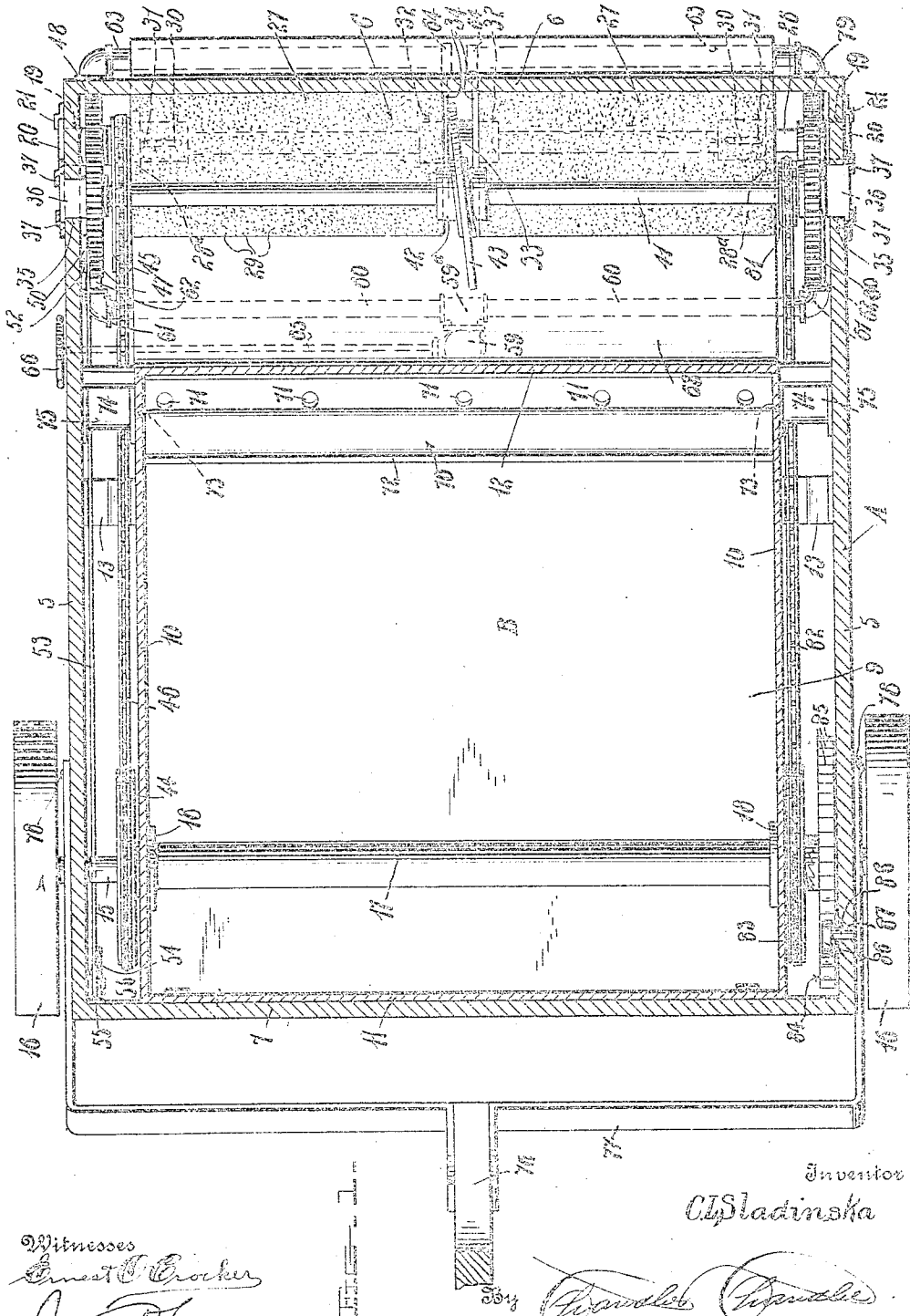


C. L. SLADINSKA.
 SCRUBBING MACHINE.
 APPLICATION FILED MAR. 2, 1913.

Patented Mar. 18, 1913.

