United States Patent

Neville

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[54] OSCILLATING SPRAY-CLEANING DEVICE

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[52] **U.S. Cl.** **239/287,** 239/587

[51] **Int. Cl.** **Bo5b 9/02**

[58] **Field of Search** 239/287, 587; 169/9

[56] **References Cited**

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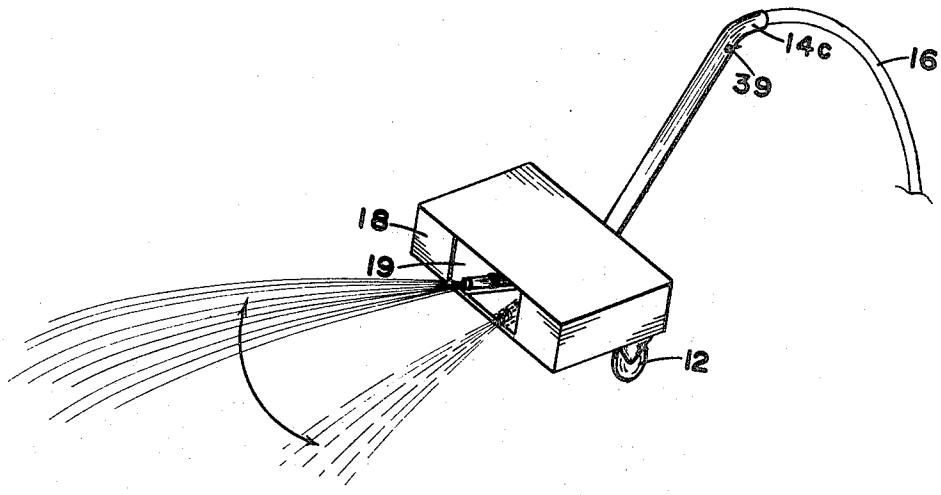
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[57] **ABSTRACT**

A spray-cleaning device includes a movable platform supporting a swiveled holder adapted for positioning a spray nozzle in a generally horizontal and forwardly directed position. A mechanism is arranged to manually oscillate the swiveled holder from side to side through a limited arc of travel to spray a relatively wide strip of surface area forwardly of the device. A hollow handle is secured to the platform and the platform is mounted on wheels to facilitate manual movement thereof and the hollow handle passes liquid via a hose coupled to the nozzle.

