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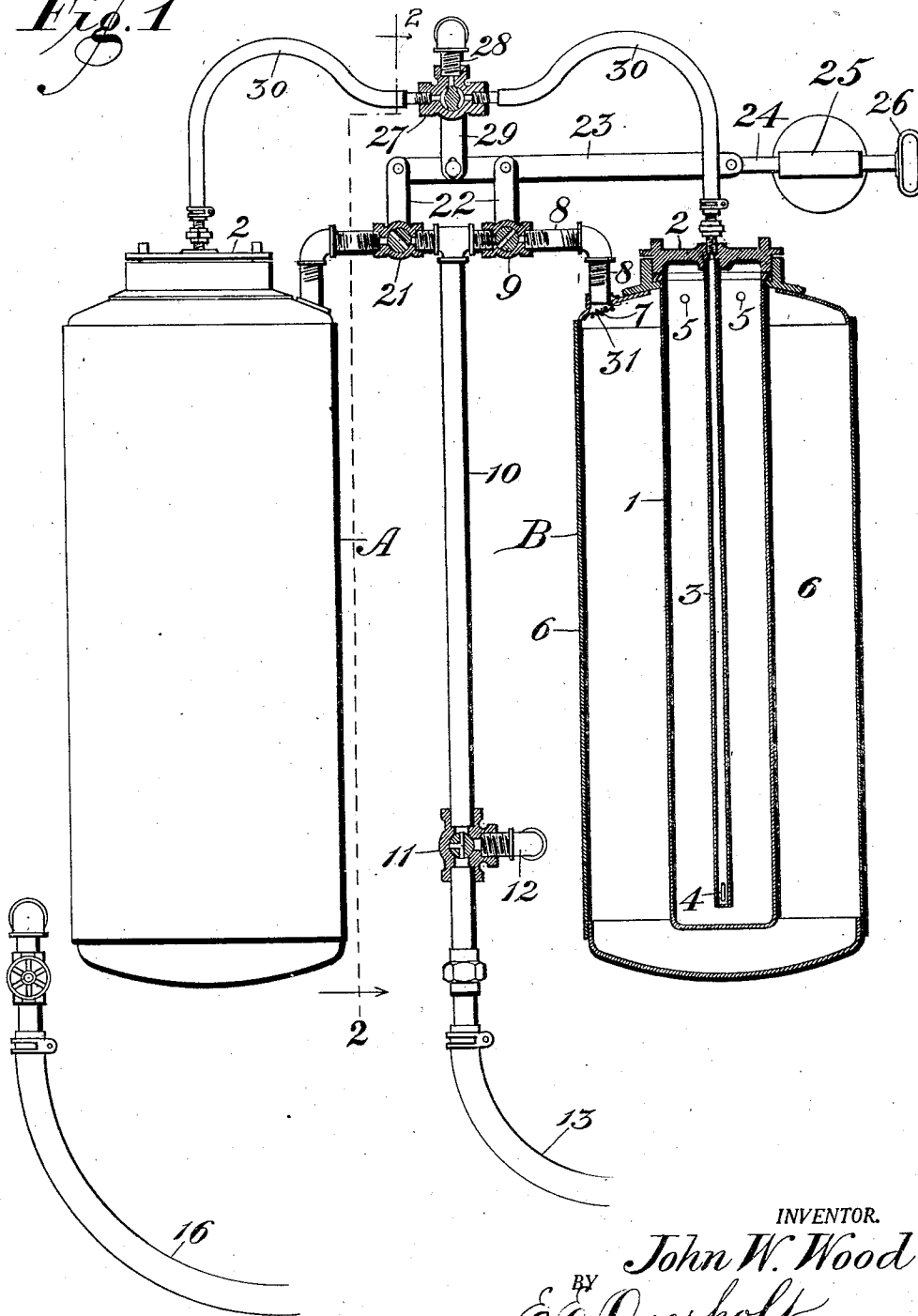
J. W. WOOD