1,056,129.

3 SHEETS-SHEET 1.



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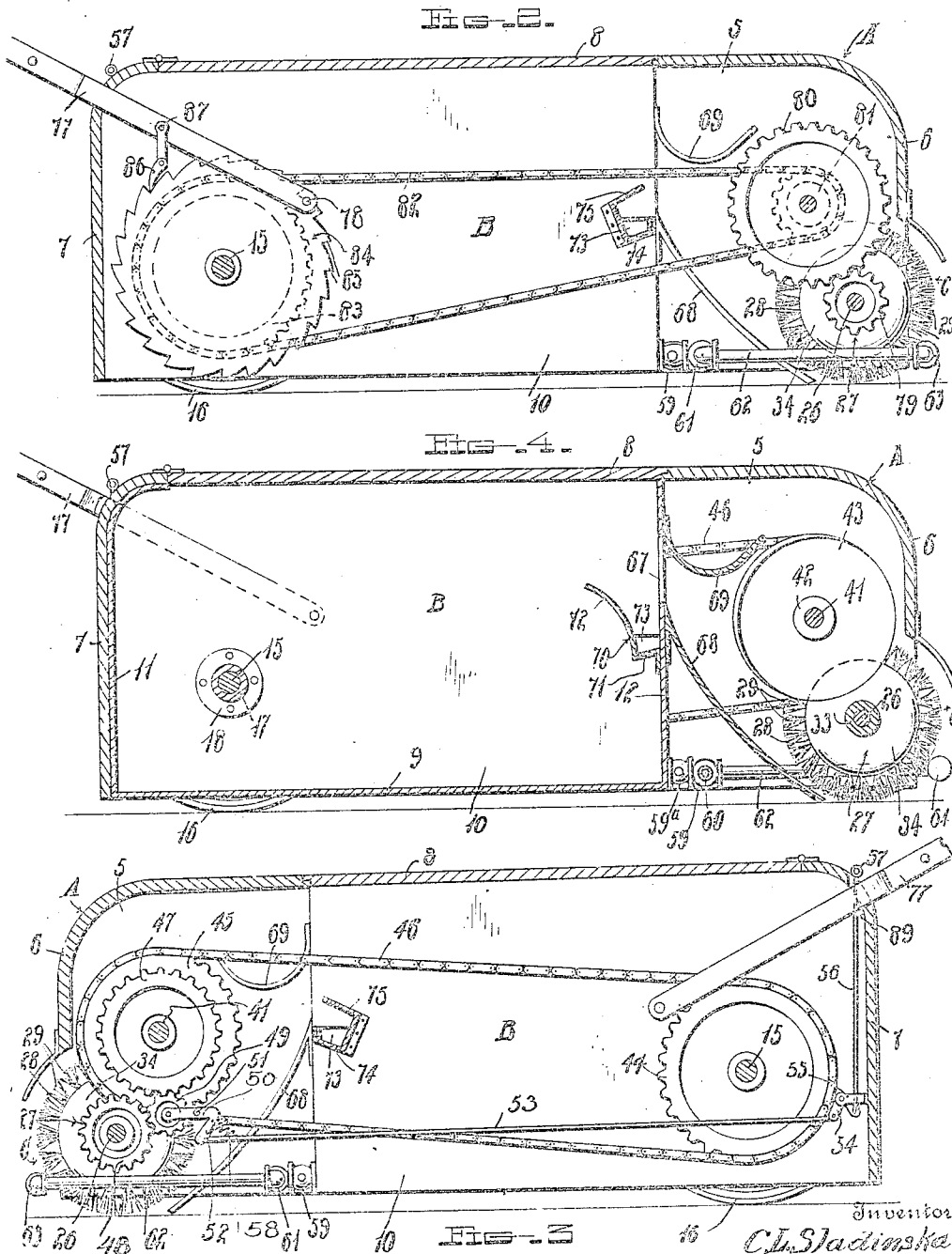
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Witnesses

