

March 8, 1938.

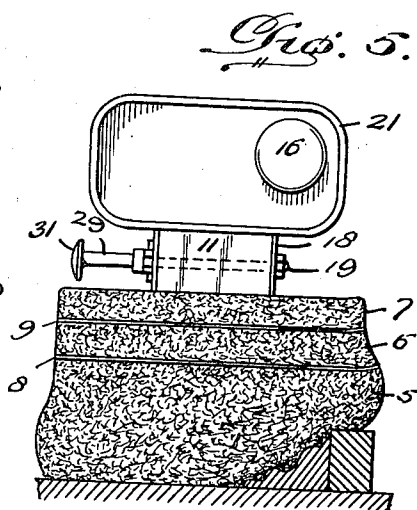
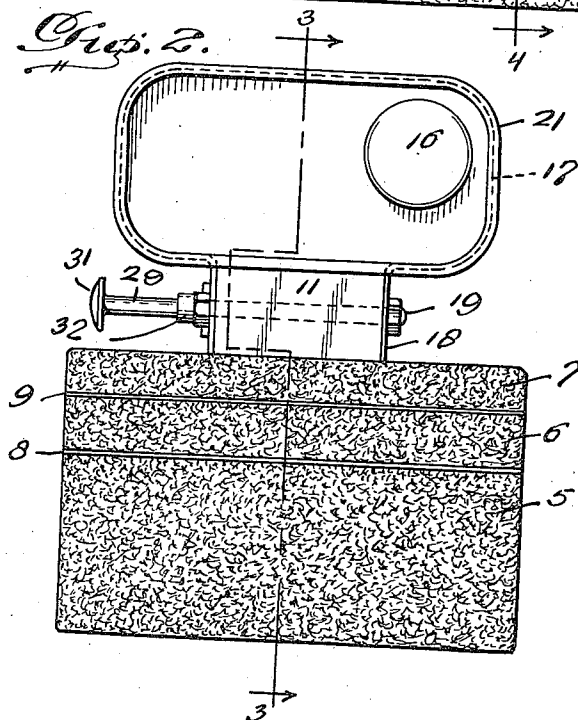
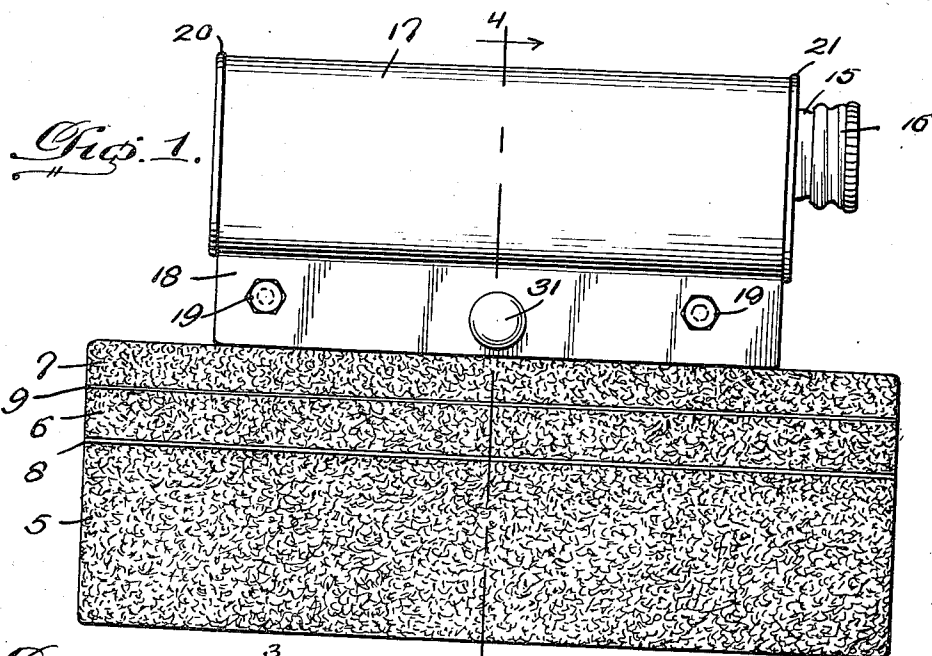
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2,110,188