HIGH PRESSURE WASHING MACHINE

Filed Jan. 24, 1924

2 Sheets-Sheet 1

Fig. 1



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Fig. 2

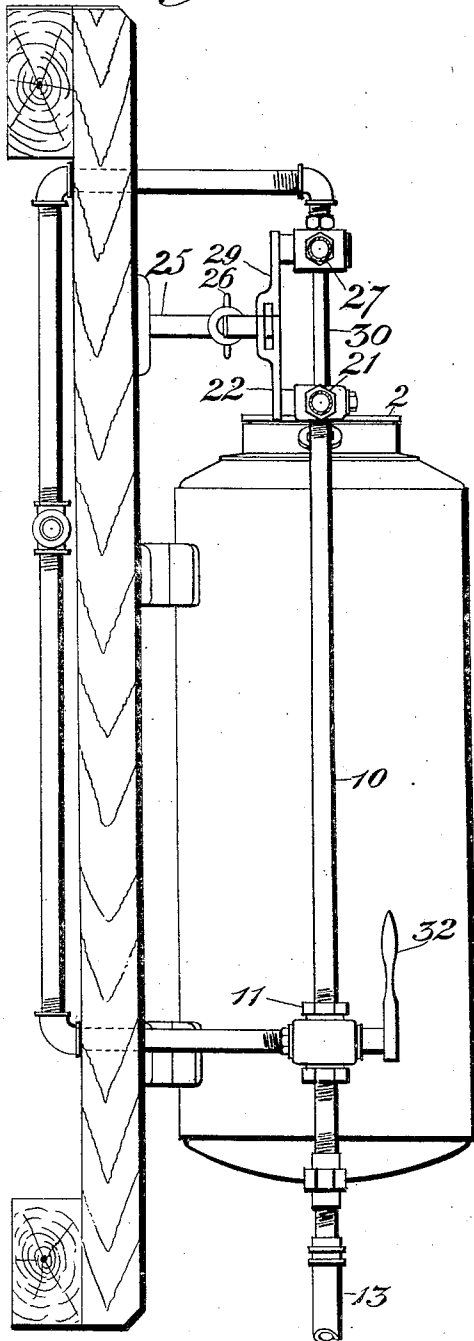
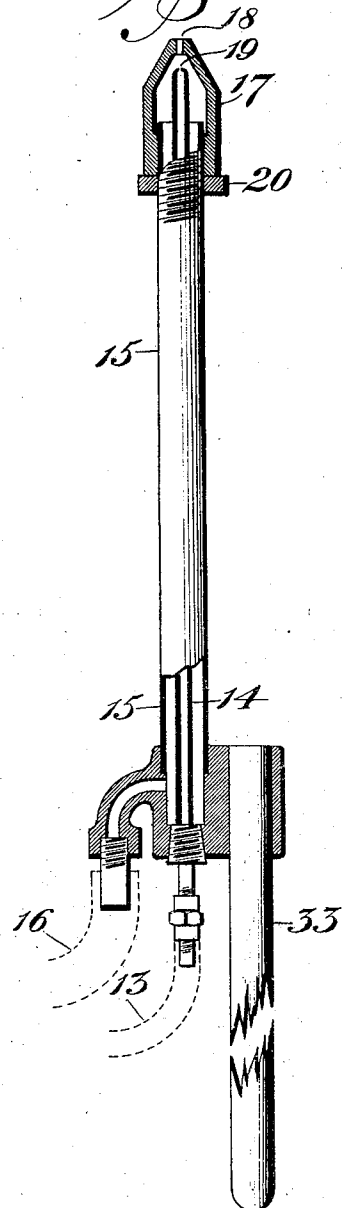


Fig. 3



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JOHN W. WOOD, OF MOBILE, ALABAMA.

HIGH-PRESSURE WASHING MACHINE.

Application filed January 24, 1924. Serial No. 688,346.

To all whom it may concern:

Be it known that I, JOHN W. WOOD, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in High-Pressure Washing Machines, of which the following is a specification.

My invention relates to washing machines, and more particularly to machines for washing automobiles, ships' decks and the like, where the work is to be done on a surface, or on material spread upon a surface.

My object is to provide a machine having one or more receptacles for the soap or other cleansing agent, or agents, to be used, and means for mixing the cleansing agent with water, and delivering the mixture under pressure through a nozzle upon the surface of the thing to be cleaned.

A further object is to provide means for simultaneously cutting off the cleansing mixture and turning on instead thereof water, or other fluid, for rinsing, the arrangement being such as to permit a rapid alteration of the cleansing agent and the rinsing agent, when such alteration is found desirable.

Another object is to provide an intermediate reservoir between the outlet pipe-line and the chamber in which the cleaning solution (consisting ordinarily of soap and water) is mixed; this intermediate reservoir serving as a settling chamber in which impurities and undissolved particles of soap may settle; and also as a buffing chamber for causing a more even delivery of the cleaning mixture into the outlet pipe-line.

