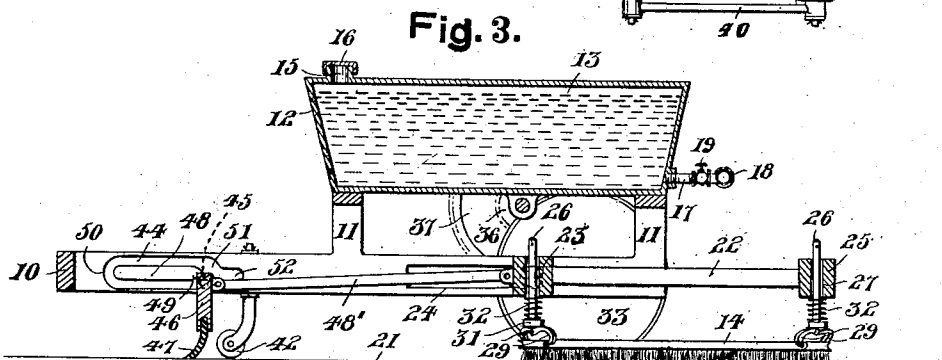
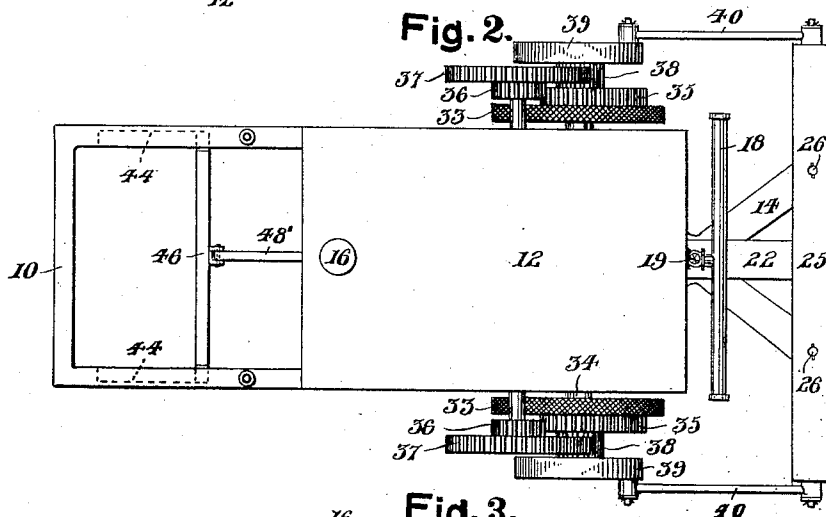
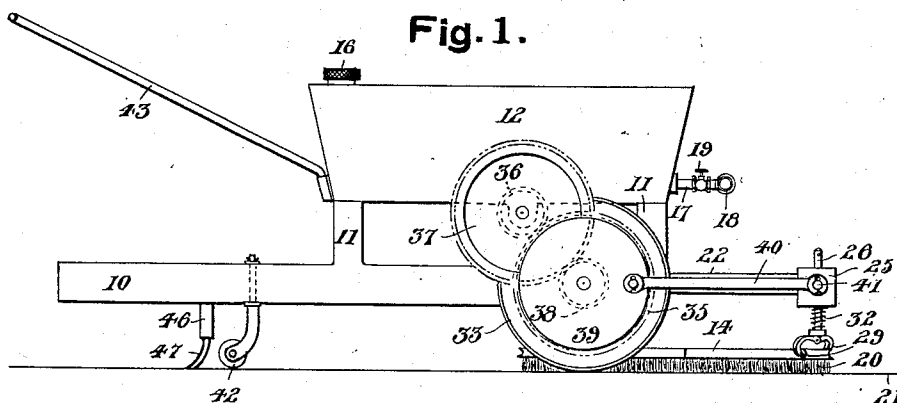


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FLOOR SCRUBBING APPARATUS.
APPLICATION FILED OCT. 23, 1915.

1,177,673.

Patented Apr. 4, 1916.

2 SHEETS—SHEET 1.



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JOHN ZURVALECZ, OF MARTIN, PENNSYLVANIA.

FLOOR-SCRUBBING APPARATUS.

1,177,673.

Specification of Letters Patent.

