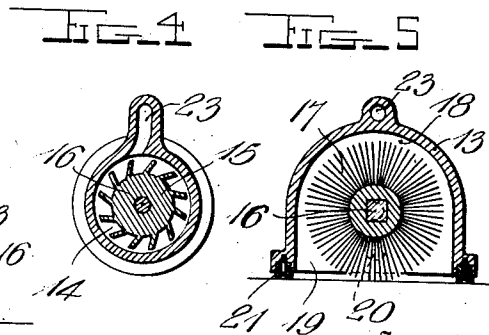
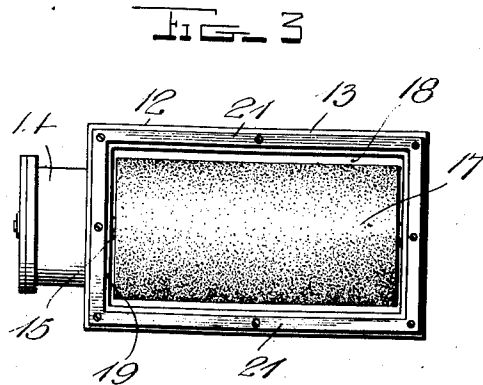
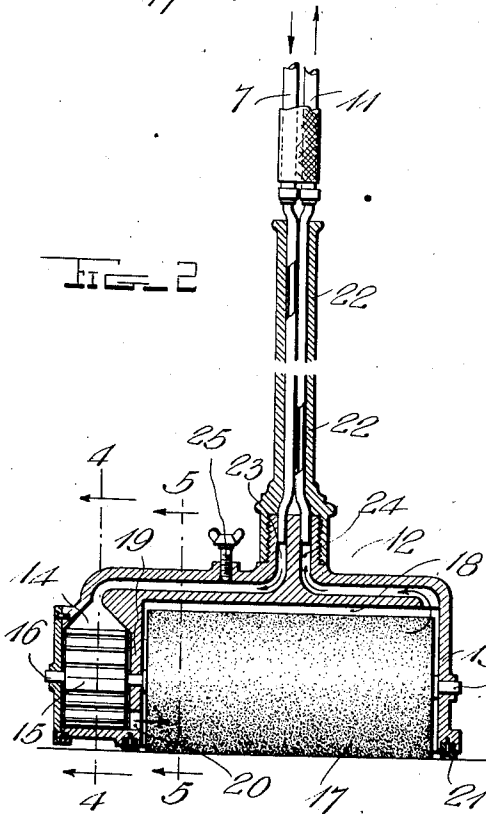
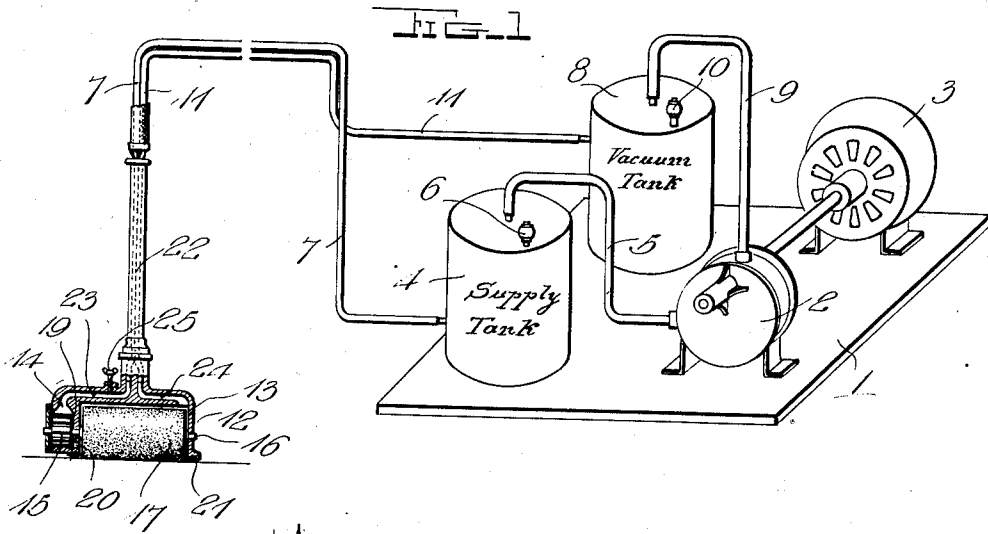


J. A. GAFNEY.
SCRUBBING MACHINE.
APPLICATION FILED OCT. 10, 1912.

1,059,136.

Patented Apr. 15, 1913.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES A. GAFNEY, OF BROWNSVILLE, PENNSYLVANIA.

SCRUBBING-MACHINE.

1,059,136.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed October 10, 1912. Serial No. 725,000.

To all whom it may concern:

Be it known that I, JAMES A. GAFNEY, a citizen of the United States, residing at Browns-ville, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Scrubbing-Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in scrubbing machines.

The object of the invention is to provide a scrubbing machine, the scrubbing element of which may be moved over the surface to be scrubbed while the other parts of the machine remain stationary, and supply a scrubbing fluid to the scrubbing element for effecting the cleansing operation, means being provided for retaining the fluid within a fixed area and for conveying the dirty fluid to a suitable receptacle attached to the machine.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and claimed.

In the accompanying drawings—Figure 1 is a diagrammatic view of a machine constructed in accordance with this invention, with parts in section. Fig. 2 is an enlarged longitudinal sectional view of the scrubber. Fig. 3 is a bottom plan view thereof. Fig. 4 is a transverse section taken on the line 4—4 of Fig. 2. Fig. 5 is a similar view taken on the line 5—5 of Fig. 2.

