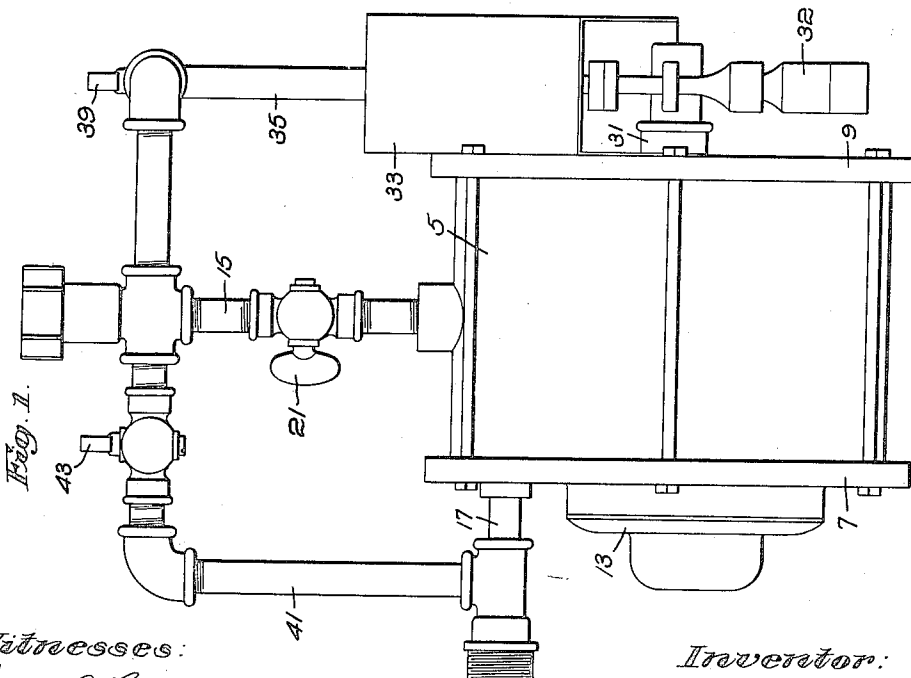
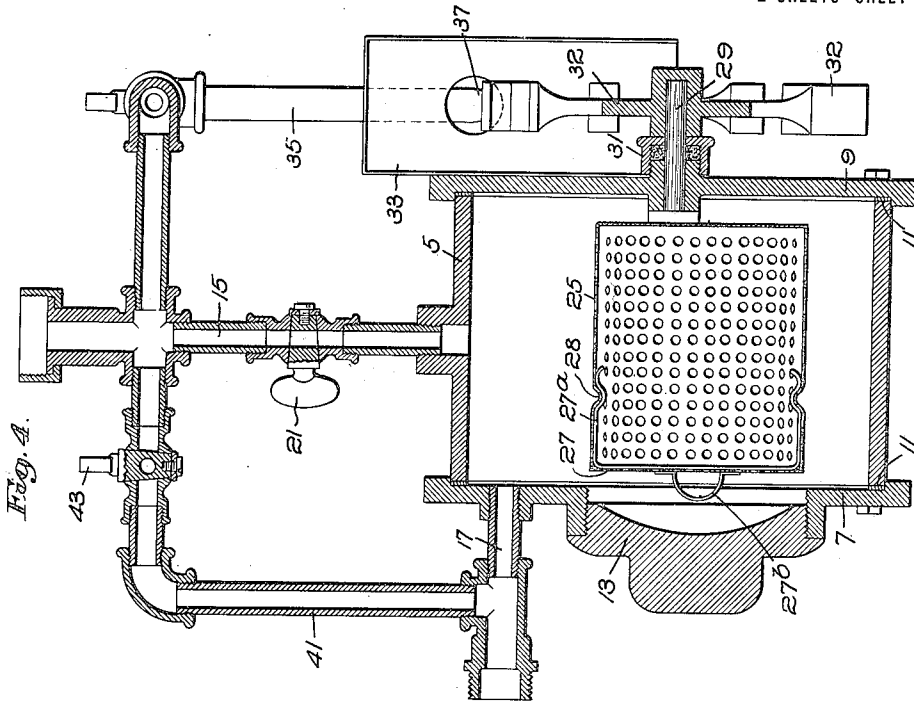


J. A. DE VITO,
CLEANING DEVICE.
APPLICATION FILED JUNE 21, 1912.

1,139,352.

