A. B. HERR.

CAN WASHING MACHINE.

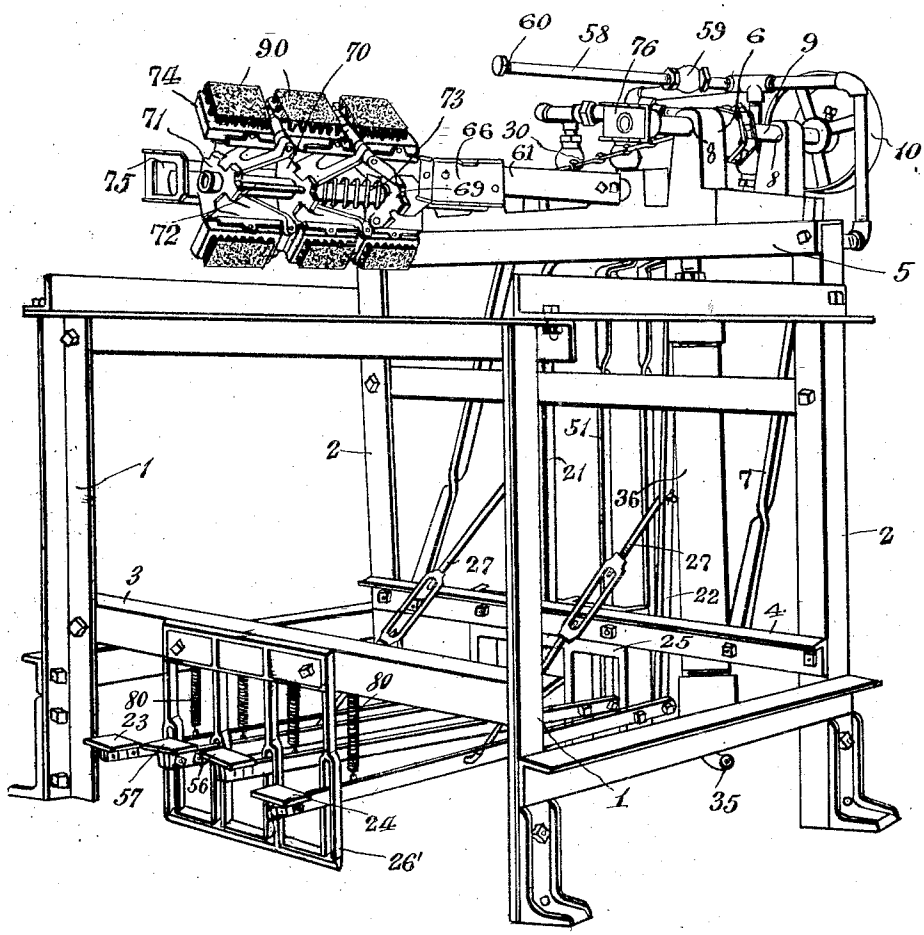
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1,340,768.

Patented May 18, 1920.

5 SHEETS—SHEET 1.

FIG 1



INVENTOR

Abram B. Herr

WITNESSES

John S. Mosemann

Elam M. Royer.

BY

C. Albert Unger

ATTORNEY

A. B. HERR.

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5 SHEETS—SHEET 2.

