

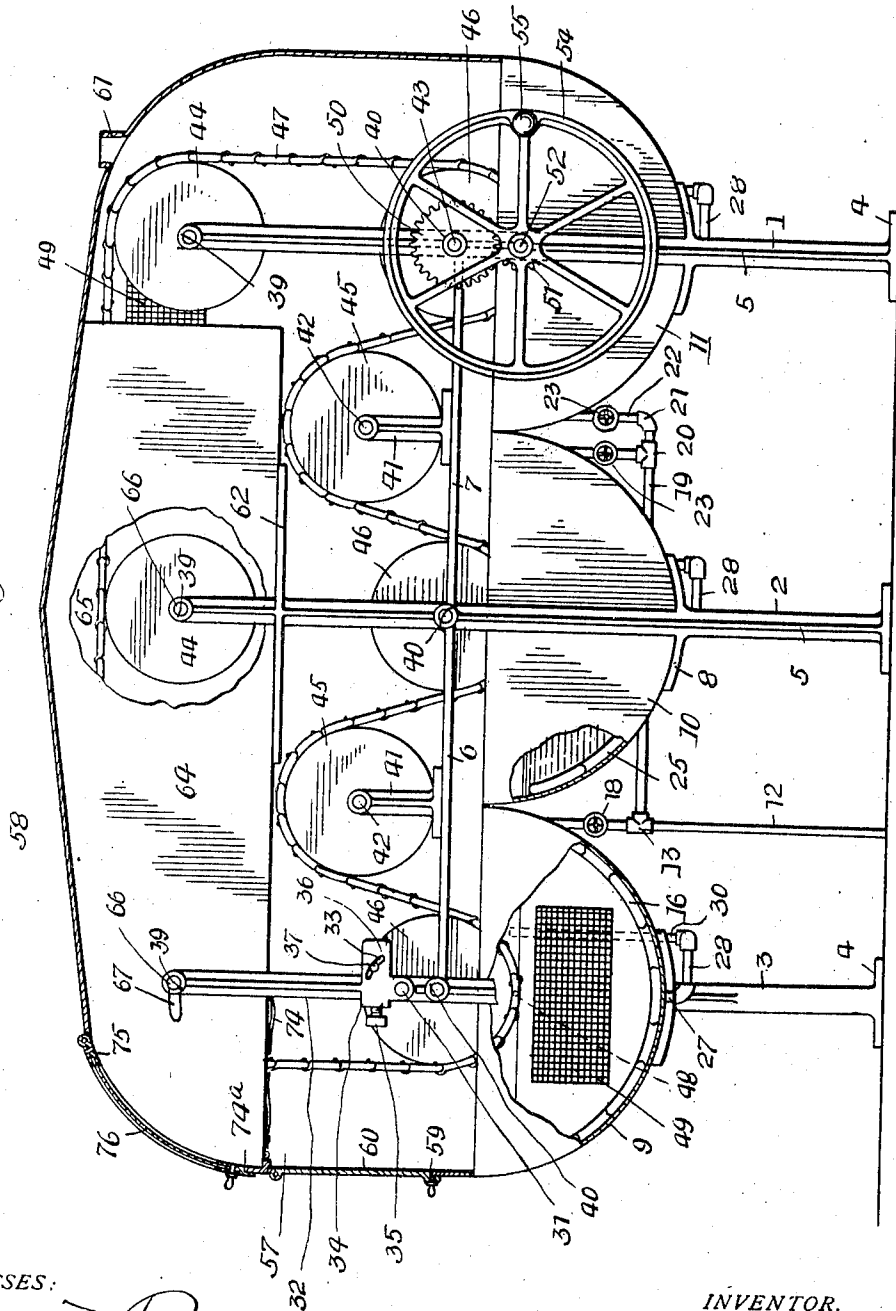
H. SCHAUB.
 WASHING AND DRYING MACHINE.
 APPLICATION FILED MAY 22, 1911.

1,006,410.

Patented Oct. 17, 1911.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

Samuel Payne
R. H. Butler

INVENTOR.