Patented May 11, 1915.

2 SHEETS—SHEET 1.



Witnesses:
Horace A. Crossman.
Carl L. Choate.

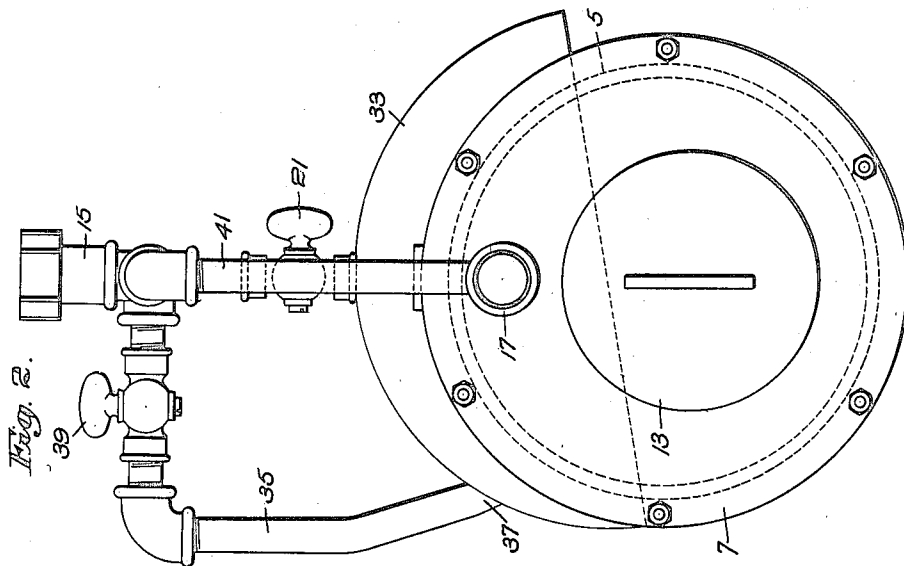
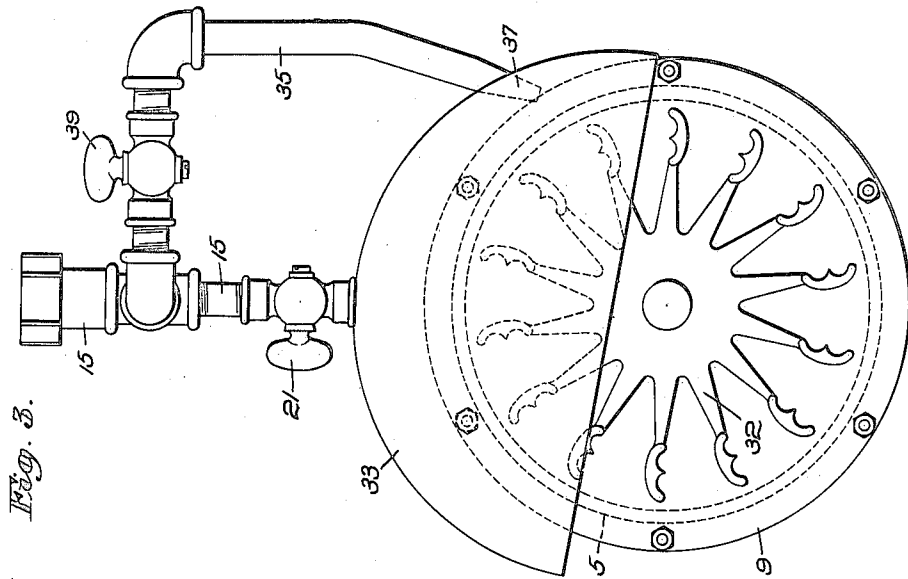
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by *Conroy, Booth, Jannet & Barnes*
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Carl L. Gloat.

Inventor:
John A. DeVito.
By C. W. Booth, James H. Hays, Attys.

UNITED STATES PATENT OFFICE.

JOHN A. DE VITO, OF WEST MEDFORD, MASSACHUSETTS.

CLEANING DEVICE.

1,139,352.

Specification of Letters Patent.

Patented May 11, 1915.

Application filed June 21, 1912. Serial No. 704,952.

To all whom it may concern:

Be it known that I, JOHN A. DE VITO, a citizen of the United States, and a resident of West Medford, in the county of Middlesex and State of Massachusetts, have
5 invented an Improvement in Cleaning Devices, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

10 This invention relates to cleaning apparatus, and more particularly to devices for washing automobiles or other vehicles.