9 Claims, 3 Drawing Figures



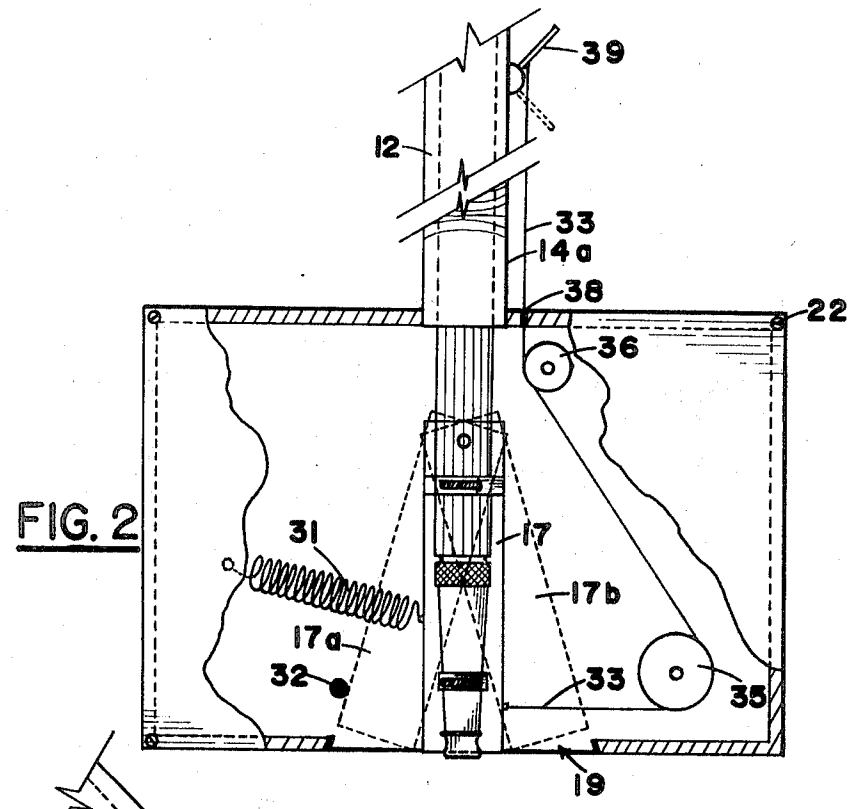


FIG. 2

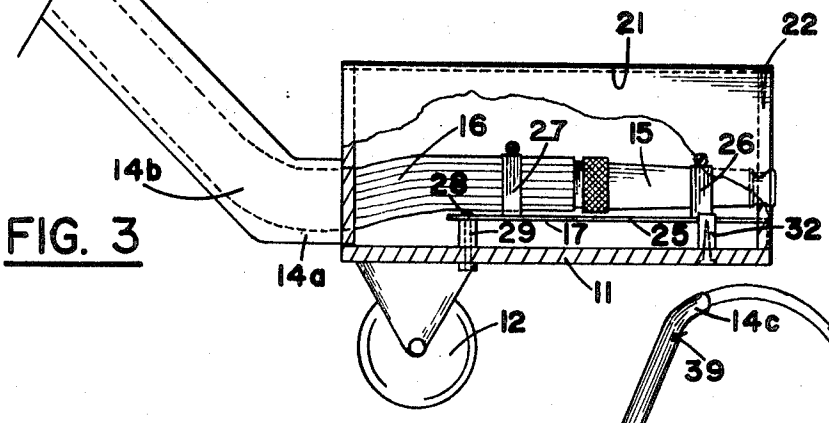


FIG. 3

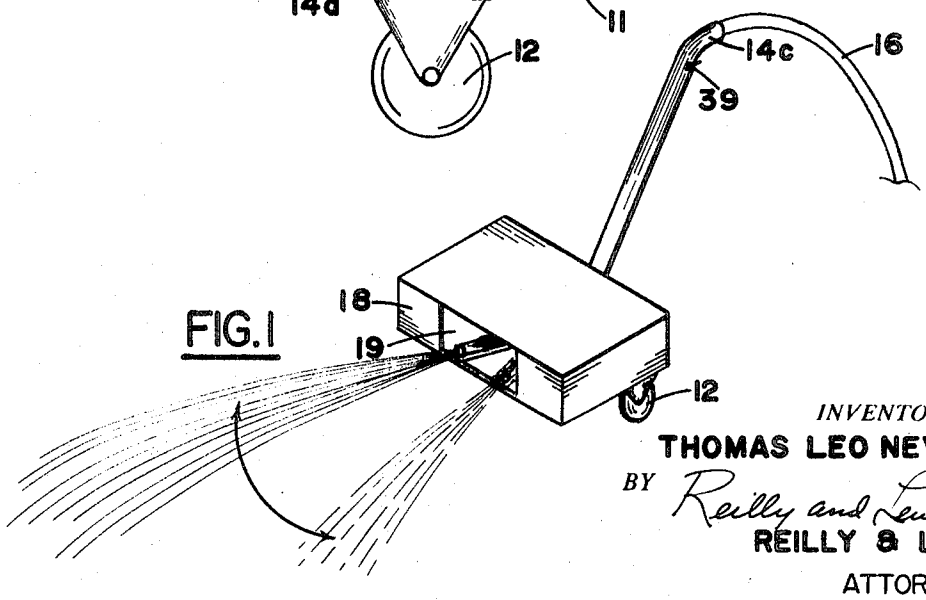


FIG. 1

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OSCILLATING SPRAY-CLEANING DEVICE

This invention generally relates to spray-cleaning devices and more particularly to oscillatory spray devices suitable for rapidly and efficiently cleaning hard surfaces.

