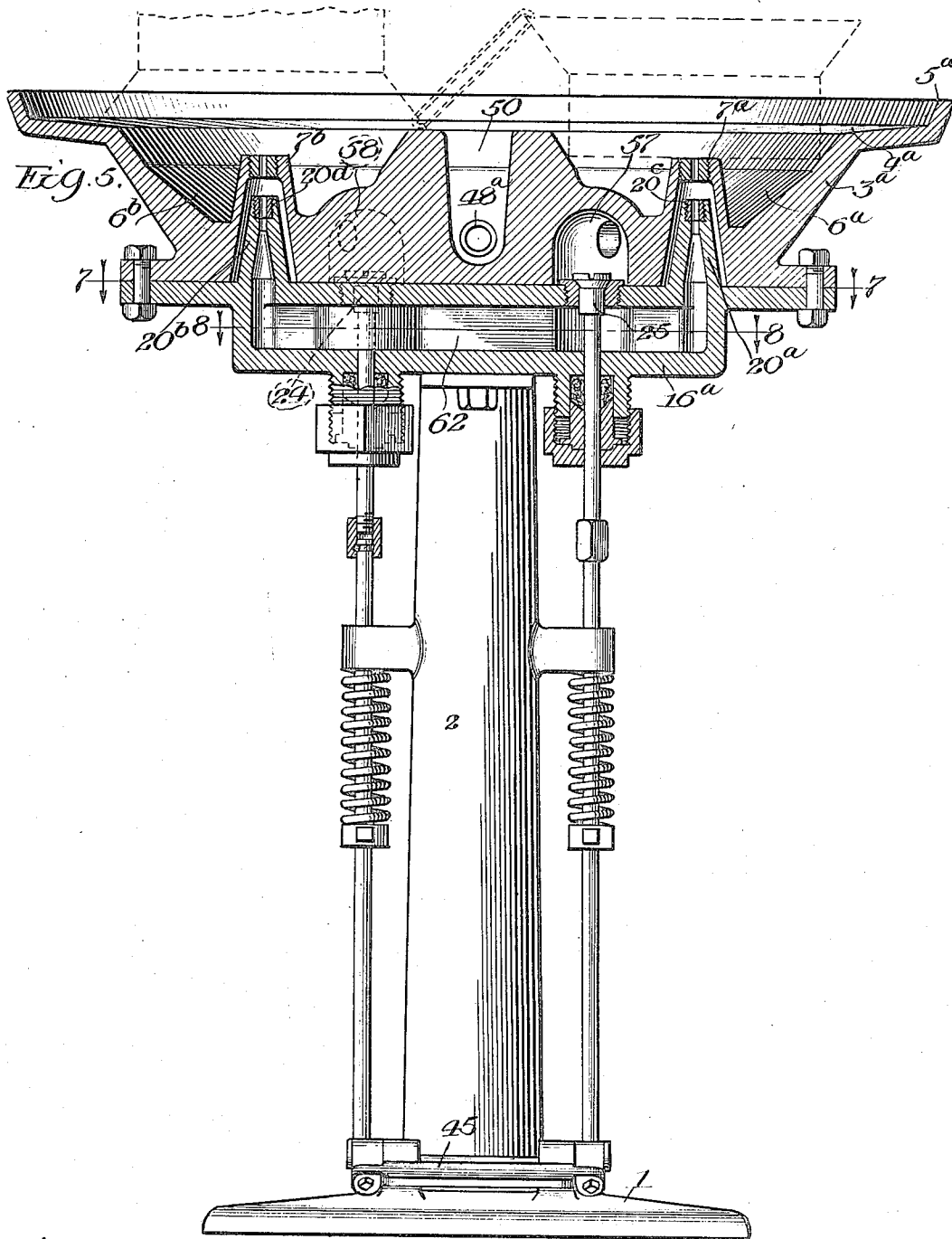
By C. Miller & Co., Attys.

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4 SHEETS—SHEET 3.



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1,165,664.

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4 SHEETS—SHEET 4.

Fig. 6.