Still another object is to provide a device of the character described, having a plurality of reservoirs for different cleaning solutions, said reservoirs being connected to each other and to the water inlet by mechanism for connecting either reservoir desired with the outlet pipe-line, and simultaneously therewith disconnecting the other reservoir, the whole complex operation being effected by the movement of a single operating element.

Other objects will appear in the subjoined description.

An important feature of the invention consists of an elongated soap receptacle having an inlet pipe, hereafter designated as

a mixing tube, extending down through the cover of the receptacle to a point near the bottom thereof, said pipe being connected at its upper end with a water supply pipe, and having one or more openings at its lower end for the escape of water therefrom into the surrounding soap receptacle, said receptacle having openings near its upper end leading out into an outer surrounding receptacle or reservoir, said outer receptacle being in communication with the outlet pipe-line through which the soap-and-water mixture is delivered upon the work; said pipe-line having a three-way valve through which the mixture passes on its way to the work, said valve having connection with an independent water-supply pipe; whereby either the soap mixture or pure water may be delivered upon the work, at the will of the operator; and by a backward and forward manipulation of the valve, the soap mixture and the water may be alternately delivered upon the work through a hose having a suitable nozzle at its outer end.

In addition to the above, the nozzle is provided with a branch for connection with a compressed air or steam supply at the will of the operator; whereby, whenever desired, additional driving force may be applied to the cleaning mixture just before it reaches the work; and in the case of steam being used heat is also applied.

The invention consists in certain novel features of construction and arrangement of parts, as will be hereinafter described and claimed, reference being had to the accompanying drawings, in which:—

Fig. 1 is a side elevation of my improvement.

Fig. 2 is a section taken on the line 2—2 of Fig. 1, looking in the direction of the arrow; and,

Fig. 3 is a side elevation, on an enlarged scale, of the nozzle, certain parts being broken away to disclose the internal construction.

Referring further to the drawings, A and B indicate the two tanks as a whole, both of which are alike, the tank B being shown in section to disclose the internal construction. In this section the numeral 1 indicates the soap receptacle which is provided with a water-tight cover 2 having a central open-

ing from which depends a mixing tube 3 which extends down to near the bottom of the soap receptacle, and is provided with one or more openings 4 at its lower end. Near
 5 its upper end this receptacle has a plurality of small openings 5 leading out into a surrounding chamber 6 which forms a storage reservoir for the cleaning solution. At its upper end this chamber or reservoir has an
 10 outlet 7 through a pipe 8 and a valve 9 into the outlet pipe 10. This pipe 10, in turn, is provided with a three-way valve 11, which is also connected with an independent water-supply pipe 12. Attached to the
 15 lower end of the pipe line 10 is a hose 13, which may be provided at its outer end with a suitable nozzle, such, for instance, as that illustrated in Fig. 3 of the drawings, which has a central tube 14, surrounded by an
 20 outer tube 15, the tube 14 being designed for connection with a rubber hose 16, for the introduction of compressed air or steam into the outer chamber 15. The nozzle is provided at its outer end with a terminal cap
 25 17 having a small central opening 18. The inner tube 14 projects beyond the outer tube 15 comparatively near to the opening 18 of the cap 17, and has a small opening 19 at its extreme end in alignment with the opening
 30 18 of the cap. The cap has threaded engagement with the outer tube 15 to provide means for varying the distance between the openings 18 and 19.

The cap is further provided with a jamb
 35 nut 20 for locking the cap in any desired position of adjustment relatively to the opening 19.

The valve 21 bears the same relation to the tank A that the valve 9 bears to the tank
 40 B. These two valves have operating levers 22 connected to the inner end of a longitudinally-moving operating bar 23, which is pivotally connected at its outer end to an aligned bar 24, which in turn is loosely supported in a bracket 25 secured to a wall or
 45 any suitable stationary support, and has at its outer end an operating handle 26.

From the arrangement thus far described it will be seen that a longitudinal movement
 50 of the bar 23 will simultaneously operate the valves 9 and 21, which have their openings set at right angles to each other, so that when one is open the other is closed, so that only one of the tanks A and B can be in communication with the outlet-pipe-line 10 at one
 55 time.

The two-way valve 27 is connected with a water-supply pipe 28 for supplying water to the tanks, always only one at a time; and
 60 this valve has an operating lever 29, also connected to the operating bar 23, so that this inlet valve also moves in unison with the outlet valves 21 and 9, and is so arranged as to admit water into either tank as the outlet
 65 valve of that tank is opened.

The supply valve 27 is connected with the mixing tubes 3 by means of the rubber hose connections 30.