FIG 4

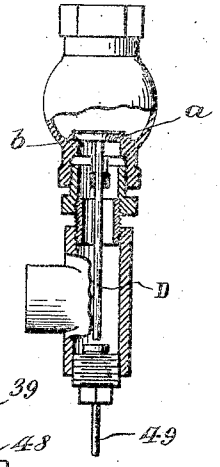
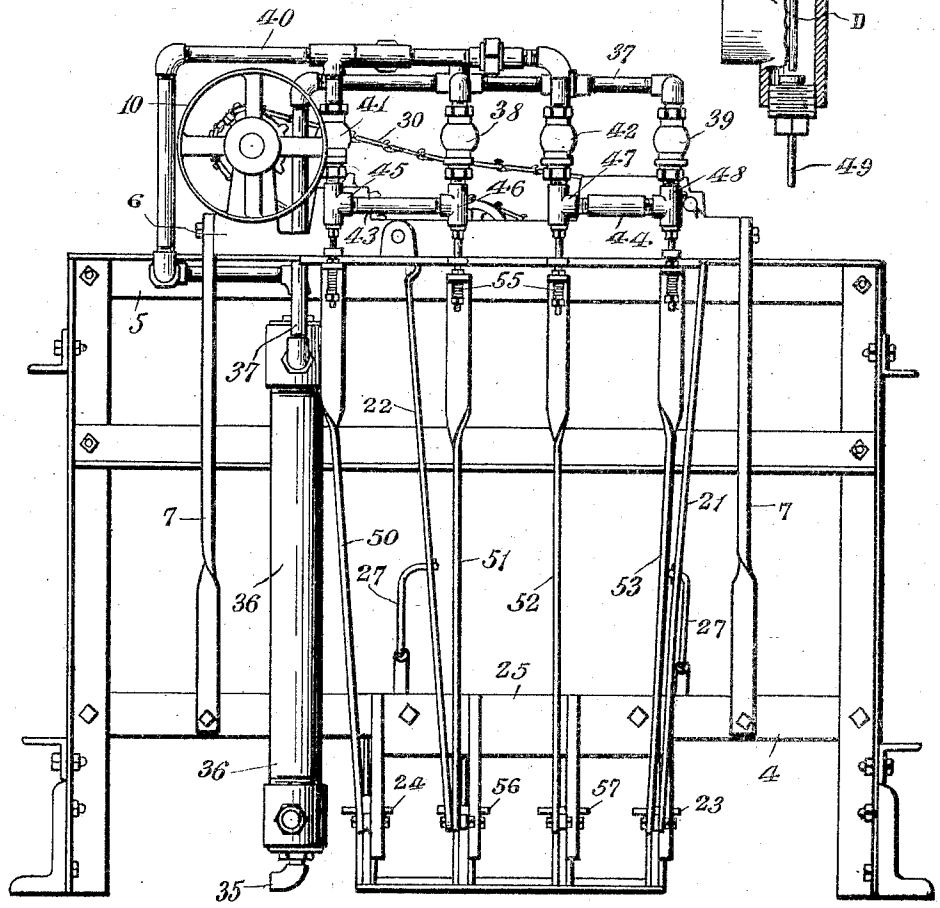


FIG 2



WITNESSES

John N. Mosemann

Elam M. Royer.

INVENTOR

Abram B. Herr

BY C. Albert Seager

ATTORNEY.

A. B. HERR.

CAN WASHING MACHINE.