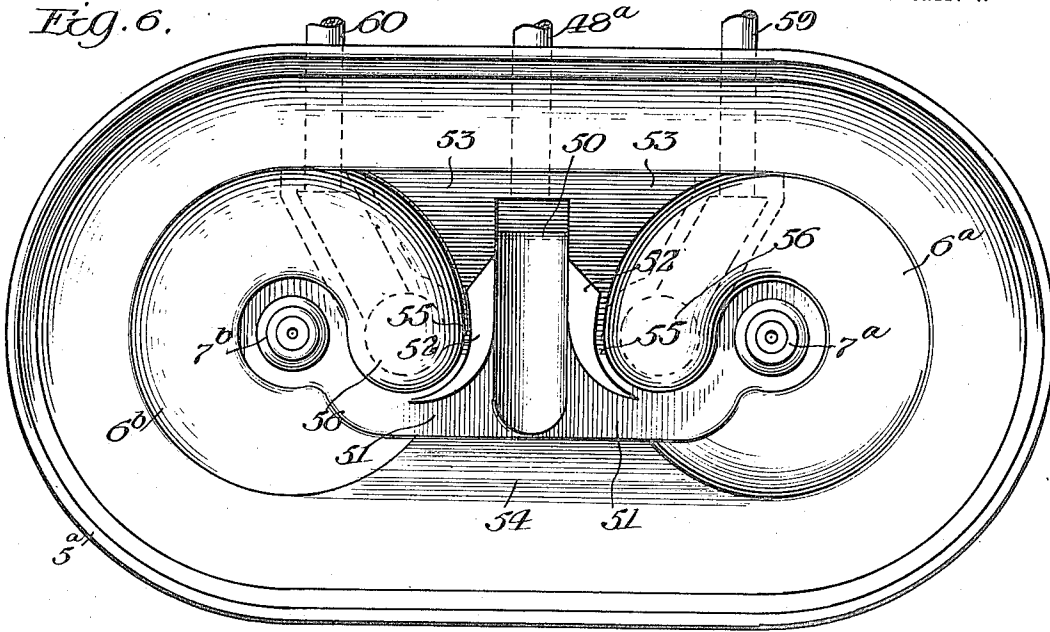


Fig. 7.

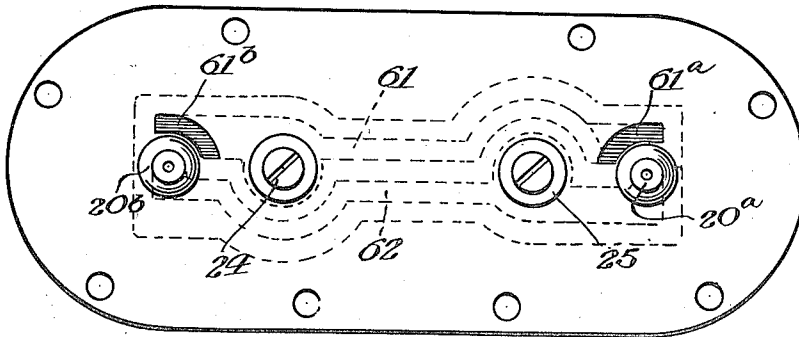
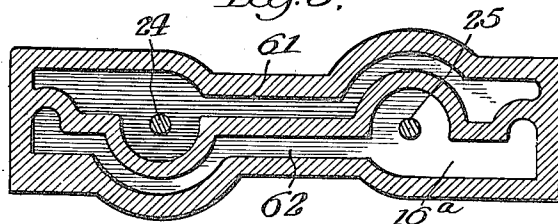


Fig. 8.



Witnesses

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UNITED STATES PATENT OFFICE

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CAN-WASHING MACHINE.

1,165,664.

Specification of Letters Patent.

Patented Dec. 28, 1915.

Application filed January 31, 1911. Serial No. 605,733.

To all whom it may concern:

Be it known that I, ALBERT HOMER GOODHUE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Can-Washing Machines, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to can washing machines and its principal object is to provide a simple, practical and inexpensive type of machine of this general class, and at the same time to allow for the easy and ready washing, rinsing, and sterilizing of the can.

In a patent issued to me July 5, 1910, No. 963,219, I have set forth and claimed a can washing machine embodying certain of the general features of construction and operation of the machine herein set forth. In the present application I show, describe and claim certain other or additional features not set forth in my aforesaid patent.

The features forming the invention of the present application relate more especially to the construction by which the fluid, such as water or steam, or a mixture of both, can be supplied and used, and to the mechanism by which this supply is controlled.