H. Schaub.

BY

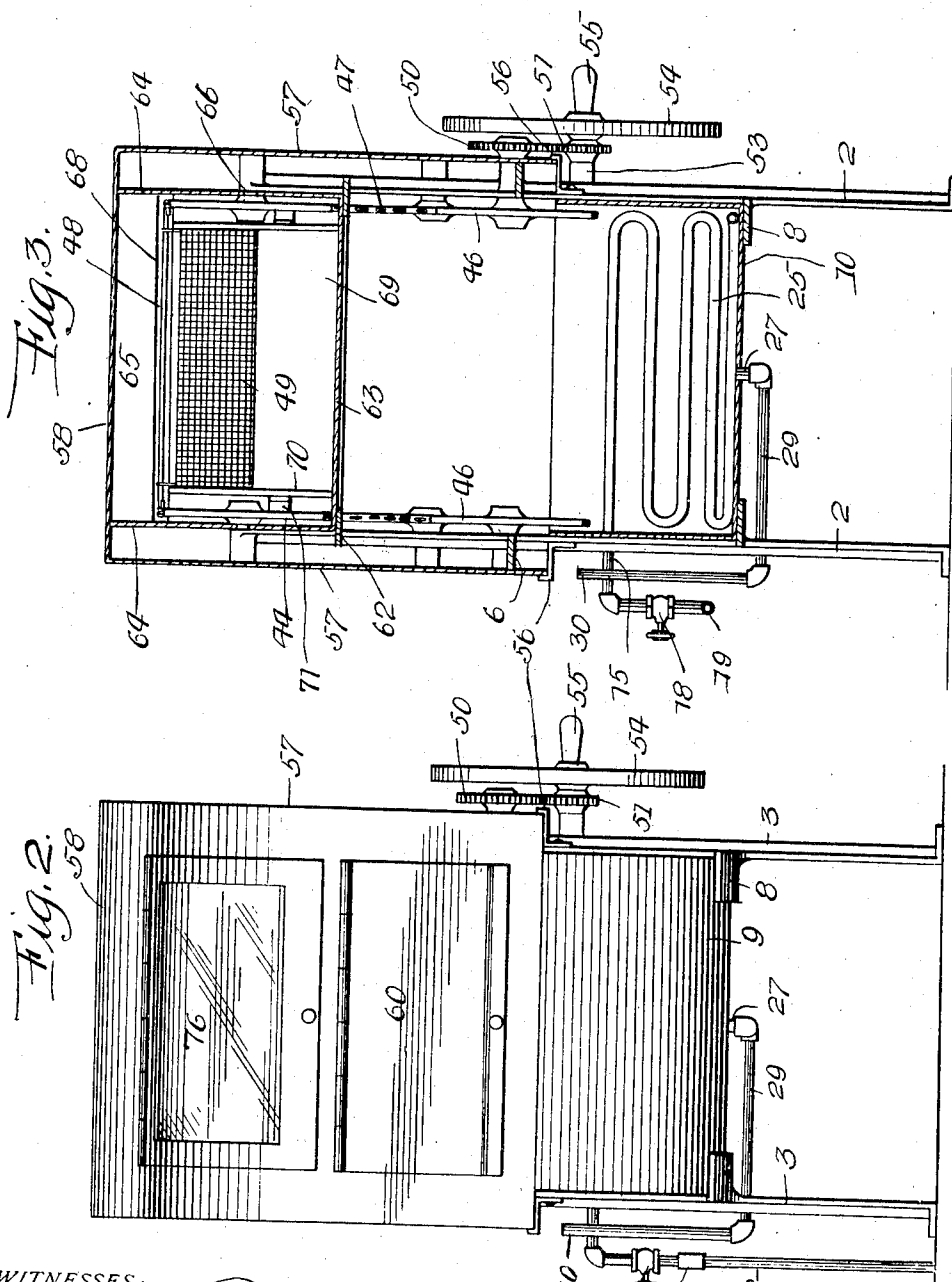
H. C. Everett & Co.
 ATTORNEYS

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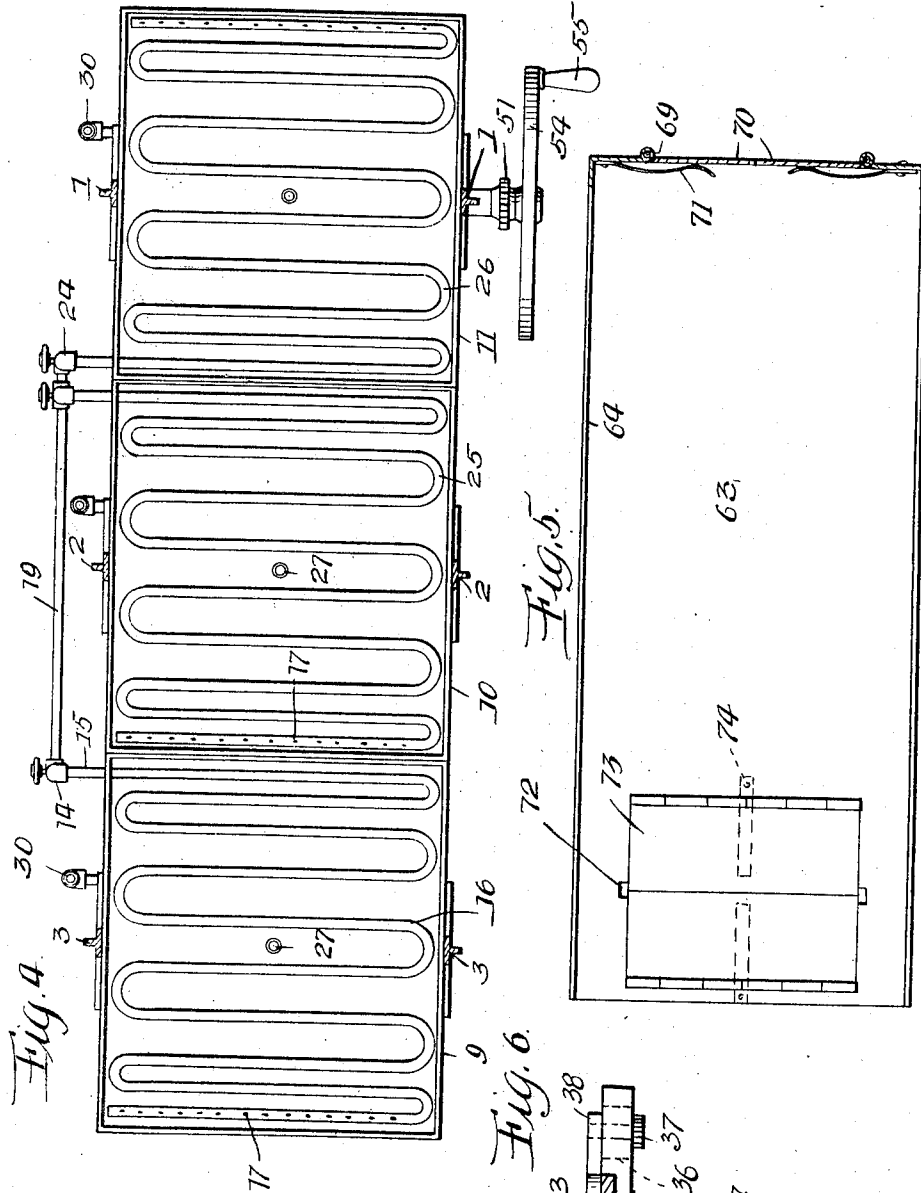
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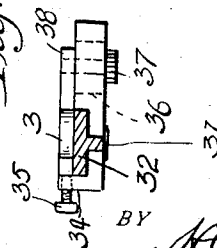
3 SHEETS—SHEET 3.



WITNESSES:

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Fig. 6.



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UNITED STATES PATENT OFFICE.

HENRY SCHAUB, OF BLOOMINGDALE, OHIO.

WASHING AND DRYING MACHINE.

1,006,410.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed May 22, 1911. Serial No. 628,636.

To all whom it may concern:

Be it known that I, HENRY SCHAUB, a citizen of the United States of America, residing at Bloomington, in the county of Jefferson and State of Ohio, have invented certain new and useful Improvements in Washing and Drying Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a washing and drying machine especially designed for washing and drying dishes, although the machine can be used for washing and drying bathing suits and other garments.

The primary object of my invention is to furnish a washing machine with a heating apparatus for heating water and drying the articles placed in the machine, the apparatus being arranged whereby articles placed in the machine will be subjected to the action of bodies of water at various temperatures and then to a steaming or drying process before the articles are removed from the machine.

Another object of this invention is to provide a dish washing machine that can be advantageously used in hotels and large restaurants for cleansing a large number of dishes in an expeditious and economical manner.

With the above and other objects in view the invention resides in the novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings wherein like numerals denote corresponding parts throughout the several views, in which:—

Figure 1 is a longitudinal sectional view of the machine with parts thereof broken away, Fig. 2 is an end view of the machine, Fig. 3 is a vertical cross sectional view of the same, Fig. 4 is a horizontal sectional view of the machine showing the water receptacles or tubs, Fig. 5 is a horizontal sectional view of a drying compartment, and Fig. 6 is an enlarged horizontal sectional view of one of the uprights of the machine.