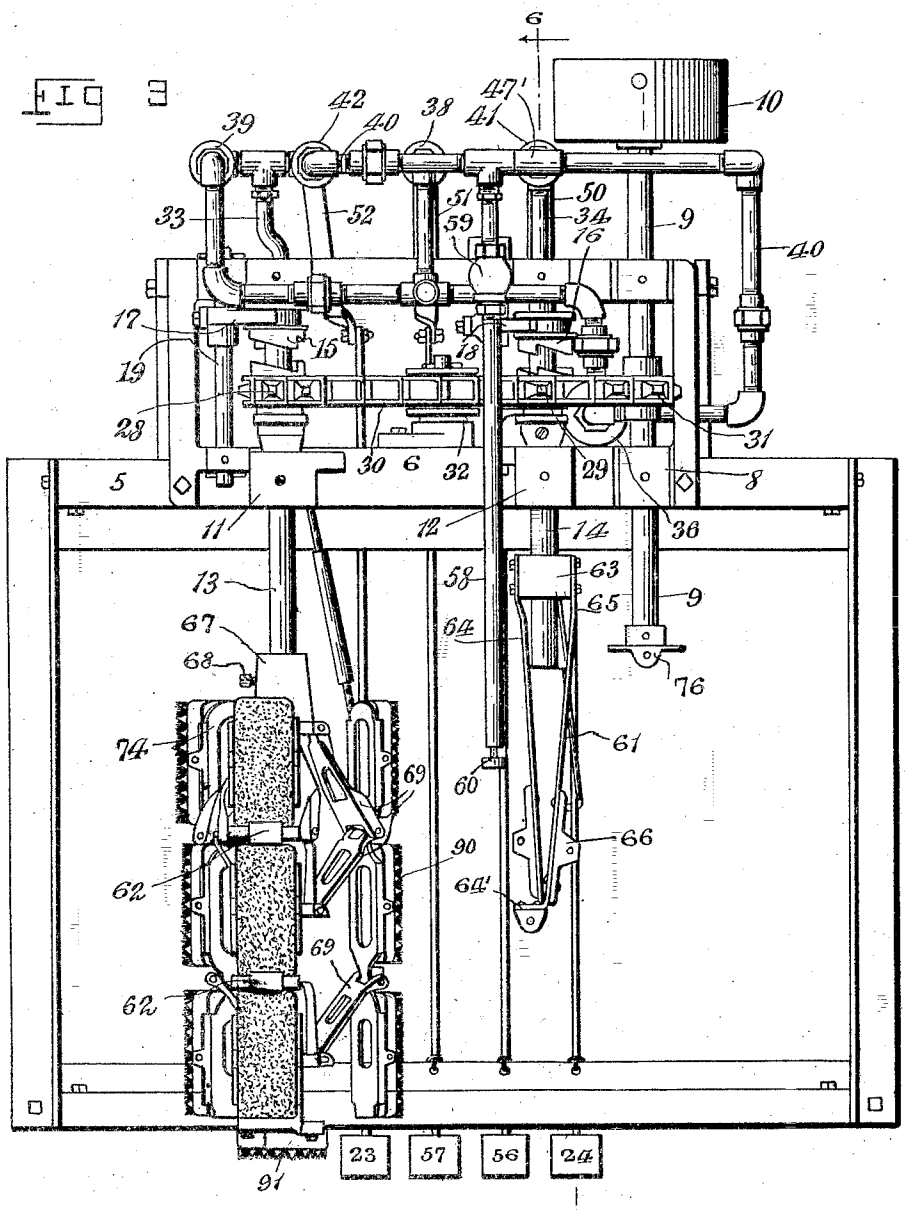
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5 SHEETS—SHEET 3.

FIG 3



WITNESSES

John N. Moorehouse

Edith M. Rogers

INVENTOR

Abram B. Herr

BY

C. Albert Unger

ATTORNEY

A. B. HERR.

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5 SHEETS—SHEET 4.

Fig. 7.

