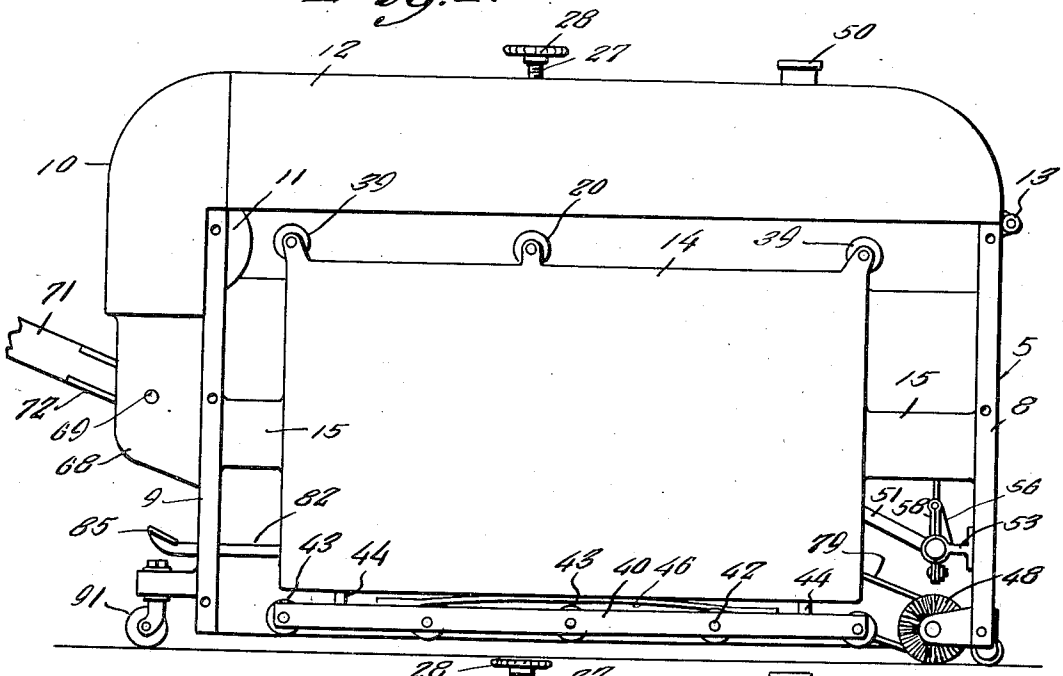
Dec. 10, 1935. J. MILANOVICH 2,023,816

SCRUBBING MACHINE

Original Filed Nov. 10, 1931 4 Sheets-Sheet 1

Fig. 1.



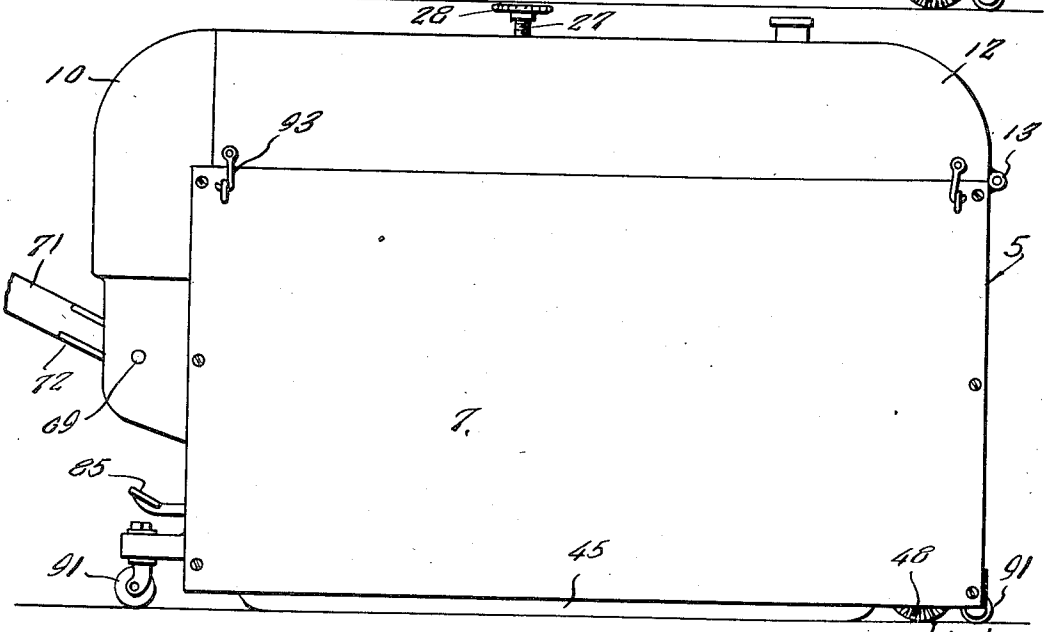


Fig. 2.

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SCRUBBING MACHINE

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Fig. 5.