A machine in accordance with this invention includes a casing provided interiorly with a drying chamber having a normally closed door at each end, a washing tank in the casing, a conveyer within the drying chamber and casing and adapted to move through the normally closed end doors of

the drying chamber and through the tank, and a door in the casing opening into the drying chamber whereby articles may be removed from the conveyer and as illustrating an embodiment of the invention, reference is had to the drawings in detail in which the machine includes three sets of equally spaced uprights 1, 2 and 3, having feet 4 and vertical reinforcing ribs 5. The set of uprights 3 is of a less height than the sets of uprights 1 and 2, and the upper ends of the uprights 3 are connected to the uprights 2 by longitudinal girders 6 and the uprights 1 and 2 by longitudinal girders 7. The inner sides of the uprights 1, 2 and 3 are provided with supports 8 for semi-cylindrical tubs or receptacles 9; 10 and 11 having the upper ends thereof in a horizontal plane and the longitudinal axis of each receptacle in a line with each set of uprights.

The reference numeral 12 denotes a steam supply pipe provided with a T 13 and an elbow 14. Connected to the elbow 14 is the outer end 15 of a coil of tubing 16 arranged within and upon the bottom of the receptacle 9, said coil of tubing having the opposite end thereof closed and provided with equally spaced perforations 17. The convolutions of the coil of tubing 16 are arranged transversely of the receptacle 9. The steam supply pipe is provided with a valve 18 to control the supply of steam to the receptacle 9, and connected to the T 13 is a longitudinal branch pipe 19 having a T 20 and an elbow 21. Connected to the T 20 and the elbow 21 are vertical pipes 22 having valves 23 and the upper ends of the pipes 22 are provided with elbows 24 to which are connected the outer ends of coils of tubing 25 and 26 arranged within the receptacles 10 and 11 respectively. The coils of tubing 25 and 26 are similar to the coil of tubing 16, and the valves 23 are adapted to control the supply of steam to the receptacles 10 and 11. In some instances the steam supply pipe 12 can be used for supplying water to the receptacles 9, 10 and 11 and after the receptacles have been filled, it can then be utilized for supplying steam to heat water within the receptacle to a desired temperature.

The bottom of each receptacle is provided with a central drain pipe 27, each pipe having connections 28 with a transverse pipe 29 extending to one side of the machine.

Loosely mounted upon the outer end of the pipe 29 is a discharge pipe 30, said pipe in a vertical position retaining water within the receptacles and when in a lowered position allowing the water to drain from the receptacles.

Pivotaly connected to the upper ends of the set of uprights 3 by pins 31 are adjustable extensions 32 having the lower ends thereof provided with enlargements 33. The enlargements 33 have side extensions 34 at one end thereof for set screws 35, said set screws engaging the upper edges of the uprights 3. The opposite ends of the enlargements 33 are provided with arcuate slots 36 and extending through these slots are set screws 37 engaging in extensions 38 of the uprights 3. By adjusting the set screws 35 the extensions 32 can be swung out of alignment with the uprights 3 and then by setting the screws 37 the extensions 32 can be locked in a fixed and adjusted position. The elements 31 to 38 inclusive constitute a take-up or tension device for an endless conveyer that will be hereinafter described.

The sets of uprights 1, 2 and 3 and the extensions 32 of the uprights 3 are provided with oppositely disposed bearings 39 and 40, the bearings 39 being arranged at the upper ends of the uprights 1 and 2 and the extensions 32 and the bearings 40 at the upper ends of the uprights 3 and to a point above the upper edges of the receptacles 10 and 11 on the uprights 2 and 1 respectively.

The girders 6 and 7 are provided with oppositely disposed bearings 41 and journaled in the bearings 41, 40 and 39 are shafts 42 and 43, said shafts having the inner ends thereof provided with sprocket wheels 44, 45 and 46 for endless sprocket chains 47. The chains pass under the wheels 46 and over the wheels 44 and 45. The sprocket chains 47 are connected by transverse rods 48 and suspended from these rods are detachable baskets 49, preferably made of inter-woven wire.

The shaft 43 is prolonged and provided with a gear wheel 50 meshing with a small gear wheel 51 mounted upon a shaft 52 journaled in a bearing 53 carried by one of the uprights 1. The shaft 52 is adapted to be driven from a suitable source of power or by hand, in which instance the shaft is provided with a large hand wheel 54 having a crank 55.