There are certain other features of invention, as will hereinafter appear.

I also shown a type of machine adapted for double service,—that is adapted to wash two cans or a can and a cover, or two covers simultaneously.

In the accompanying drawings Figure 1 is a vertical section of a can washing machine embodying my present invention; Fig. 2 is a plan view of said machine; Fig. 3 is a cross sectional view taken on line 3—3 and Fig. 4 is a cross section taken on line 4—4, also in Fig. 1; Fig. 5 is a view partly in elevation and partly in vertical section, of a double machine,—that is a machine adapted to wash two cans or a can and a cover, simultaneously; Fig. 6 is a plan view of the same; and Figs. 7 and 8 are sections taken on lines 7—7 and 8—8 in Fig. 5.

The machine shown comprises a base 1, preferably circular, and a pedestal or upright 2, rising from the base 1, and preferably made integral therewith. At the top of the pedestal 2 is the support 3 for the milk can, or other article to be cleansed. This can support 3 is preferably made with

a sloping top surface or floor 4, surrounded by an outwardly inclined upwardly projecting rim 5 and having a central bowl-like portion 6, from the middle of which rises the conical shaped nozzle 7, from which the various fluids are projected to wash the can and perform other operations incidental to the use of the device. The nozzle 7 is provided with a central member or plug 8, forming the outlet orifice of the device. This plug 8 can have a threaded connection with the nozzle 7, so as to permit the change or replacement of the plug 8, whenever desired, should the outlet orifice of the device become worn or enlarged by usage or otherwise. The can support 3 is desirably formed by a separate member or casting 9. This member 9 is provided with a conical duct 10, forming the outlet passage for the nozzle 7, and is also provided with inlet chambers 11 and 12, having coupling extensions 13 and 14, whereof the coupling 13 is connected to a water supply pipe 13^a, and the coupling 14 to a steam supply pipe 14^a. This member 9 is removably or detachably secured, in position at the top of the device by bolts 15—15, upon an intermediate member 16, which latter rests upon and is detachably secured to the pedestal 2 by means of bolts 17—17 passing through projecting lugs or ears 18 and 19, the former being on the intermediate member 16 and the latter on the pedestal 2. The intermediate member 16 is provided with a conical nozzle 20, which fits within the conical passage 10 in the member 9, leaving outlet space between itself and the interior walls of the nozzle 7. This member 16 is also provided with cross chambers 21 and 22, whereof the chamber 21 communicates with the conical passage 10 of the nozzle 7, and the chamber 22 with the interior of the nozzle 20. Valve seat plugs 23—23 are fitted into the member 16, as by screw threading them therein, and they afford communication between the chambers 11 and 21, and 12 and 22 respectively. Valves 24 and 25 are seated in the plugs 23—23 so as to open and close the ports or passages between the aforesaid chambers. The valves 24 and 25 have valve stems 26 and 27, respectively, extending down through stuffing boxes 28—28, formed with removable plugs 29—29 and separable caps 30—30, screw threaded to projections 31—31 formed on the under side of the member 16. Rotatable couplings 32—32 are provided at the lower

ends of the valve stems 26 and 27, preferably having screw threaded connections therewith and valve operating rods 33 and 34 are extended down from the couplings 32—32, being connected therewith preferably by pins 35—35 passing through the couplings 32—32 and engaging annular grooves 36 in the upper ends of the rods 33 and 34. This allows the valve stems 26 and 27 to be turned by hand by turning the couplings 32 so as to remove grit or dirt from the valve seats. At the same time the total length of the valve rods including the two parts 26 and 33, and 27 and 34, may be adjusted by these couplings 32 and their threaded connection with the rods 26 and 27.

The rods 33 and 34 extend down to substantially the base 1, passing through projections 37—37 on the pedestal 2, which projections serve as guides and supports for said rods. Coil springs 38—38 are arranged about the rods 33—34 and held under tension by collars 39—39 and the projections 37—37. Adjustment of said collars 39 to secure any desired adjustment in tension of said springs can be made by loosening the collars 39—39 by screw bolts 40—40 and adjusting and retightening the collars 39—39 accordingly. Operating levers 41 and 42 are arranged above the base 1 and pivotally mounted upon a cross rod 43, supported in bearings 44—44 conveniently formed integral with the base 1, the rear ends of the levers 41 and 42 being pivotally connected to the lower ends of the valve rods 33 and 34. A cross piece 45 forming a foot treadle is pivotally connected with the forward ends of the levers 41 and 42, as by screw bolts 46—46, forming a loose pivotal connection between said foot treadle 45 and the forward ends of said levers.