Patented Apr. 4, 1916.

Application filed October 23, 1915. Serial No. 57,513.

To all whom it may concern:

Be it known that I, JOHN ZURVALECZ, a citizen of the United States, residing at Martin, in the county of Fayette and State of Pennsylvania, have invented certain new and useful Improvements in Floor-Scrubbing Apparatus, of which the following is a specification.

This invention relates to certain new and useful improvements in floor scrubbing apparatus.

The primary object of the invention is to provide a scrubbing machine especially adapted for scrubbing floors, streets and pavements and arranged for simultaneously spreading a cleansing fluid and reciprocating dirt-dislodging means.

A further object of the invention is to provide a hand-propelling scrubbing machine adapted for spreading fluid upon the surface to be scrubbed and for actuating reciprocating engaging brushes thereover.

A still further object is to provide a scrubbing machine having automatically reciprocating engaging brushes and also a reciprocating rubbing or polishing member for engaging the work upon the movement of the brushes in only one direction.

With these general objects in view and others that will appear as the nature of the invention is better understood, the same consists in the novel combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the appended claim.

In the drawings forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views:—Figure 1 is a side elevation of the device. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical longitudinal sectional view of the same. Fig. 4 is a horizontal sectional view through the tank-mounting frame. Fig. 5 is a front view of the complete device, certain parts being broken away. Fig. 6 is an enlarged detail sectional view taken upon the plane of one of the brush-mounting means. Fig. 7 is a side elevation thereof. Fig. 8 is a horizontal sectional view through the brush-engaging clamp, and Fig. 9 is an enlarged sectional view through the end portion of the rubbing device.

Referring more in detail to the drawings,

it being noted that it is designed to provide a machine for completely cleaning a plain surface, an arrangement is made for spreading fluid upon the surface and violently rubbing the same. To this end, therefore, a substantially U-shaped frame 10 is provided arranged horizontally and having a forward open end and further having four upright posts 11 upon which a tank 12 is positioned for containing a washing or cleaning fluid such as 13, while a scrubbing brush 14 is arranged beneath the frame 10 for reciprocatory movement in the manner hereinafter set forth.

The tank 12 is provided with a filling spout 15 having a removable closure cap 16 thereon, while forwardly of the tank outlet pipe 17 is arranged for mounting a horizontally positioned perforated spreading pipe or head 18, the flow of fluid to the spread pipe being controlled by means of a valve 19 within the outlet pipe 17. The brush 14 is substantially X-shaped having engaging bristles 20 upon the bottom thereof and normally seated upon the surface 21 to be scrubbed or washed.

A T-shaped mounting frame 22 is provided for the brush 14 having the base piece 23 thereof slidably mounted between the said rails of the machine base 10 and having its opposite ends guidingly slidably positioned within longitudinal slots or ways 24 of the said base side rails. The main cross-piece 25 of the T-shaped frame 22 is positioned forwardly of the base 10, while mounting posts 26 for the brush 14 are provided slidably mounted through perforations 27 in the base piece 23 and cross piece 25 of the frame, it being understood that all of the posts 26 are in this manner connected to the parts 23 and 25. The posts 26 are provided with adjustable clamps 28 upon the bottoms thereof having oppositely arranged jaws 29 for engaging the opposite grooved edges 30 of the brush frame 14. Collars 31 are freely journaled upon the posts 26 and engage the clamps 28 for normally maintaining them closed upon the frame 14, helical springs 32 being arranged between the collars 31 and the frame 22, whereby the frame 22 is resiliently mounted upon the brush 14 and the clamping jaws 29 are resiliently maintained in position. When desired to remove the brush 14, the collar 31 may be elevated against the action

of the springs 32, the jaws 29 being then released and readily disengaged from the brush 14.