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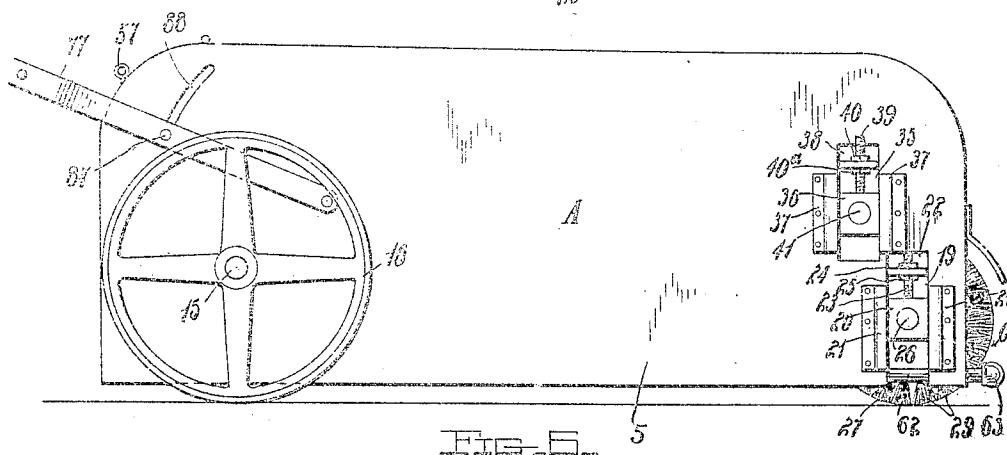
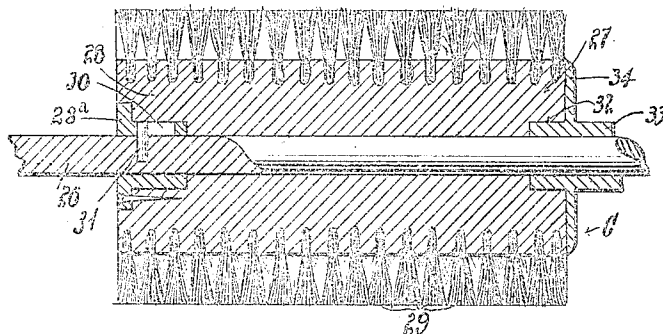
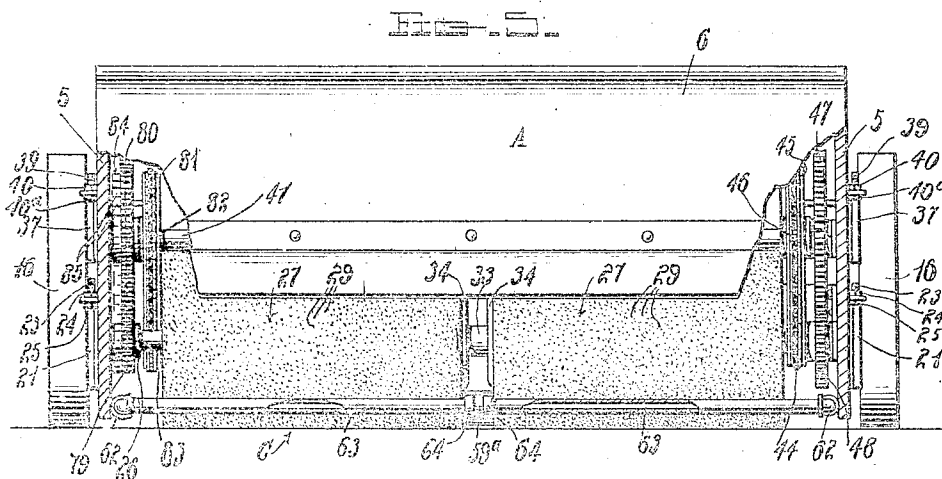
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3 SHEETS-SHEET 3.

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UNITED STATES PATENT OFFICE.