The outer compartment of each tank is provided over its outlet with a screen or
 70 strainer 31 for straining the cleaning mixture before it leaves the storage reservoir 6.

The valve 11 has an operating handle 32.

The nozzle has a wooden handle 33 for
 75 handling the same when steam is used.

The operation of the device is as follows:—A proper movement of the operating lever 23 will open the desired one of the outlet valves (21 and 9) leading from the
 80 respective tanks A and B, and will simultaneously therewith operate the valve 27 to admit water from the water supply-pipe 28 into the mixing tube 3 of the tank whose outlet valve is open, and the water admitted into the tube 3 will pass out through the opening
 85 4 at the lower end of the tube into the lower end of the soap chamber 1, and thence up through the soap, mixing therewith as it goes, to the top of the soap chamber and out through the discharge openings 5 into the
 90 storage reservoir 6 and thence through the strainer 31 and the valved outlet pipe 8 into the pipe line 10, and thence through the valve 11 and on into the hose 13 to the inner chamber 14 of the nozzle. As the solution
 95 escapes from the opening 19 at the extremity of the inner chamber close to the opening 18 of the nozzle cap, it is attacked by the steam or compressed air delivered from a source of supply through the hose 16 into
 100 the outer chamber 15 of the nozzle, so that the solution is delivered with great force (if desired) and corresponding effectiveness upon the work, cleaning out every crack and
 105 cranny and corner and angle attacked by it.

By a backward and forward manipulation of the lever 32 of the valve 11, the soap solution and pure water are alternately applied to the work, which is found to give
 110 most satisfactory results on dirty jobs, since the water clears the surface of everything that has been loosened from it, and thus gives the solution the best possible chance at the remaining dirt.

Cleaning fluid suitable for different kinds
 115 of work may be kept in the different tanks, ready for use as need requires.

If at any time it be found advantageous to alternately apply to the work cleaning fluids of different composition contained in the different tanks, that may be easily done
 120 by simply moving the operating bar 23 back and forth, thus alternately throwing the tanks A and B into communication with the outlet pipe-line 10.

When the device is out of use, the valve-operating bar 23 is moved into the position
 125 shown in Fig. 1, which closes all the valves leading to and from the tanks, and thus closes the tanks air-tight so that no evapora- 130

tion can take place to harden or deteriorate any of the contents of the tanks.

Having now described my invention, what I claim as new and desire to protect by Letters Patent is:

1. In a device of the character described, a closed soap receptacle having a discharge opening at the upper end thereof; a mixing tube extending down centrally therethrough to a point near the bottom thereof, said tube being provided near its lower end with an opening, and at its upper end with means for valved connection with a supply of water under pressure; a closed chamber forming a reservoir surrounding the soap receptacle, and into the upper portion of which said discharge opening leads; said reservoir having in its upper portion a valved outlet for the escape of its contents to the work; a pipe line leading from said valve toward the work; and a three-way valve in said pipe line for connecting therewith a water-supply pipe.

2. In a device of the character described, a closed soap receptacle having a discharge opening at the upper end thereof; a mixing tube extending down centrally therethrough to a point near the bottom thereof, said tube being provided near its lower end with an opening, and at its upper end with means for valved connection with a supply of water under pressure; a closed chamber forming a reservoir surrounding the soap receptacle, and into the upper portion of which said discharge opening leads; said reservoir having in its upper portion a valved outlet for the escape of its contents to the work; a pipe line leading from said

valve toward the work; a three-way valve in said pipe line for connecting therewith a water supply pipe; a hose connection leading from said pipe line; and a nozzle at the end of the hose for delivering the cleaning substance upon the work; said nozzle having additional means for the introduction thereof of fluid under pressure in addition to the cleaning materials delivered thereinto from the pipe line.

3. A device of the character described, comprising a plurality of tanks, and means for preparing therein cleaning solutions, said tanks each having means for valved connection with a water supply under pressure and valved connection at its upper end with a common outlet pipe; and an operating lever connected with all of said valves for simultaneously and alternately opening the connections with either tank while closing the connections with the other; whereby cleaning mixture can be delivered alternately from the two tanks.

4. A device of the character described, comprising a plurality of tanks with means for preparing therein cleaning solutions; said tanks each having valved connection with a water supply under pressure, and valved connection at its upper end with a common outlet pipe; and means connected with said valves for simultaneously opening the connections with one tank and closing the connections with the other both at a single operation, said means being adapted to operate alternately on the two tanks.

In testimony whereof I affix my signature.

JOHN W. WOOD.