The top or upper member 9 is provided with an outlet 47, shown connected with an outlet or drain pipe 48. The tops of the valves 24 and 25 are provided with slots 49—49 by which said valves can be turned to connect or disconnect them with the couplings 32—32. The top 3 may be removed by disconnecting the bolts 15—15, and the intermediate member 16 may be removed by unscrewing the bolts 17 and couplings 32—32. It will be observed that the valves 24 and 25 are below the inlets 13 and 14 so that this positioning of said valves between said inlets and the nozzles causes steam and water pressure to be normally exerted upon said valves to hold them on their seats. This is a highly desirable feature as it insures the seating of the valves at all times and renders it impossible to have the machine injured by accidentally allowing steam to be left turned on when it is not in use.

The operation of the device is as follows: A can being placed upon the support 3, the operator depressed either one side or the

other or middle of the foot treadle 45, according to desire or necessity. By depressing one side, as for example the left hand side in Figs. 1 and 4, the water valve 24 will be lifted so as to allow water to enter the water chambers 11 and 21, and appear through the passage 10 and out the orifice 8 of the nozzle 7. The depression of the other end, that is the right hand end of the foot treadle 45, will cause a corresponding action on the part of the valve 25, allowing steam to enter the steam chambers 12 and 22, and pass up through the nozzle 20 and thence out through the orifice 8. By depressing the middle of the treadle 45, or in some other way depressing said treadle horizontally, both water and steam are allowed to enter their respective chambers and then pass to the nozzles, the result of which is that there is a mingling or mixing action of the steam and water, and a spray is ejected from the nozzle itself. This allows the operator to wash, rinse and sterilize the can by the proper use of steam or water or a mixture of both. This can be done, it will be seen, by the use of but one foot which can very easily be manipulated so as to operate the foot treadle in the desired way. The double nozzle arrangement permits a very effective mixture of the steam and water, the steam passing through the central nozzle drawing the water up with it through the interior of the outer nozzle. At the same time the use of either steam or water alone can be had very effectively. The valves can be easily removed to clean, repair or replace them, and this is permitted by the use of a screw driver simply turning the valve stems 26 and 27 from above, the top member 9 having first been removed. The valve seats can also be cleaned and repaired or replaced, and in fact the whole apparatus can be easily kept in a state of repair and proper condition. It can be taken apart very readily so as to get access to any member or part.

The machine shown in Figs. 5 and 8 inclusive has the same general construction as the machine just described so far as the pedestal and base of the machine are concerned, together with the valves and mechanism for operating the valves. This machine, however, has a top 3^a, adapted to support two different structures, such as a can and its cover, or two cans, so that the same may be simultaneously cleansed or washed. This top is of a generally oval shape structure, with two sides more or less alike, so that the two articles, the can and its cover for example can be set upon the top side by side, as indicated by dotted lines in Fig. 5. There is an oval shaped rim 5^a, extending clear around the top, and an oval shaped sloping floor 4^a, within the rim 5^a, and then within the floor 4^a are two bowl or basinlike

cavities, 6^a and 6^b, from the centers of which project nozzles 7^a and 7^b of the same general character as the arrangement of the preceding figures. A central trough 50 runs crosswise of the top 3^a and connects with a drain or outlet pipe 48^a. Trenches or gutters 51—51 extend from the centers of the basins 6^a and 6^b to the central trough 50, making a direct drain from said basins to the trough 50 and drain pipe 48^a. The portions 52—52 on opposite sides of the gutter 50 are elevated so as to form portions of the can supporting floor or structure. The portions 53—53 and 54 slope downwardly and inwardly, and small gutters or drains 55—55 extend to the gutters 51, forming channels or grooves around the elevated portions 56—56. Intermediate chambers 57 and 58 are formed in the top 3^a and connected to pipes 59 and 60 respectively, which are for the fluids to do the cleansing, such for example as steam and water. The sub-top or intermediate member 16^a, interposed between the pedestal 2 and the top 3^a, is provided with two nozzles, 20^a and 20^b, arranged to fit within the nozzles 7^a and 7^b. These nozzles 20^a and 20^b are preferably made with removable orifice plugs 20^c and 20^d, similar to the removable plugs previously referred to in connection with the other nozzles. This allows interchangeability of plugs with different sized orifices and so permits a proper or desirable proportioning of the water and steam. This intermediate member 16^a has two chambers 61 and 62, whereof the chamber 61 communicates with the nozzles 7^a and 7^b, through passages 61^a and 61^b, Fig. 7, and the chamber 62 communicates with the interior of the nozzles 20^a and 20^b, Figs. 5, 7 and 8.

