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APPLICATION OF DETERGENT TO AN AUTOMOBILE

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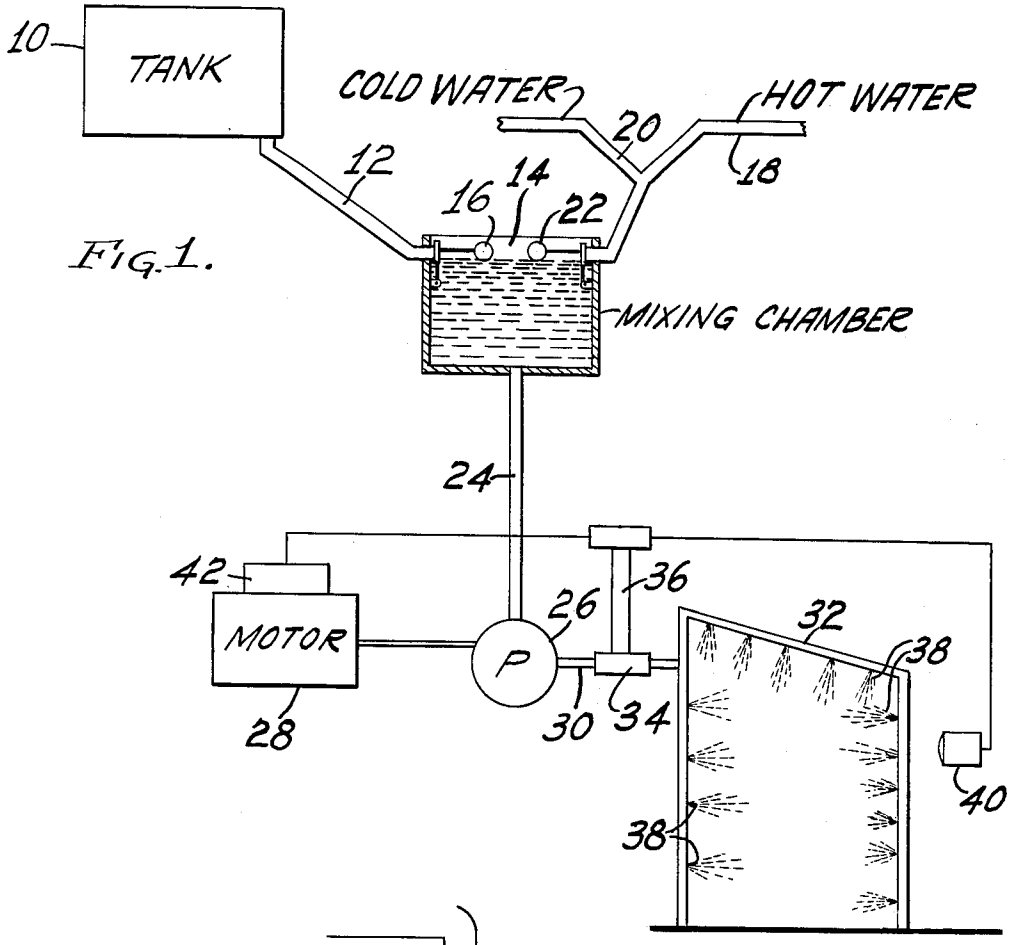


Fig. 1.

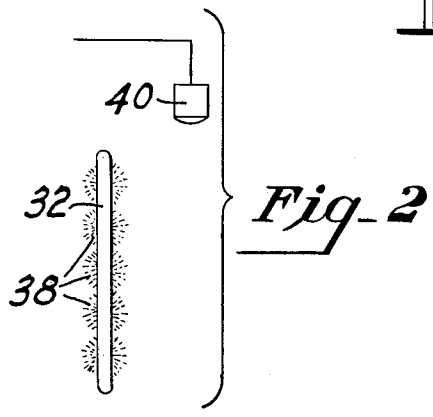


Fig. 2

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APPLICATION OF DETERGENT TO AN AUTOMOBILE

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1 Claim. (Cl. 134—57)

This invention relates to an automatic device for washing automobiles or the like and particularly relates to an automatic means for dispensing cleaning solution onto the vehicle.

Heretofore, in the so-called minute car-wash garages it has been necessary to apply the cleaning solution by hand thereby requiring additional labor. This has increased the time necessary to clean the car and added to the cost of labor. Furthermore, the workers are generally wasteful of the cleaning solution and this too adds to the cost.