The sets of uprights 1, 2 and 3 at a point adjacent to the upper edges of the receptacles 9, 10 and 11 are provided with outwardly extending brackets 56 and resting upon these brackets are the lower edges of the side walls 57 of an oblong hood 58. This hood has one end thereof provided with a doorway 59 normally closed by a hinged door 60, said doorway and door permitting of easy access being had to the interior of

the hood for removing the baskets 49 when in proximity to the doorway 60. The top of the hood at one end thereof has a vent pipe 61 to allow steam and fumes to escape from the machine. The set of uprights 2, adjacent to the upper ends thereof, are provided with inwardly projecting brackets 62 and mounted upon these brackets is a drier casing, comprising a bottom plate 63, side walls 64 and an end wall 65, said end wall being arranged adjacent to the set of uprights 1 and the roof and other end wall of the drier casing are formed by the end wall and roof of the hood 58.

The side walls 64 of the drier have openings 66 and the segment-shaped slots 67 formed therein provide clearance for the shafts 42 journaled in the bearings 39 of the uprights 2 and the extensions 32, the arcuate slots 67 providing sufficient clearance for an adjustment of the extensions 32 when taking up any slack in the sprocket chains 47 constituting the endless conveyer of the machine.

The end wall 65 of the drier casing is provided with a transverse slot 68 and with a doorway 69 that is normally closed by hinged doors 70, said doors being retained in a closed position by a flat spring 71, carried by the inner side of the wall 65. The slot 68 provides clearance for the rods 48 and the doors 70 are swung open by the impact of the baskets 49 to admit said baskets to the drier casing.

The bottom plate 63, at the opposite end of the drier casing from the doors 70 is slotted, as at 72 and provided with hinged doors 73 normally maintained in a closed position by springs 74 secured to the underneath side of the bottom plate 63. The slot 62 and the doors 73 provide clearance for the endless conveyer and the baskets thereof.

The end wall of the hood 58 forming the end wall of the drier casing is provided with a doorway 74 normally closed by a hinged door 75 having a transparent plate 76. This transparent plate permits of the operator of the machine observing a basket in proximity to the doorway 74, and by opening the door 75 the basket can be removed from the conveyer or the contents removed from the basket.

In the operation of the machine the receptacles 9, 10 and 11 are adapted to contain water or other cleansing solutions, and through the medium of the coils of tubing 16, 25 and 26, the liquids within the receptacles can be maintained at different temperatures. For instance, the liquid in the receptacle 9 can be maintained at a very high temperature and contain a detergent for expeditiously removing foreign matter from articles immersed therein. The receptacle 10 can contain liquid at a lower temperature and with a less powerful detergent,

while the receptacle 11 can contain clear hot water for rinsing articles immersed or passed through the water. The temperature of the liquids within the receptacles and the character of the liquids depends entirely upon the articles to be cleaned within the machine.

The washing of dishes can be intermittently carried on and the only time that it is necessary for a cessation in the operation of the machine is when the baskets are to be filled or emptied, are removed or placed in the machine. By revolving the end wheel 54 the endless conveyer is moved to carry the baskets into and out of the receptacles, and after the baskets have passed out of the receptacle 11, they are carried upwardly into the drier casing. This casing is heated by the steam that escapes from the coils of tubing 16, 25 and 26, also from the surface of the liquids contained within the receptacles, and as the conveyer slowly passes through the drier casing, the contents of the baskets are thoroughly dried. In some instances the conveyer can be stopped, whereby the baskets will be immersed in the liquids within the receptacles and other baskets held within the drier casing, and it is in this connection, that the

drier casing can be operated with a special heating apparatus, particularly when the machine is used for washing and drying clothes.

The machine in its entirety is made of light and durable metal, and while in the drawings there is illustrated a preferred embodiment of the invention, it is to be understood that the structure elements thereof are susceptible to such changes as fall within the scope of the appended claim.

What I claim is:—

A machine for the purpose set forth comprising a casing provided interiorly with a drying chamber having a normally closed door at each end, a washing tank in the casing, a conveyer within the chamber and casing adapted to move through the normally closed end doors of the drying chamber and through the tank, and a door in the casing opening into the drying chamber whereby articles may be removed from the conveyer.

In testimony whereof I affix my signature in the presence of two witnesses.

HENRY SCHAUB.

Witnesses:

A. L. BAIR,

HARRIET HUNTSMAN.