FOUNTAIN CLEANING DEVICE

Filed Nov. 27, 1935

2 Sheets-Sheet 1



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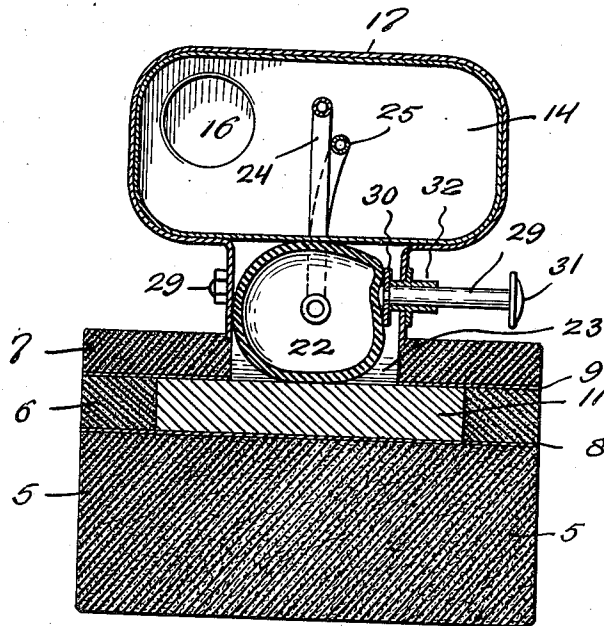
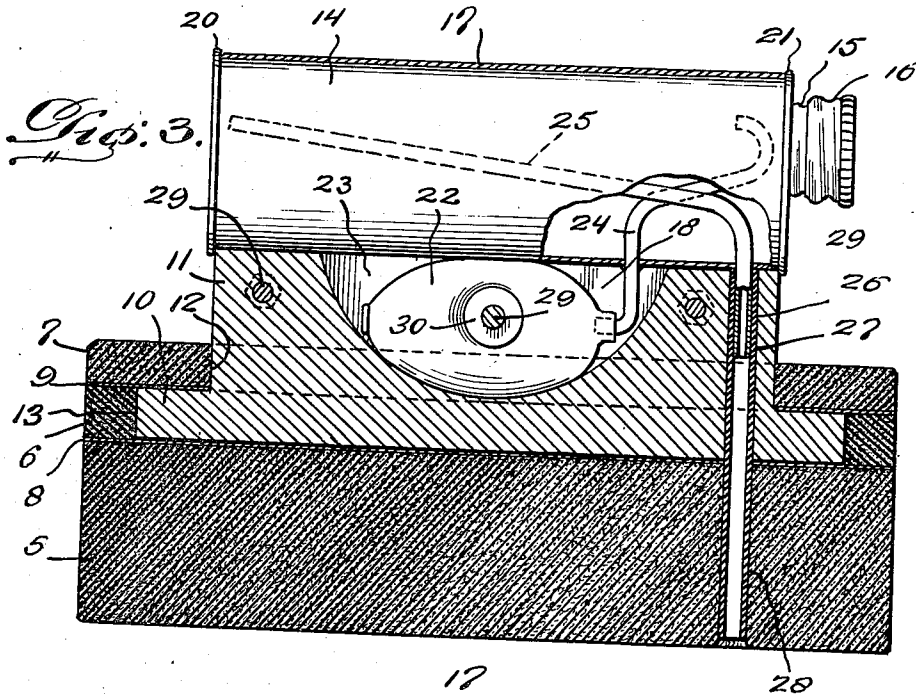
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UNITED STATES PATENT OFFICE

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FOUNTAIN CLEANING DEVICE

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3 Claims. (Cl. 15—131)

The present invention relates to an improved fountain cleaning device primarily intended to use a chemical solution for loosening grease and dirt from the finished surfaces of walls, wood-work and the like, whereby such grease and dirt may be subsequently readily wiped from such surfaces.

An object of the present invention is to provide a device of the above character which will be efficient for cleaning plane and irregular surfaces, and which is so constructed that there are no hard parts exposed to scratch or mar the surface being cleaned.

A further object of the invention is to provide a cleaning device of the above kind which is simple and durable in construction and otherwise well adapted for the service required of it.

Still further objects of the invention relate to certain novel and improved form, arrangement and combination of parts hereinafter described, shown in the accompanying drawings, and claimed.