It is, therefore, one object of my invention to provide a means for automatically applying a cleaning solution to a vehicle and for automatically shutting off the flow of solution when the vehicle has passed by.

Another object of my invention is to provide an automatic cleaning fluid applicator for vehicles which is constantly supplied with the correct cleaning solution.

Another object of my invention is to provide a device for applying cleaning solution for washing automobiles or the like which supplies a uniform amount of such solution for each vehicle.

Another object of my invention is to prevent wasteful use of the cleaning solution by automatically applying the correct amount.

Other objects of my invention are to provide an improved device of the character described, that is easily and economically produced, which is sturdy in construction, and which is highly effective in operation.

With the above and related objects in view, my invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawing in which:

Fig. 1 is a schematic diagram showing the complete operative device.

Fig. 2 shows the electric eye beside the spray.

Referring now in greater detail to the drawing wherein similar reference characters refer to similar parts, I show a tank 10 which is filled with a highly concentrated cleaning fluid mixture, usually a detergent in solution. A conduit 12 connects the tank 10 to a mixing chamber 14. The tank is positioned above the mixing chamber so that the fluid from the tank is fed to the mixing chamber by gravity. A float valve 16 is adapted to close the opening in the mixing chamber into which the conduit 12 leads. A conduit 18 leads into the top of the mixing chamber 14 from a source of hot water, not shown, and this conduit is connected to a conduit 20 immediately above the chamber 14. The conduit 20 leads from a source of cold water not shown. As a result of the connection between conduits 18 and 20, a mixture of hot and cold water is fed into the mixing chamber. This mixture of the hot and cold water may be varied by using more or less of one or the other and this is accomplished by valves or spigots of any ordinary type and not shown here. The

temperature of the water fed into the mixing chamber 14 can, in this way, be varied according to the conditions. A float valve 22 is adapted to close the opening in the mixing chamber into which the conduit 18 leads. The sources of the hot and cold water also are positioned above the mixing chamber so that there is a gravity feed of the water into the chamber.

A conduit 24 leads from the bottom of the mixing chamber 14 into a pump device 26. The pump 26 is operated by a motor 28. A conduit 30 leads from the pump to a spray device 32. A solenoid operated valve 34 is interposed in the conduit 30 between the pump and the spray device, the valve being actuated by a solenoid 36.

The spray device 32 is of a generally inverted U-shape and is of a size to allow the passage of automobiles therethrough. A plurality of sprays 38 are spaced around the device 32 so that the fluid spray is applied on both the top and sides of the automobile.

Adjacent the spray device 32 is an electric eye 40 which is electrically connected to the solenoid 38 and also to a relay 42 which is, in turn, connected to motor 28.

In operation, when a vehicle passes under the electric eye, the solenoid 36 is actuated to open the valve 34, and at the same time, the relay 42 is actuated to operate the motor 28. The motor operates the pump 26 to draw the detergent mixture from the mixing chamber through the conduit 30 and to the spray device under which the vehicle is now passing. As soon as the end of the vehicle passes from under the electric eye 40, the solenoid and motor are de-activated, thereby causing the pump to cease its action while the valve 34 is closed. As soon as the fluid level in the mixing chamber 14 falls, the float valves 16 and 22 open and allow concentrated detergent and hot and cold water mixture to flow into the mixing chamber until the fluid level is of such a height that the float valves are lifted into their closed positions. The device is now ready to apply the detergent mixture to the next vehicle.

Although my invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention is to be determined as claimed.

I claim as my invention:

A device for automatically spraying vehicles with a cleaning solution comprising a tank for holding concentrated cleaning solution, a mixing chamber connected to said tank, means to provide a flow of water to said mixing chamber, a float valve adapted to cut off communication between said tank and said mixing chamber, a second float valve adapted to cut off communication between said mixing chamber and said means to provide a flow of water, a pump connected to said mixing chamber for pumping the cleaning solution to a spray device, a solenoid operated cut-off valve located between said pump and said spray device, and an electric eye mounted adjacent said spray device, said electric eye being adapted to be actuated by a passing vehicle, said solenoid operated cut-off valve being adapted to be opened by actuation of said electric eye, and means to pass the vehicle in front of said spray device so as to be sprayed thereby.

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