The usual hard surfaces such as concrete, asphalt and the like are frequently cleaned by hosing them down with water or water and a cleaning solution delivered under pressure. The usual procedure presently in use is to manually hold the spray nozzle to direct the spray. Certain disadvantages attendant to this technique include the tediousness of hand-holding the nozzle, the ineffectiveness which results in directing the spray from a position of substantial elevation and a relatively sharp angle to the horizontal from the hand-held position, and the difficulty in maintaining a uniform and steady spray over a particular area.

Accordingly, it is an object of this invention to provide a simple, durable and efficient oscillatory spray-cleaning device which will rapidly and effectively spray a relatively wide strip of surface from a horizontal or slightly tilted position in a relatively close proximity to the surface.

Another object of this invention is to provide a spray-cleaning device which is adapted for manual operation and will carry the hose in a trailing position without interfering with the spray action.

Still another object of this invention is to provide a novel and improved spray-cleaning device which is adapted for use with conventional spray nozzles and hoses.

Yet a further object of this invention is to provide a spray-cleaning device which will spray a relatively broad area on each side as it moves along a desired course of travel.

Other objects, advantages and capabilities of the present invention will become apparent as the description proceeds taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of a spray-cleaning device shown as spraying a relatively wide strip or area;

FIG. 2 is a fragmentary top plan view of the device shown in FIG. 1 with portions of the housing broken away to show interior construction; and

FIG. 3 is a side elevation view of the device shown in FIGS. 1 and 2, again with a side wall of the housing broken away to show interior parts and the spring removed for clarity of illustration.

Referring now to the drawings, the oscillating spray-cleaning device shown comprises a support base or platform **11** with a pair of spaced apart wheels **12** located under and at the rear and adjacent each side of the platform and an elongated handle **14** secured to the platform which extends rearwardly and upwardly therefrom to facilitate manual movement of the platform. A spray nozzle **15** coupled to the end of a hose **16** is mounted on a swiveled nozzle holder **17** which in turn is mounted on the platform. The swiveled nozzle holder **17** is arranged on the platform to hold the nozzle in the proper spraying position.

The platform is shown as being closed by a cover **18** to form a housing and is provided with an opening **19** in the front wall thereof through which the spray from the nozzle is passed. The lid or top wall **21** of the cover is shown as being demountably fastened to the upright walls thereof by means of suitable fasteners **22** such as screws to permit access into the interior parts. It is understood that the shape of the cover may vary substantially and it may be formed as an integral body with the platform for some applications but for other applications the device may be used without a cover. The handle **14** is generally hollow throughout its lengthwise extent and includes a lower section **14a** which extends through an aperture in the rear wall of the cover **18** and opens thereinto, an intermediate rearward section **14*b*** extending at an approximate 45° angle, and terminates in an upper more generally horizontal grip section **14*c***. The upper end of the handle is open and the passage or hole through the handle is sized so that a conventional hose and nozzle be readily inserted through the handle and into position on the holder.

The nozzle holder **17** is disposed forwardly and in line with the lower end of the handle and comprises a a plate **25** and forward and rear annular hose-type clamps **26** and **27** fixedly secured to the top of the plate which will slidably receive the nozzle and hose and will clamp them firmly in place so the nozzle will move with the holder for its lateral oscillating motion as described more fully hereinafter. The swivel for the holder **17** includes a pivot **28** extending through an aperture in the rear end of plate **25** and an upright tubular spacer **29** between the base of the housing and the plate which holds the plate generally parallel to the platform. This permits swiveled movement of the front or distal end of the plate from side to side through a selected arc which will spray-clean on each side and forwardly of the device.