In the drawings:

Figure 1 is a side elevational view of a fountain cleaning device constructed in accordance with the present invention.

Figure 2 is an end elevational view thereof.

Figure 3 is a longitudinal section on line 3—3 of Figure 2.

Figure 4 is a transverse section on line 4—4 of Figure 1; and

Figure 5 is a view somewhat similar to Figure 2, drawn on a smaller scale and illustrating the action of the applicator of the device in conforming to irregular surfaces.

Referring more in detail to the drawings, the present cleaning device includes an applicator in the nature of a sponge and preferably formed of close grained sponge rubber. This applicator comprises a relatively thick main body portion 5 affording the working faces of the applicator, and supplementary layers 6 and 7 of sponge rubber secured together and upon the main body portion 6. The main body portion 6 of the applicator is provided on its upper surface with a thin imperforate integral skin 8 which prevents passage of liquid upwardly from the main body portion 5 to the supplementary layers 6 and 7, and which affords means for effectively vulcanizing the lower surface of the supplementary layer 6 to the upper surface of the main body portion 5. The supplementary layers 6 and 7 are similarly vulcanized together, there being a thin skin 9 between the adjacent faces of said supplementary

layers 6 and 7 which may be integral with either of said layers and vulcanized to the other.

The present cleaning device further embodies a head or carrier for the applicator including a plate-like back member 10 provided with a central longitudinal upstanding rib 11. The intermediate or supplementary layer 6 is provided with a relatively large central opening adapted for snug reception of the back member 10, while the upper supplementary layer 7 has a smaller central opening for snug reception of the upstanding rib 11 of said back member 10. Thus, the layers 6 and 7 are cooperatively formed to provide an undercut recess therein adapted for snug reception of the back member 10 and the adjacent portion of its rib 11 whereby the applicator may be readily and effectively attached to the head of the device. In applying the applicator to the head, the layer 7 is simply stretched so as to enlarge its opening 12 and permit the passage of the back member 10 therethrough into the central opening 13 of the layer 6. The layer 7 is then released to permit it to snugly embrace the rib 11 of the back member 10 near the bottom thereof. In this way, the back member 10 is completely surrounded by the layers 6 and 7 so that no hard parts of the head are exposed to scratch or mar the surfaces to be cleaned.

The head of the cleaning device further includes a receptacle or reservoir 14 for the chemical cleaning solution, which receptacle or reservoir is preferably in the nature of a metal can having a filler neck 15 at one end closed by a removable cap or other closure 16. This reservoir is adapted to provide a handle for the device when in use and is laid on one side in a horizontal position so as to rest centrally upon the top of the rib 11 of back member 10 and to be secured in this position. For the latter purpose, a securing band 17 of sheet metal embraces the body of the reservoir 14 and has downturned end flanges 18 flatly engaging the sides of the rib 11 and bolted to the latter as at 19. The receptacle 14 preferably has outwardly directed beads 20 and 21 at the ends of the body thereof between which the securing band 17 snugly engages or fits so that said reservoir is effectively held against endwise displacement relative to the rib 11.

Manually operable means is provided for delivering small quantities of the chemical cleaning solution from the reservoir 14 to the bottom working surface of the main body portion 5 of the applicator, at will. As shown, this means may consist of an air pump 22 of the bulb type having the usual inlet and outlet valves and ar-

ranged in a recess 23 provided in the top of rib 11 intermediate the ends thereof. The recess 23 may extend transversely entirely through the rib 11, the pump 22 being retained therein by the flanges 18 of the securing band 17. The air pump 22 has an air discharge pipe 24 at one end that extends through the adjacent side wall of reservoir 14 and terminates within the latter at a point near the end of said reservoir where the filler neck 15 is provided. A discharge pipe 25 is also located in the reservoir 14 with its intake end disposed adjacent the normal bottom end of reservoir 14 or the end of the latter opposite that provided with the filler neck 15. This discharge pipe 25 extends outwardly and downwardly through the side of reservoir 14 which is lowermost in Figure 3 and snugly projects into the adjacent end of a flexible rubber tube 26 whose upper end is fitted and secured within a vertical passage 27 provided through the back member 10 and its rib 11 near one end of the latter. The lower end of tube 27 extends downwardly through a vertical opening 28 in the main bottom portion 5 of the applicator and terminates at its lower end substantially flush with the bottom working face of said main body portion 5.