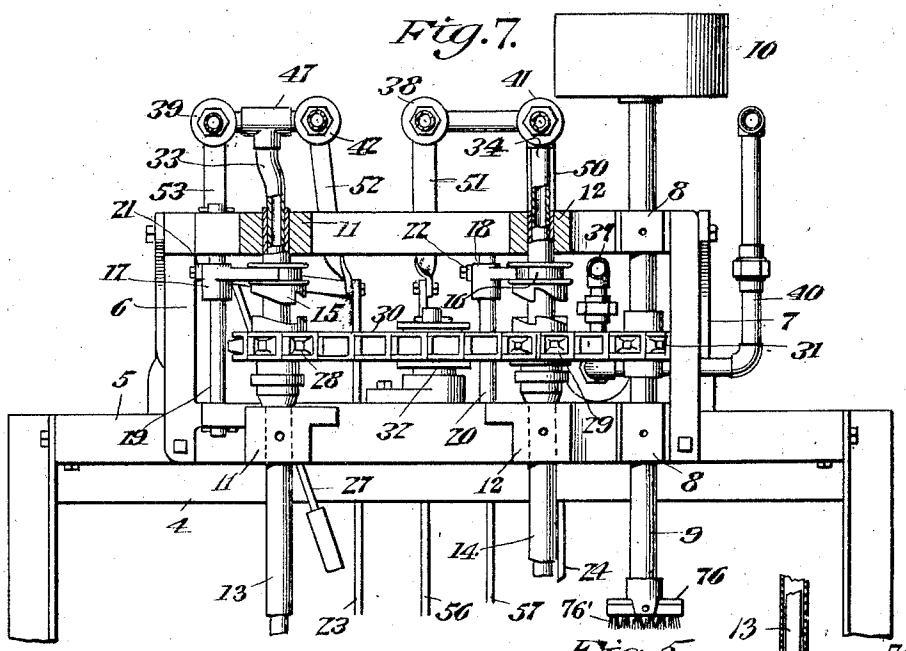


Fig. 5.

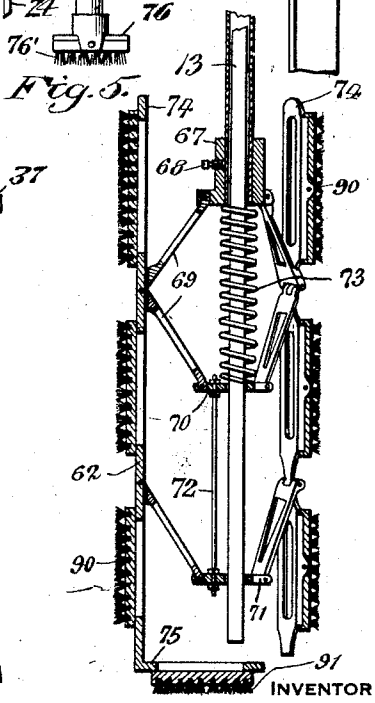
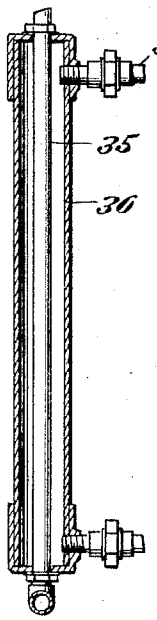


Fig. 8.



INVENTOR

ABRAM B. HERR

WITNESSES

E. M. Springer

BY Victor J. Evans

ATTORNEY

A. B. HERR.

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5 SHEETS—SHEET 5.