The nozzle holder **17** is oscillated from side to side by a manually operated mechanism which includes a tension spring **31** connected to one side of the plate **25** and to the platform which is arranged to pivot the holder to one side against a stop **32** which is one extreme position as represented in dashed lines at **17*a***. A cable **33** is secured to the other side of the holder and is reeved over a forward pulley **35** and a rear pulley **36** mounted on the base platform and arranged to provide a pulling action laterally of the platform and against the action of the tension spring. The cable extends through an aperture **38** in the rear wall of the housing and up along the handle to connect to a pivotal control lever **39** at the upper end portion of the handle. The lever is arranged to pivot up and down on the handle and in this way when moved to the up position pulls the nozzle holder away from the spring, the opposite extreme position at the opposite side represented in dashed lines **17*b***. In this way in the operation of the device the spring pulls the holder and nozzle to one extreme position **17*a*** against the stop and the operator will then steadily draw the lever back to pull the nozzle to the extreme right position as shown in FIG. 2 with the spring pulling it back so that the nozzle is oscillated from side to side by the mechanism. The conventional nozzle coupled to a hose has been found to be capable of spraying a distance or radius of approximately 15 to 20 feet and the generally horizontal position of the nozzle permits it to cover a relatively broad strip in each oscillation and effect a good cleaning action. In the usual spraying situation the platform is held in a generally horizontal position as shown in FIG. 3, but it is apparent that it may be tilted upwardly or downwardly by the handle to change the course of the spray. The device eliminates kneeling or stooping and will clean hard surfaces such as the typical parking lot, service station concrete surfaces and warehouse floors in a matter of minutes rather than hours.

Although the present invention has been described with a certain degree of particularity, it is understood that the present disclosure has been made only by way of example and that changes in details of structure and system components may be made without departing from the spirit thereof.

What is claimed is:

1. A spray-cleaning device comprising a movable platform, swiveled holder means on the platform arranged for holding a spray nozzle in a generally horizontal and forwardly directed position, and means to swing the holder means and nozzle laterally through a limited arc of travel relative to the platform whereby to spray a fluid delivered to the nozzle under pressure in a flushing action over a surface strip forwardly of the device, said swiveled holder means swinging about a rearward point through a relatively small arc on each side of a directly forward position.

2. A spray-cleaning device as set forth in claim 1 including handle means secured to the platform and extending upwardly and rearwardly therefrom and wheel means under the platform to facilitate manual movement thereof.

3. A spray cleaning device as set forth in claim 2 wherein said wheel means for the platform are disposed at a rearward position to permit the nozzle to be tilted up and down during movement thereof to direct the spray to a selected area.

4. A spray-cleaning device as set forth in claim 1, wherein said handle is hollow and arranged to pass the cleaning fluid from a supply to the nozzle.

5. A spray-cleaning device as set forth in claim 1 wherein said platform is in the form of a housing generally enclosing the holder means and nozzle and having a forward aperture through which the spray from the nozzle may pass.

6. A spray-cleaning device as set forth in claim 1 wherein, said swiveled holder means includes means to releasably secure the nozzle and a hose coupled to the nozzle in place on the platform.

7. An oscillating spray-cleaning device comprising a movable platform having wheels and a handle extending rearwardly from the platform for manual movement thereof, a spray nozzle, a swiveled nozzle holder member mounted on the platform including pivot means for a rearward position of the holder member to permit the forward end portion to swing through a limited arc of travel, said holder member supporting the nozzle in a generally horizontal and forwardly directed position above the platform, and a lever-operated mechanism arranged to swing said holder member laterally from side to side whereby to spray a fluid delivered under pressure into the nozzle.

8. An oscillating spray-cleaning device comprising a movable housing having a forward opening and a hollow handle opening into the housing and extending rearwardly and upwardly therefrom, a spray nozzle, a hose extending through the handle and coupled to the nozzle, a swiveled nozzle holder member mounted in the housing including an elongated support member pivotally mounted at its rearward end to the base of the housing, an annular clamp means to secure the nozzle in a generally horizontal and forwardly directed position for oscillatory lateral movement from side to side through a limited arc of travel, and a manually actuated mechanism for oscillating the swiveled holder and nozzle including a spring member secured to one side of the support member to pull it to one side position and a cable attached to a pivotal lever on the handle to pull the support member to an opposite side position whereby to spray a fluid delivered under pressure through the hose into the nozzle in a flushing action over a strip of surface forwardly of the device.

9. A spray-cleaning device comprising a movable platform, swiveled holder means on the platform arranged for holding a spray nozzle in a generally horizontal and forwardly directed position, and means to swing the holder means and nozzle laterally through a limited arc of travel whereby to spray a fluid delivered to the nozzle under pressure in a flushing action over a surface strip forwardly of the device, said means to swing including a tension member connected to one side of the holder means and a lever-operated cable connected to the other side of the holder means.

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