In view of the above description, it will be seen that the pump 22 may be operated to force air under pressure into the upper portion of said reservoir 14 above the surface of the chemical cleaning solution contained within said reservoir 14. As the pump 22 is operated, a small quantity of the chemical cleaning solution will be ejected at each operation of the pump through the discharge pipe 25 and feed tube 27, the discharged solution being delivered to the bottom working surface of the applicator. By grasping the reservoir 14 in one hand, the cleaning device may be reciprocated over the surface to be cleaned, the chemical cleaning solution supplied to the working surface of the applicator acting to effectively loosen dirt and grease from such surface so that it may subsequently be readily wiped from the latter. In view of the fact that the main body portion 5 of the applicator is relatively thick and formed of sponge rubber, it will have high yielding qualities and will therefore readily conform to irregular surfaces as illustrated in Figure 5 so that grease and dirt in small crevices will be effectively loosened as well as that upon plane or exposed surfaces. By reason of the presence of the skin 8 and the fact that it is not perforated, the chemical solution will be prevented from passing upwardly from the body portion 5 of the applicator to the back member 10 and the supplementary head attaching layers 6 and 7.

To facilitate manual actuation of the pump 22, I preferably provide a plunger 29 movable transversely through one of the flanges 18 of the clamping band 17 and at one side of said pump 22. The plunger 29 preferably has a head 30 on its inner end arranged to engage the adjacent side of pump 22, and the outer end of the plunger 29 preferably has a head or finger piece 31 to facilitate actuation thereof. Obviously, by simply pressing inwardly on the plunger 29, the bulb of the pump 22 will be partially collapsed so as to force the air therefrom through the pipe 24 into the reservoir 14. As soon as the plunger 29 is released, the bulb of pump 22 will automatically return to normal expanded position for taking in a new charge of air as is common with pumps of

this type. The plunger 29 may be properly guided by a slide bearing 32 carried by the adjacent flange 18 of clamping band 17.

From the foregoing description, it will be apparent that the present cleaning device is comparatively simple and durable and may be efficiently employed for the intended purpose. The parts may be economically made and assembled as well as readily taken apart for renewal or repair of parts.

What I claim as new is:

1. A cleaning device of the character described comprising a sponge rubber applicator having an undercut recess in the top thereof, a handle including a rigid plate-like back member snugly removably engaged within said undercut recess and having a central longitudinal rib projecting upwardly through said recess, said applicator comprising a relatively thick main body portion provided on its upper surface with a thin imperforate integral skin, a supplementary layer secured on top of the main body portion and having a relatively large central opening for snug reception of said back member, and a second supplementary layer secured upon the first-named supplementary layer and having a relatively smaller central opening so as to snugly embrace the upstanding rib of the back member and to overlie the surrounding portion of the back member.

2. A cleaning device comprising a sponge rubber applicator, a recess defined within the upper surface of said applicator, a handle including a rigid plate-like member, said plate-like member interfitting with said recess, a longitudinally extending rigid member attached to the upper surface of said plate-like member, said longitudinal member partially extending within said recess, said applicator comprising a relatively thick main body portion, a thin imperforate integral skin covering the upper surface of the main body portion of the applicator, a supplemental layer of sponge rubber defining an outer wall for said recess of the applicator, and said supplemental layer resting upon the upper portion of said integral skin, and a second supplemental layer mounted upon the upper surface of the first supplemental layer and partially overlapping the opening within the center of the first-named supplemental layer whereby the second supplemental layer will engage a portion of the upper surface of the rigid plate-like member.

3. In a cleaning device comprising a handle including a rigid plate-like back member, a central longitudinal projecting member rigidly attached to the upper surface of the plate-like member, a sponge rubber applicator, said applicator comprising a relatively thick main body portion having a recess defined in the upper surface of the applicator, said recess having a relatively wide opening intermediate its upper and lower surfaces whereby the rigid plate will interfit therewith, and the outside opening being relatively smaller than the intermediate recess whereby an overhanging portion of the applicator engages upon the upper portion of the plate-like member in order to hold the handle in engagement with the applicator, and an imperforate integral skin covering the intermediate portion of said applicator between its upper and lower surfaces whereby liquid cannot pass through said skin.

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