The inlet chamber 57, for the steam, is to communicate with the chamber 62 by the operation of the valve 25, which is shown constructed and operated the same as the valve 25 of the machine, of Figs. 1 to 4, inclusive. The water inlet 58 is to communicate with the water chamber 61 by the valve 24 operating the same as the valve 24 of the other arrangement. Thus the machine can be operated by means of the foot treadle 45, and coöperating mechanism, as explained in connection with the other machine, to cause steam to enter both of the inner nozzles at substantially the same time, and also to cause water to enter both of the outer nozzles at substantially the same time, or else to cause both steam and water to flow simultaneously, from both nozzles. This permits the two articles resting upon the top to be simultaneously washed, cleansed, sterilized, or otherwise treated as may be desired.

It will be understood that changes and modifications can be made without departing from the spirit of the invention.

What I claim is:

1. A device of the class specified having an upper member 9 forming a support for the article to be cleansed, said member having a hollow nozzle 7, in combination with a second member arranged below the first-named member and having a nozzle 20 projecting within the nozzle 7 and having its orifice in line with the orifice of the nozzle 7, said lower member having chambers formed therein communicating with the interiors of both of said nozzles, said upper member having inlets for communication with said chambers, and valves with operating mechanism for controlling communication between said inlets and said nozzles.

2. A device of the class specified, comprising a top capable of supporting two articles, two sets of nozzles, one set for each article, two chambers for two different kinds of fluids, one of said chambers being connected to corresponding nozzles of both sets, and the other chamber being connected to the other nozzles thereof, valves controlling the admission of fluid to said nozzles and chambers, and means whereby said valves may be operated alone or together.

3. A device of the class specified, having a top constructed with an oval floor for supporting two articles, said top also having elevated portions 52—52 for supporting the inner ends of said articles, a central gutter 50, and drains 51—51 and 55—55 leading to said gutter 50.

4. A device of the class specified, having top and intermediate members, whereof the top member is provided with a supporting floor for a plurality of articles, and is also provided with nozzles for the same, and whereof the intermediate member is provided with other nozzles to fit within the aforesaid nozzles, and is also provided with longitudinally extending chambers 61 and 62 for the admission of liquid communicating with said outer and inner nozzles respectively, said chambers lying below the level of said floor and opening out on to the lower face of said top member, said intermediate members serving to close said chambers at the bottom.

5. A washing machine comprising in combination, two separable members one above the other, the lower one of said members having two chambers therein and two valve apertures communicating with said chambers, the upper of said members having two chambers overlying said valve apertures, each of said members having a nozzle on the upper member surrounding the nozzle on the lower member, said lower member having a passage for connecting one of its chambers with the nozzle on the upper member, and valves for controlling said valve apertures.

6. In a washing machine in combination,

a member having a nozzle thereon and having two separate chambers formed therein, one of said chambers communicating with said nozzle, said member also having a passage in its upper face connecting with the other of said chambers, having two valve apertures in its upper face, one for each chamber, and a second member provided with a nozzle which connects with said passage.

- 10 7. A can washing machine comprising in combination, top and intermediate members, each having a nozzle, whereof the top member is provided with chambers for the

admission of liquid, said chambers opening out on to the bottom face of said top member and being closed at the bottom by said intermediate member, said intermediate member having passages connecting said chambers with said nozzles. 15

In witness whereof, I hereunto subscribe my name this 25th day of January A. D., 1910. 20

ALBERT HOMER GOODHUE.

Witnesses:

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HAZEL JONES.