In the embodiment illustrated a suitable support for the machine is shown in the form of a platform 1 having a vacuum pump 2, of ordinary construction mounted thereon and operated by a motor 3. A fluid supply tank 4 is connected with the vacuum pump by a pipe or hose 5 which is connected with the top of said tank, said tank being also provided at its top with a check valve 6. This tank 4 is connected at its lower end with a scrubber to be described by means of a hose 7. A vacuum tank 8 is also mounted on the platform 1 and is connected with the pump 2 by a pipe 9 communicating with the upper end of said tank. This tank is also provided with a check valve 10 and is connected with the scrubber by a pipe 11.

The scrubber 12 which is connected with the supply and vacuum tanks by the flexible pipes 7 and 11 is here shown in the form of a casing 13 having a compartment 14 at one end thereof in which a turbine wheel 15 is revolvably mounted on a shaft 16 which extends longitudinally of the casing 13 and also supports a scrubbing brush 17 which is fixed to said shaft and mounted in a compartment 18 arranged in longitudinal alignment with the compartment 14, said compartments 14 and 18 being separated by a vertical partition 19 through which the shaft 16 extends and which has an opening 20 for the inlet of the cleansing fluid from the turbine chamber. The chamber 18 is here shown substantially rectangular in form in horizontal section and is provided around its lower edge with a squilgee 21, which serves to retain the cleansing fluid within a certain area limited by the lower edge of the chamber or compartment 18; to which said squilgee is applied and when the scrubber is moved over the surface to be cleaned this squilgee draws the water with it and retains it within the casing.

This casing 13 is provided with a tubular shank or stem 22, which is here shown detachably connected with said casing and into which the hose or pipes 7 and 11 are housed, extending parallel with each other within said stem and their ends communicating with passages 23 and 24. The passage or conduit 23 communicates with the chamber 14 in which the turbine 15 is mounted and is designed to supply the cleansing fluid from the tank 4 to said turbine and to rotate the turbine, thereby rotating the shaft 16 and the brush 17 mounted thereon. This incoming fluid also passes from the turbine chamber 14, brush chamber 18 and is distributed by said brush over the surface to be cleaned.

The passage or conduit 24 with which the pipe 11 from the vacuum tank is connected communicates with the chamber 18 and is designed to conduct the dirty fluid which has been used for cleaning back to the tank 8 by means of the suction in said tank produced by the pump 2.

Means for regulating the supply of fluid from the tank to the turbine is here shown in the form of a winged set screw 25 which extends transversely through one wall of the conduit 23, and is adapted to be adjusted transversely of said conduit to vary the size

of the conduit at its entrance end and thus control the quantity of fluid admitted to the turbine.

In the use of this machine the tank 4 having been supplied with a suitable quantity of cleansing fluid, the motor 3 is started, thereby actuating the pump 2 which operates to force the liquid from the tank 4 through the pipe 7 and conduit 23 to the turbine 15, thereby rotating said turbine and turning the brush 17 which may be moved by hand over the surface to be cleaned and allowed to remain at any desired spot for any desired length of time. The pump 2 also produces a vacuum in the tank 8 and the suction therein draws the water from the chamber 18 up through the conduit 24 and pipe 11, into the tank 8 from which it may be removed at suitable intervals.

The squilgee 21 performs the double function of a squilgee and also of a retaining element for confining the water or other cleansing fluid within the chamber 18 and thus preventing it from spreading over the adjacent surface.

While I have described my invention with more or less minuteness as regards details and as being embodied in certain precise forms, I do not desire to be limited thereto unduly any more than is pointed out in the claims. On the contrary, I contemplate all proper changes in form, construction and arrangement, the omission of immaterial elements and substitution of equivalents as circumstances may suggest or render expedient.

I claim as my invention:—

1. A scrubbing machine, comprising a vacuum pump, means for operating said pump, a fluid supply tank and a vacuum tank connected with said pump, a casing having a revoluble brush mounted therein, and means for revolving said brush actuated by fluid supplied from said supply tank.

2. A scrubbing machine, comprising a fluid supply tank, a casing, a shaft revolubly mounted in said casing, a scrubbing brush fixed to said shaft, a turbine also fixed to said shaft, a conduit connected with said tank and discharging on said turbine, a vacuum tank, a conduit connecting said

vacuum tank with the brush compartment of said casing and a pump operable to force fluid from the supply tank to said turbine and to return it to said vacuum tank.

3. A scrubber comprising a casing having two compartments, a revoluble shaft extending longitudinally through said compartments, a turbine fixed to said shaft in one compartment, a brush fixed to said shaft in the other compartment, said brush compartment being open at its bottom, a conduit leading to said turbine compartment and a conduit leading to said brush compartment.

4. A scrubber comprising a casing having two compartments, a revoluble shaft extending longitudinally through said compartments, a turbine fixed to said shaft in one compartment, a brush fixed to said shaft in the other compartment, said brush compartment being open at its bottom, a conduit leading to said turbine compartment and a conduit leading to said brush compartment, and adjustable means for said first mentioned conduit for varying its size.

5. A fountain scrubber comprising a casing having longitudinally alined compartments, one of which is closed at its lower end and the other open, a partition between said compartments having an opening therein, a squilgee surrounding the lower edge of said open compartment, a revolubly mounted shaft extending through said compartments, a turbine fixed to said shaft in said closed compartment and a brush secured to said shaft in the open compartment with the bristles thereof extending flush with said squilgee, conduits leading to said closed and opened compartments respectively, and means for supplying fluid to the conduit leading to said closed compartment and for withdrawing it from said open compartment.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES A. GAFNEY.

Witnesses:

HARRY A. CATTOW,
MARGARET VAN RIFER.