Ground-engaging wheels 33 are removably
5 mounted beneath the tank 12 being jour-
naled upon stub axles 34 outwardly project-
ing at opposite points upon the side rails of
the base frame 10. A gear 35 is carried by
each of the wheels 33 meshing with a side
10 pinion 36 of a gear 37 which latter gear is in
constant mesh with a pinion 38 journaled
upon the shaft 34 and provided with a power
disk or fly-wheel 39. Pitmen 40 pivotally
connect the power disks 39 with the opposite
15 ends 41 of the frame cross piece 25. Roller
casters 42 are supportingly carried beneath
the rear portion of the base 10 so that the
device is mounted for traveling upon the
casters 42 and the wheels 33, the latter hav-
20 ing suitably roughened ground-engaging
peripheries. In operation, it will be noted
that a removable handle 43 being provided
at the rear of the machine attached to the
tank 12, the said handle may be readily
25 grasped in moving the device in a desired
direction. During the travel of the machine
upon its wheels 33, the same are turned
through the described gearing imparting ro-
tation to the power disk 39 which by means
30 of the pitmen 40 reciprocates the entire
frame 22 and the scrubbing brush 14 resili-
ently mounted therebeneath. The valve 19
allows the cleansing fluid 13 from the tank
12 to flow under pressure through the spread-
35 ing head 18 directly upon the surface 21 ad-
jacent the scrubbing brush 14 so that during
the travel of the machine in either direction,
the brush 14 is forcibly reciprocated during
the flow of the cleansing fluid upon the sur-
40 face to be operated upon such movement of
the said brush being incident to the travel
of the machine upon its traction wheels 33.

An oblong form of cam slot 44 is provided
at opposite points upon the inner surface of
45 the side rails of the base 10 within which are
mounted terminal rollers 45 of a rubbing
board 46 and having a flexible surface-en-
gaging strip or rubber 47 carried by its
lower edge. A connecting rod 48' is pivot-
50 ally connected centrally between the board
46 and the base piece 23 of the frame 22,
whereby the rubbing board 46 is recipro-
cated simultaneously with the reciprocations
of the brush frame 22. The cam slots 44
55 each have a central block 48 arranged there-
in and having a forward inclined lower edge
49. During the operation of the brush, the
connecting rod will shift the rubber 47, it
being understood that the rollers 45 are ini-
60 tially seated in the slot extensions 52 at the
forward ends 51 of the slots 54. When the

rod 48' is moved rearwardly, the rollers 45
will engage the inclined forward end 49 of
the block 48 and be directed into the upper
section of the slot 44 to ride on the block 48. 65
In this position, the rubber is completely re-
moved from the surface 21, and a continued
rearward movement will cause the rollers to
engage the rear ends 50 of the slot and be
directed into the lower section of the slot 44 70
with the rubber 47 in contact with the sur-
face 21. The rod 48' at this time moves for-
wardly and causes the rubber 47 to sweep in
a similar direction all water and dirt present
in the cleaning operation of the brush 14. 75
At the extreme forward position of the rub-
ber, the rollers are received in the slot exten-
sions 52 to be in position again to engage
the end 49 of the block 48 for directing the
same in the upper section of the slot. It will 80
thus be seen that in reciprocating the frame
22 and the brush 14 by means of the move-
ments of travel of the machine, the rubbing
board 46 is moved in its depressed or lowered
position during the forward movement of 85
the board and with the engaging rubber 46
upon the surface 21, while during the rear-
ward movement of the rubbing board, the
same will be elevated and the rubber 47 will
be at rest out of engagement with the said 90
surface 21. The entire machine is forcibly
moved either forwardly or rearwardly in the
manner above described and the surface 21 is
washed by means of the spreading fluid 41
falling thereon and the forcible reciproca- 95
tions of the brush 21 and the forward sweep-
ing or rubbing actuations of the rubber 47 so
that by means of the machine one person
may readily perform the complete cleaning
operation upon a substantially smooth sur- 100
face such as a pavement or floor.

While the form of the invention herein
shown and described is what is believed to be
the preferred embodiment thereof, it is
nevertheless to be understood that minor 105
changes may be made without departing
from the spirit and scope of the invention as
claimed.

What I claim as new is:—

A device of the class described, comprising 110
a frame, a reciprocating brush carried there-
by, the said frame including side bars hav-
ing oval-shaped cam slots in their inner op-
posite sides, a rubbing board, rollers at the
ends of the said board operatively mounted 115
within the said slots, a surface-engaging
rubber carried by the said board, and a pit-
man connection between the said board and
frame.

In testimony whereof I affix my signature. 120

JOHN ZURVALECZ.