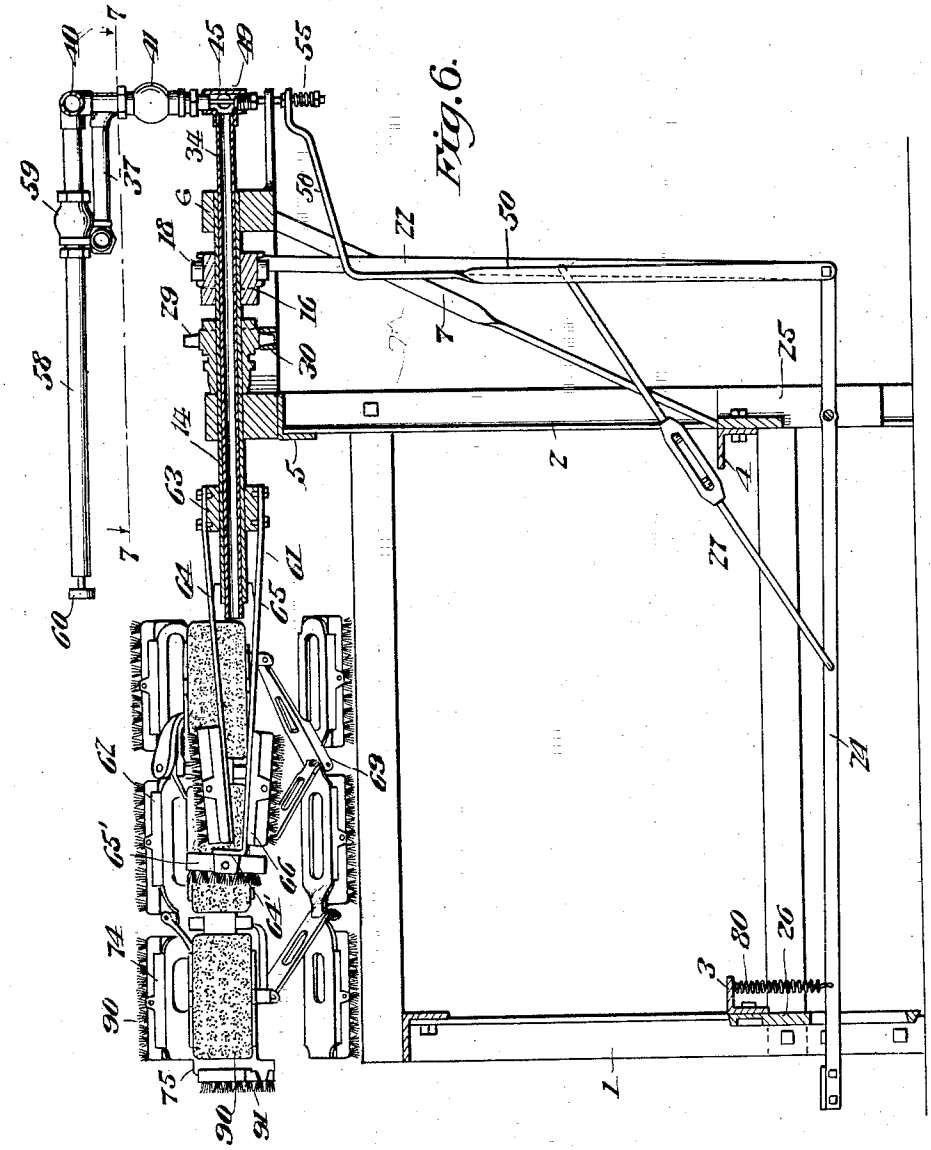


Fig. 6.

WITNESSES

M. A. Shipe.

E. M. Springer.

INVENTOR

Abram B. Herr

BY Victor J. Evans

ATTORNEY

UNITED STATES PATENT OFFICE.

ABRAM B. HERR, OF LANCASTER, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD TO ELAM M. ROYER AND ONE-THIRD TO JOHN H. MOSEMAN, BOTH OF LANCASTER, PENNSYLVANIA.

CAN-WASHING MACHINE.

1,340,768. Specification of Letters Patent. Patented May 18, 1920.

Application filed April 23, 1914. Serial No. 833,911.

To all whom it may concern:

Be it known that I, ABRAM B. HERR, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain new and useful Improvements in Can-Washing Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to can washing machines, and one object is to provide a machine of the type indicated which shall include a tubular brush shaft, means for rotating the shaft, and means for supplying steam or water to the shaft, and to the brushes carried thereby.

A further object is to provide means for effecting the rotation of the shaft, with means for simultaneously controlling the supply of a cleaning fluid to the shaft.

A still further object is to provide a plurality of brush shafts, with means for effecting the rotation thereof, and simultaneously controlling the supply of a cleaning fluid to the respective shafts, and means for controlling independently the supply, to the shafts, of a fluid of a different character.

With the foregoing and other objects in view, the invention consists in the novel construction, combination, and arrangement of elements hereinafter described and claimed.

In the accompanying drawings,

Figure 1 is a perspective view of the machine,

Fig. 2 is a rear elevation,

Fig. 3 is a top plan view,

Fig. 4 is a section of one of the valves,

Fig. 5 is a view partly in section, showing the means for mounting certain of the brushes,

Fig. 6 is a vertical section on line 6—6 of Fig. 3,

Fig. 7 is a horizontal section on line 7—7 of Fig. 6,

Fig. 8 is a vertical section of the heating device.

In the construction of the machine I employ a rectangular frame, higher at the rear than at the front, and including corner posts 1, 1, and other corner posts 2, 2, and horizontal braces 3 and 4. To the upper ends of the posts 2 is secured a bar 5, upon which is mounted a casting 6, which is further secured by the brace rods 7.