CHARLES L. SLADINSKA, OF FOUNTAIN CITY, WISCONSIN.

SCRUBBING-MACHINE.

1,056,129.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES L. SLADINSKA, a citizen of the United States, residing at Fountain City, in the county of Buffalo, State of Wisconsin, have invented certain new and useful Improvements in Scrubbing-Machines; and I do hereby 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 principal object of the invention is to provide a machine through the medium of which a floor may be expeditiously and thoroughly scrubbed and cleaned.

Another object of the invention is to provide a scrubbing machine in which a rotary scrubbing brush is driven by the supporting wheels upon the forward movement of the machine, and depending means for driving the brush when the machine is positioned within a corner or in fact in any other place where a forward movement cannot be imparted thereto.

A further object of the invention is to provide a scrubbing machine of the character described in which a novel mechanism is employed for reciprocating the scrubbing brush longitudinally of its supporting shaft.

A still further object of the invention is to provide a machine for the purpose described which is composed of a minimum number of parts, is therefore simple in construction, and is cheap to manufacture.

With these and other objects in view, the invention consists in certain novel features of construction and combination of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction within the scope of the claim, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings: Figure 1 is a top plan view of a machine constructed in accordance with my invention, the top being removed and certain of the parts being shown in section, Fig. 2 is an elevation of the right hand side of the machine, the casing being removed to better disclose certain of the driv-

ing means, Fig. 3 is a similar view but showing the left hand side of the machine, Fig. 4 is a central longitudinal sectional view through such a machine, Fig. 5 is a front end elevation of the machine, portions thereof being broken away to better disclose certain of the driving means, Fig. 6 is a side elevation showing the right hand side of the machine, and Fig. 7 is a longitudinal sectional view through one section of the brush showing the means employed for limiting its longitudinal movement along the shaft.

Like reference numerals designate corresponding parts in all the figures of the drawings.

Referring to the drawings, the invention includes a casing designated as a whole by the reference letter A. This casing is preferably formed of sheet metal and includes side walls 5-5, a front wall 6 and a rear wall 7. The front wall has its lower edge disposed above and in spaced relation to the lower edges of the side walls, and has its upper portion extending over and partially forming a top for the casing. A closure element 8 of any suitable type is hingedly connected to the rear wall 7.

Disposed within the rear portion of the casing A is a water tank B which includes a bottom 9, sides 10-10, a rear wall 11 and a front wall 12, the front wall being disposed in spaced relation to the front wall 6 of the casing. This tank is disposed below the closure 8 so as to permit water being readily placed within said tank. The side walls 10-10 of the tank are disposed equidistant from the side walls 5-5 of the casing, and are held in such relation by spacing elements 13-13. The rear wall 11 of the tank is connected to the rear wall 7 of the casing by rivets or other suitable means.

Located in the rear portions of the side walls 5 of the casing are bearings 14-14, and journaled in said bearings is a transversely disposed supporting axle 15 constituting a drive shaft and having ground wheels 16-16 mounted on the outer ends thereof beyond the casing. This axle or drive shaft passes through suitable openings formed in the side walls 10 of the tank, and a sleeve 17 is disposed around the axle and within the tank, and has its ends flanged, as at 18-18, and secured to the side walls 10 of said tank to form a water tight connection.