Heretofore considerable difficulty has been experienced in removing from automobiles
15 the oil and grease which are inevitably spattered on them in the course of their travel over oiled roads. In the past this grease has been removed, but inconveniently, by a pail
20 containing soapy water applied to the vehicle by a sponge. This process is objectionable since the small volume of water contained in the pail becomes quickly dirty and requires frequent changing, and the sponge
25 quickly becomes filled with dirt, grease and grit and when brought in contact with the vehicle is liable to scratch and injure its surface.

Among other objects, my invention aims
30 to obviate the above objections.

The character of the invention may be best understood by reference to the following description of an illustrative embodiment thereof shown in the accompanying
35 drawing, wherein:

Figure 1 is a side elevation of an illustrative cleaning device embodying the invention; Figs. 2 and 3 are end elevations of the device shown in Fig. 1; and Fig. 4 is a
40 vertical longitudinal section through the device shown in Fig. 1.

Referring to the drawing, the illustrative device there shown as embodying the invention comprises a drum or container
45 having front and rear heads 7 and 9 secured thereto with suitable gaskets 11 interposed between the said drum and heads to prevent any possibility of leakage. The front head is provided with a handhole having a cap 13 threaded thereto to permit access to the interior of the drum for a purpose hereinafter described. To conduct water or other fluid to and from the drum, inlet and outlet pipes 15 and 17 are provided.
50 To enable the device to be connected to a source of supply such, for example as a

faucet, the inlet pipe may be provided with a flanged internally threaded ring which may be screwed to the usual standard faucet. The outlet pipe may be connected to a usual
60 hose or nozzle (not shown). The inlet pipe is provided with a usual control cock 21.

By the above construction, with the cock open, water may be conducted by the inlet pipe to the container, through the latter and
65 thence through the outlet pipe and hose.

To distribute and thoroughly disseminate soap progressively to the water as it passes through the container, the latter is provided with a soap receiver shown herein in the
70 form of a cylinder 25 having a perforated wall through which the soap may be delivered to the water as more fully hereinafter described. To permit the introduction of a
75 fresh supply of soap to the cylinder from time to time, it is provided with a cap 27, preferably perforated and having a ribbon-like spring securing strip 27^a secured thereto adapted to snap over an internal bead 28
80 in the cylinder. To facilitate removal of the cap it may have a ring handle 27^b.

With a stream of water passing continuously through the container it will be apparent that if the soap is to be thoroughly disseminated and distributed to the stream
85 there must be an active or positive delivery thereof to the stream. To this end the cylinder 25 is mounted on one end of a stud shaft 29 journaled in the rear head of the cylinder, a suitable stuffing box 31 being
90 provided to prevent any possibility of leakage around the shaft. This shaft projects somewhat beyond the rear head and is driven by a turbine 32 fast thereon. A
95 shield 33 may be provided to prevent objectionable spattering of the water striking the buckets of the turbine.

To agitate the water in the container and provide a positive centrifugal action of the cylinder when rotated by the turbine, preferably the cylinder is not mounted concentric on the shaft, but on the contrary, is offset or placed eccentric thereon.
100

To supply motive power to the turbine, the inlet pipe is provided with a branch
105 pipe 35 terminating in a nozzle 37 appropriately directed to the buckets of the turbine. This pipe has a cock 39 by which the stream to the turbine may be varied to control the speed thereof to deliver a greater
110 or less quantity of soap from the cylinder to the water in the container as desired.

In the course of cleaning a vehicle, it is desirable to follow the application of soapy water by an application of rinsing water. In order that this change may be readily effected, a by-pass pipe 41 is provided leading from the inlet pipe of the container around the latter to the outlet pipe and is provided with a suitable control cock 43.