The casting 6 is formed with bearings 8, within which is rotatably mounted a hollow shaft 9, extending partly over the top of the frame, and to the rear of this shaft is secured a driving pulley 10.

Casting 6 is provided with bearings 11, within which is mounted the main can-washing hollow shaft 13, while bearings 12 serve to mount the small can-washing shaft 14. These shafts extend over the frame in parallel relation to each other.

Shafts 13 and 14 have secured thereon, respectively, the slidable clutch members 15 and 16, actuated, respectively by the yokes 17 and 18. The latter are connected with rods 19 and 20, actuated in turn by rods 21, 22, and foot levers 23, 56 (Fig. 2). These foot levers are pivoted to a casting 25, secured to the rear brace 4, and their forward ends extend through the guide frame 26′, secured to the front brace 3. The levers are connected with rods 21, 22 by rods 27.

The clutch members 15 and 16 are designed to engage clutch elements formed on the sprocket wheels 28, 29, rotatably mounted on shafts 13 and 14, respectively. The sprocket wheels are driven by chain 30 from a sprocket wheel 31 secured to shaft 9, the chain passing over idler 32 adjustably mounted on the casting 6.

The hollow shafts 13 and 14 have extending therethrough pipes 33 and 34, (Figs. 3 and 7), shaft 13 inclosing the pipe first named. These pipes are connected by fittings, such as 47′ with the pipe 40.

The heater comprises a steam pipe 35, within a water pipe 36, the water being carried by pipe 37 through valves 38, 39 and pipes 33, 34, (Fig. 3) to the brush shafts 13 and 14. The steam passes through pipe 40, valves 41, 42, pipes 43, 44, to the pipes 33, 34.

The valves 38, 39, 41, and 42 are each supplied with T-connections, these elements being shown at 45, 46, 47 and 48, and a stem 49 (Fig. 4) passes through each connection, for operating the valve therein. The valves are normally retained in a closed position by springs 55.

Rods 50, 51, 52 and 53 are connected with

the valve stems, and the rods are also connected with foot levers 24, 56, 57 and 23.

In order to provide a steam jet for use in sterilizing the can, I employ a pipe 58 located as shown, the jet being under the control of valve 59 and push rod 60.

Levers 23 and 56, and rods 21, 22 (Fig. 2) control clutch elements 15 and 16 through the connections specified, thereby providing for the driving of the brush shafts. The lower ends of rods 21 and 22 are pivoted to rods 53 and 51, respectively, and levers 23 and 56 control the clutches and the rotation of the hollow shafts and also control two of the valves (admitting water).

Levers 24 and 56 control respectively valves 41 and 38, these valves admitting steam and water, respectively, through connections 45, 46 to the hollow shaft 14 (Fig. 6). Levers 57 and 23 control, respectively, valves 42 and 39, as shown in Fig. 2, and these valves admit steam and water, respectively, to hollow shaft 13 (Fig. 3).

Clutch members 15 and 16 are normally out of operative position, and all of the valves are normally closed, springs 80 serving to restore the levers to normal position, when released by the foot.

One of the valves for admitting steam is shown on an enlarged scale in Fig. 4, the same type of valve being used for admitting water. The pressure of the fluid retains the check valve *a* on its seat *b*, and the stem 49 is forced against the rod D, and raises the valve, allowing the fluid to flow to the hollow shaft with which the valve casing is connected.

Brush holders 62 and 61 are carried respectively by hollow shafts 13 and 14 and are rigidly mounted thereon. Brush holder 61 includes a block 63 rigidly secured to hollow shaft 14, and secured to the sides of the block are spring arms 64, 65, the outer ends of which approach each other. Holders 66 for the brushes are secured near the ends of arms 64, 65, and one of the arms is longer than the other and is deflected at 64′. A brush 65′ (Fig. 6) for cleansing the base of the can is mounted on portion 64′. These brushes are for receptacles smaller than those to be cleaned by the brushes on the other shaft. Upon the insertion of the brushes into the receptacles, the former are forced outwardly by centrifugal action, during rotation, and engage the inner sides of the receptacles. The brushes and their holders collapse when rotation ceases, and the receptacles are then withdrawn.