Formed in the forward end of each side wall 5 of the casing and extending upwardly from the lower edge thereof is a slot 19 in which is slidably mounted a bearing block 20, said block working in opposed guide flanges 21—21 which are secured to the respective side wall 5. In order to adjust the bearing block 20 and hold the same in any adjusted position, there is mounted upon the wall 5 directly above the block a bracket 22 through which a threaded pin 23 passes and has its lower end engaged with the block 20. Upper and lower nuts 24—25 respectively are associated with the pin 23, and are disposed above and below the bracket. It will thus be observed that by these means the blocks 20 may be readily adjusted and held in any predetermined position. Journalled in the blocks 20 is a transversely disposed supporting shaft 26, and mounted upon this shaft is a sectional brush which is designated as a whole by the reference letter C, each section, however, being designated by the numeral 27. Each section of the brush includes a cylindrical body 28 from which radially projects a plurality of scrubbing bristles 29 or any other means capable of performing the similar functions. The body 28 is recessed at its outer end to receive a countersunk bushing 28^a which is formed with a longitudinal opening 30 through which the outer end of a pin 31 projects, said pin being fixedly secured to the shaft 26. It will thus be observed that by means of this pin and slot connection the brush C is capable of having a limited longitudinal movement along its supporting shaft. The inner ends of the sections 27 are disposed in spaced relation and the body 28 is recessed, as at 32, to receive one end of a coupling sleeve 33. Laterally projecting from the sleeve is a pair of spacing flanges 34—34 which are connected to the respective inner ends of the sections 27 and constitute wear plates for a purpose hereinafter described.

Formed in each side wall 5 of the casing A above and in rear of the respective slot 19 is a vertical opening 35 in which is located a vertically movable bearing block 36, said block operating within guide flanges 37—37 carried by the side wall 5. A bracket 38 is secured to each side wall above each block 36 and an adjusting screw 39 passes through the bracket, and has its lower end engaged with said block. Upper and lower nuts 40 and 40^a are associated with the screw and are adapted for engagement with the bracket to retain the block in any adjusted position. It will thus be observed that by this means the blocks 36 may be adjusted to different heights as may be desired. Journalled in said blocks is a transversely disposed countershaft 41. Centrally secured upon this shaft is a hub 42 from which projects an inclined or cam disk 43 which works

between and automatically against the flanges or wear plates 34 of the brush C. By this means it will be observed that upon rotation of the shaft 41, the cam disk 43 will cause the brush C to be reciprocated along its supporting shaft 26.

In order to rotate the brush 23 and the disk 43 from the drive wheel 16, a sprocket wheel 44 is fixedly mounted upon said axle 15. A sprocket wheel 45 is fixedly mounted upon the shaft 41 and in alinement with the wheel 44. These sprocket wheels are connected by a chain 46. Also fixedly mounted upon the shaft 41 is a large pinion 47, and this pinion is disposed in alinement with but normally out of gear with a smaller pinion 48 which is fixedly mounted upon the shaft 26. In order to connect the pinions 47 and 48, there is provided an idler 49 which is journalled upon one end of a lever 50, which is fulcrumed intermediate its ends, as at 51, to the adjacent side wall 5 of the casing A. The end of the lever 50 opposite the idler is downwardly bent to form a crank arm 52. The free end of the arm 52 is connected to one end of a connecting rod 53 which extends rearwardly between the side walls 5 and 10 of the casing and tank respectively, and has its rear end pivotally connected to one arm of a bell crank lever 54 which is pivotally connected at its angle to a bracket 55 mounted upon the rear wall 7 of the casing. The other arm of the bell crank lever 54 is pivotally connected to an upwardly extending pull rod 56 which passes through a suitable opening formed in the casing and terminates beyond said casing in a handle 57. It will thus be observed that upon upward pull of the rod 56, the bell crank lever will be rocked in a direction to pull the lever 50 so that the idler 49 will be caused to disengage the pinions 47 and 48. In order to return the idler 49 to its operative position, there is provided a coil spring 58 which has one end connected to the side walls 5 and the other end to the lever 50 adjacent the pinion 48.

In order to direct water from the tank 13 in advance of the brush C, an outlet valve 59 is centrally connected to the lower portion of the front wall 12 of said tank, and this valve is connected by means of a T 59^a to oppositely projecting transverse pipes 60—60. The outer ends of each pipe are connected by an elbow 61 to a forwardly extending pipe 62 which is disposed between the side wall 5 of the casing and the respective end of the brush C. Connected to the forward end of each pipe section 62 is an inwardly extending perforated pipe 63, which is disposed slightly in advance of the respective section 27 of said brush, and has its end closed by means of a cap 64. In order to control the valve 59 a valve stem 65 projects laterally through one of the side

walls 5 of the casing and carries a hand grip 66 at its outer end for facilitating the turning of the rod.