In operation, first the handhole cap on the front head of the container is removed, enabling access to the soap receiver cap, which is then removed and a supply of jelly-like or other soap, or other cleaning material, suitable for vehicle cleaning purposes is introduced into the cylinder. The caps of the cylinder and container are then replaced. The by-pass pipe cock is closed and the turbine and inlet cocks are opened. This will permit a part of the water to pass into the container and a part of the water to pass to and to operate the turbine and actuate the cylinder. The outlet pipe being open, will permit a flow of water through the container. The water will enter through the perforations of the cylinder into the latter and come into contact with the soap therein and the agitation or movement of the cylinder will cause the soap to be distributed into and thoroughly mix with the water. As a result, a continuous stream of soapy water will be delivered from the container through the hose to the vehicle. On striking the latter a good lather is formed which will effectively soften and remove oil, dirt and other foreign matter from the vehicle without any liability of scratching or injuring the surface thereof. There is apt to be more or less compression within the container, varying according to the pressure on the water supply and the relative level of the hose nozzle and the container, and other conditions. The revolution of the soap cylinder creates a centrifugal action which tends to cause the soap to pass through the wall of the perforated cylinder, but this is more or less resisted by pressures in the container. It is found desirable to render the mixing action of the soap with the water more positive than would be had merely by centrifugal force, and accordingly the offset arrangement of the cylinder on its shaft is found to be highly desirable since the centrifugal force is increased and the soap is more effectively circulated around through the water and more effectively mixed therewith. While, as shown herein, the cylinder is mounted eccentric on its shaft, it will be understood that other offset or different arrangements might be used for mixing the soap with the water.

In practice it is found that a better soapy water effect is produced by delivering the water to the vehicle through a nozzle rather than merely through a pipe, although the latter is very satisfactory.

To remove the soapy water from the vehicle, the cocks in the turbine and inlet pipes may be closed and the cock in the by-pass pipe may be opened. This will deliver a clear stream of water around the container and through the same hose previously used to deliver the soapy water.

By my invention is provided a very effective device for supplying cleaning material to a stream of water. The device is simple in construction and operation, light and easily applied to or disconnected from the usual faucet, is small and compact and occupies little space when not in use.

Having described one embodiment of the invention without limiting the same thereto, what I claim as new and desire to secure by Letters Patent is:

1. A device of the class described comprising, in combination, a container having provision for conducting water therethrough, means to distribute soap to the water comprising a receiver having a perforated wall; a shaft connected to said receiver and projecting through a wall of said container; a turbine for driving said shaft located exteriorly of said container; and means for conducting water to said turbine to drive the latter independently of the stream of water passing through said container.

2. A device of the class described comprising, in combination, a container; a soap receiver therein; a turbine located exteriorly of said container for actuating said receiver; pipes for conducting a stream of water to drive said turbine and a water stream to and from said container, said pipes having provision for shunting a stream of water around said container.

3. A device of the class described comprising, in combination, a container; a soap receiver therein; a turbine located exteriorly of said container for driving said receiver; pipe means for conducting separate streams of water to said turbine and container; and valve means for said pipe means for permitting the delivery of water through said container or as a shunted stream about said container.

4. A device of the class described comprising in combination, a container, means for conducting a stream of water therethrough, a soap receiver in said container, a turbine exterior of said container, means to transmit movement from said turbine through a wall of said container to said receiver, and means for supplying a stream of water to said turbine independently of the water which passes through said container.

5. A device for mixing soap with water comprising in combination, a container having an inlet and an outlet, a shaft journaled in said container and adapted to be driven externally thereof at a high speed, and a soap receiver eccentrically connected to said

shaft and having a wall containing a multiplicity of small soap distributing perforations.

5 6. A device for mixing soap with water comprising in combination, a container having an inlet and an outlet, a stud shaft journaled in said container and adapted to be driven externally thereof, a soap receiver connected to the end of said shaft and having a perforated wall, and closures for said receiver and container having provision permitting the opening thereof to admit soap to the receiver.

15 7. A device for mixing soap with water comprising in combination, a container, a shaft journaled therein, a soap receiver eccentrically connected to said shaft and having a wall containing a multiplicity of small perforations, closures for said receiver and container for permitting the admission of soap to the former, an inlet for said container for introducing water directly to said perforated wall, and an outlet for said container.

25 8. A device for mixing soap with water comprising in combination, a container hav-

ing an inlet and an outlet, a shaft journaled in said container, a soap receiver eccentrically mounted on said shaft and having a wall containing a multiplicity of perforations, and pipe means having provision for conducting water to and from said container or around said container.

9. A device for mixing soap with water comprising in combination a container, means for conducting water into and from the same, a shaft journaled in said container, a soap receiver eccentrically mounted on said shaft and inclosed within said container, said receiver having a perforated wall permitting the passage of water therethrough, and a turbine wheel fast on said shaft exterior of said casing for rotating said receiver.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

JOHN A. DE VITO.

Witnesses:

HENRY T. WILLIAMS,
ROBERT H. KAMMLER.