Referring to the brush holder 62 (Fig. 5), the collar 67 of said holder is made rigid with reference to shaft 13 by means of a set screw 68, and the collar is formed with ears receiving the hinged elements 69. Rings 70 and 71 are slidable on shaft 13 and are held in fixed relation to each other by rod 72, so that while the space between collar 67 and the rings may vary during the rotation of the shaft, the distance between the rings remains the same. A spiral spring 73, located as shown, maintains the brushes in a folded position when the shaft is stationary.

Brush holders 74 are secured to elements 69, and the brushes 90 carried by the holders have their outer surfaces parallel with shaft 13. One of these brush holders carries an extension 75 mounting a brush 91 for cleaning the bottom of the receptacle. The end of power shaft 9 carries a brush holder 76 for mounting a brush 76′ (Fig. 7), for use as may be desired.

What I claim is—

1. In a machine of the class described, a brush holder, a hollow shaft for rotatably mounting the brush holder, means for supplying steam or water to the interior of said shaft, a clutch member carried by said shaft, a clutch member rotatable on said shaft, means for driving the clutch member last mentioned, means for placing the clutch members in engagement, said means including a foot lever, a rod connected therewith, a rod connected with the rod first named and with one of the clutch members, said rod first named having connection with means for controlling the admission of fluid to the hollow shaft.

2. In a machine of the class described, a brush holder, a hollow shaft for rotatably mounting said holder, a conducting member communicating with the interior of the shaft for admitting steam or water thereto, a plurality of coöperating clutch members, one of said members being rigidly mounted on the shaft and the other being rotatably mounted thereon, means for driving said shaft through the medium of the clutch members, and means for controlling the relative position of the clutch members, said means including a slidable yoke member, a rod connected therewith, a foot lever, a second rod, said second rod being connected with the foot lever and with the rod first mentioned, a valve for admitting fluid through the interior of the hollow shaft, said rod last named having connection with the valve and operating the latter, and means for returning the foot lever and valve to normal position.

3. In a machine of the class described, a rotatable hollow shaft, means for supplying water, means for supplying steam, a valve controlling the supply of water, a valve controlling the supply of steam, a plurality of foot levers, means for connecting one of said levers with one of the valves, a rod for connecting the other of said le-

vers with the remaining valve, means controlling the rotation of the hollow shaft and including a plurality of clutch members mounted on said hollow shaft, and a rod connecting said controlling means with the rod first named and actuating one of the valves simultaneously with the actuation of the shaft controlling means.

4. In a machine of the class described, a horizontally mounted rotatable and hollow shaft, a clutch mounted on the hollow shaft and driving means for controlling the rotation of the shaft, a rod and a yoke member for throwing the parts of the clutch into operative position, driving means, a plurality of pipes vertically arranged, valves located in said pipes and controlling fluids of different character, said valves including stems projecting downwardly, a spring held rod connected with each of said stems, a plurality of foot levers, means for connecting each of said levers with one of the rods, and means for connecting one of the rods last named with the rod controlling the clutch.

5. In a machine of the class described, a horizontally mounted rotatable hollow shaft, means for supplying water and means for supplying steam thereto, said means including a plurality of vertically arranged pipes, valves therein, the stems of the valves projecting downwardly, a plurality of foot levers controlling the valves, means controlling the rotation of the hollow shaft and including a plurality of clutch members mounted on said shaft, a rod connected to each valve stem and connected to one of the levers, a rod connected with one of the rods first named and with the means controlling the operation of the hollow shaft, and means for returning the foot levers to normal position when operated.

ABRAM B. HERR.

Witnesses:
JOHN H. MOSEMANN,
I. C. ARNOLD.