Centrally formed in the front wall 12 of the tank B is an opening 67 which extends entirely across said wall. A downwardly inclined scoop 68 is disposed in advance of the front wall 12 and between the side walls 5 of the casing, the upper end being connected to said front wall 12 of the tank at the bottom of the opening 67 and the lower end being disposed below and directly in rear of the brush C. A guard plate 69 is disposed above the scoop 68, and is connected to the front wall 12 of the tank B and also to the side walls 5 of the casing A. Disposed within the tank B and secured to the front wall 12 slightly below the opening 67 is a trough 70, the bottom thereof being formed with a plurality of perforations 71. The rear wall of this trough is extended to form a diverging lip 72. Openings 73—73 are formed in the side walls 10 of the tank and register with the trough 70. Disposed between the side walls 5 and 10 of the casing and tank are short troughs 74 which are so arranged as to register with the openings 73. The rear wall of each trough 74 is extended to form a forwardly extending lip 75. It will thus be observed that as the machine moves forward, the trough 73 will be rotated so as to draw the water and dirt along the scoop 68 through the opening 67 and into the tank B. Portions of said water drop into the trough 70 from whence they will pass through the perforations 71 into the tank, the lips 75 of the second mentioned troughs serving as guards to prevent such water and dirt from passing therebeyond. By reason of the fact that the lip 72 of the trough 70 is disposed between the water in the tank and the opening 67, all tendency of said water to pass out through the opening when the machine is being operated will be prevented, as will be readily understood.

In order to push the machine forwardly, I have provided a handle 76 which is connected at its lower end to a sectional bail 77, the ends of the bail being pivotally connected, as at 78, to the side walls 5 of the casing.

In order to actuate the brush C when the machine is stationary, the following mechanism is employed: Fixedly mounted upon the end of the shaft 26 opposite the pinion 48, is a pinion 79 which is engaged by a

large pinion 80 that is connected to the shaft 41 by a ratchet (not shown). Carried by the pinion 80 is a sprocket wheel 81 which is driven by means of a chain 82 from a sprocket wheel 83 loosely mounted upon the axle or drive shaft 15. Carried by the sprocket wheel 83 is a ratchet wheel 84, the teeth 85 thereof being engaged by a gravity pawl 86 which is pivotally connected to an arm 87 carried by the bail 77 of the handle 76, said arm 87 riding in an arcuate slot 88 formed in the side wall 5 of the casing A, said slot being concentric with the pivot 78 of the handle. It will thus be observed that when the idler 49 is disengaged from the pinion 47 and 48, the forward drive of the brush C is interrupted. This permits of the handle 76 to be reciprocated and by means of the pawls 86 engaging the teeth 85, the sprocket wheel 83 will be rotated, which through the medium of the chain 82 and pinions 79 and 80, will cause the brush C to revolve in the same direction. In order to positively hold the idler 49 from engagement with the pinions 47 and 48 the pull rod 56 is formed with a projection 89 which is adapted to engage the front wall 7 of the casing, and thereby retain the idler in its inoperative position and against the tension of the spring 58. When it is desired to operate the brush upon the forward movement of the machine, the idler 49 is returned to its operative position, and inasmuch as the sprocket wheels 81 and 83 are loosely mounted upon the respective shafts, all danger of binding will be avoided.

What is claimed is:

A scrubbing machine, including a frame, supporting wheels therefor, a handle pivotally connected thereto, a cleaning tool carried by the frame, connections between the traction wheels and the tool whereby the same is operated during movement of the frame; means to disconnect the tool from the traction wheels, and means carried by the handle and frame adapted on oscillation of the handle to operate the tool when the latter is disconnected from the traction wheels.

In testimony whereof, I affix my signature, in presence of two witnesses.

CHARLES L. SLADINSKA.

Witnesses:

HARRY A. SLADINSKA,
H. E. BOHN.