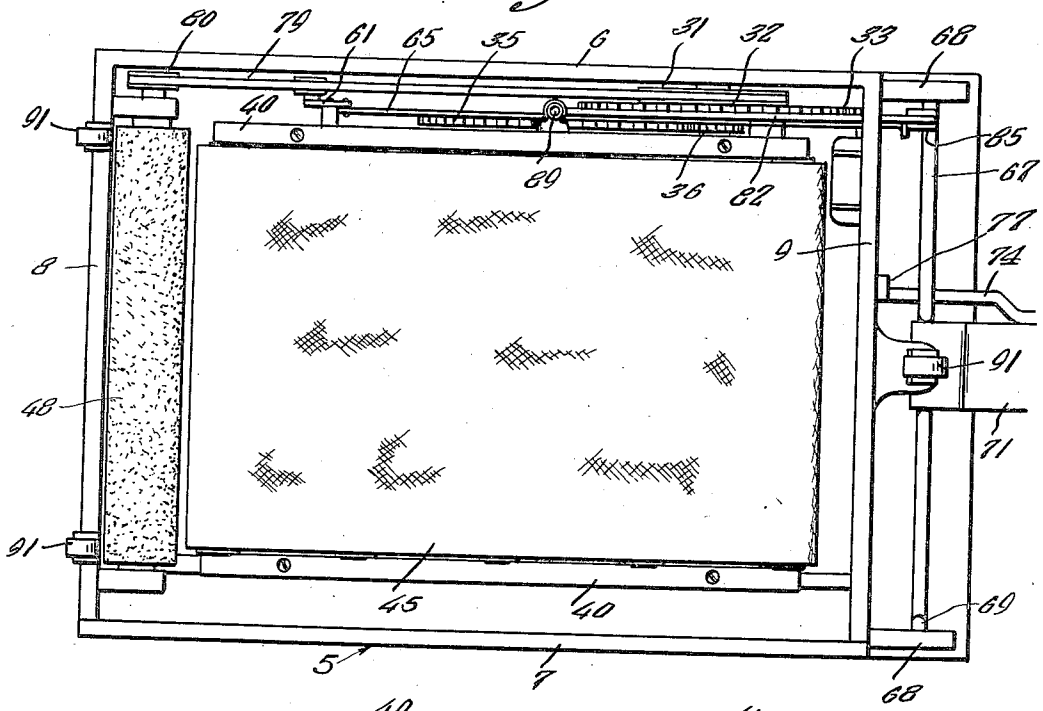


Fig. 7.

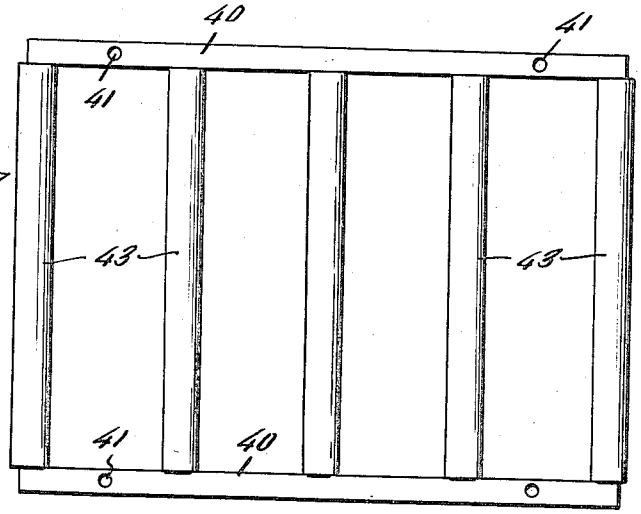
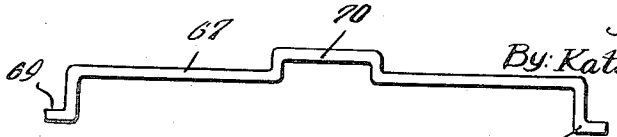


Fig. 8.



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SCRUBBING MACHINE

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Fig. 4.

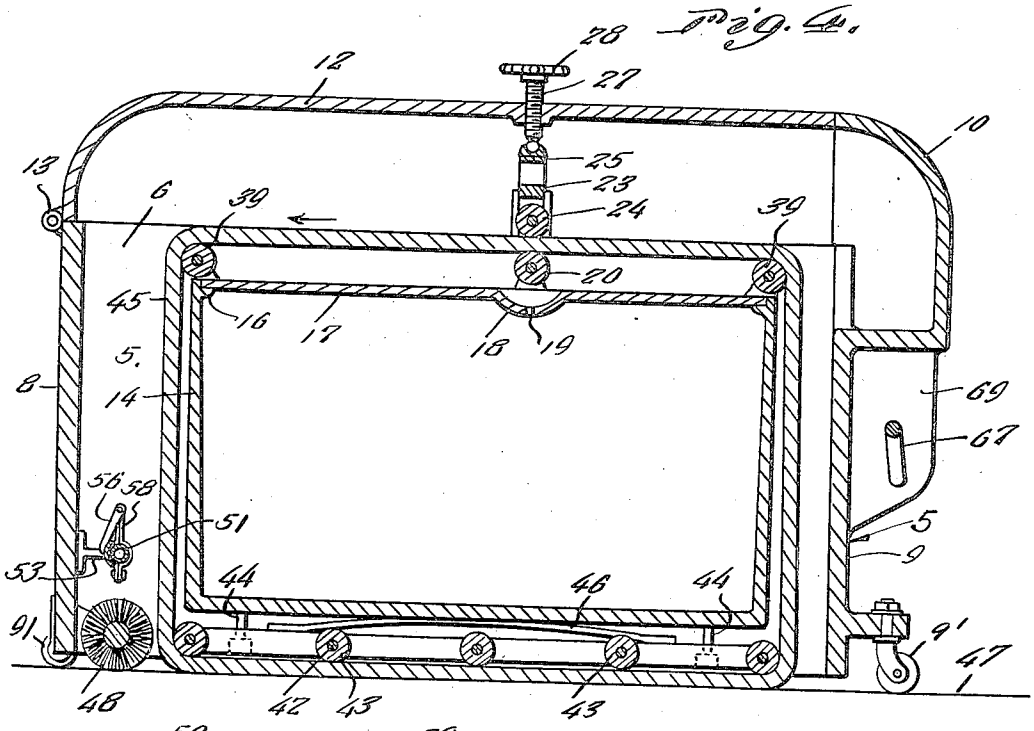
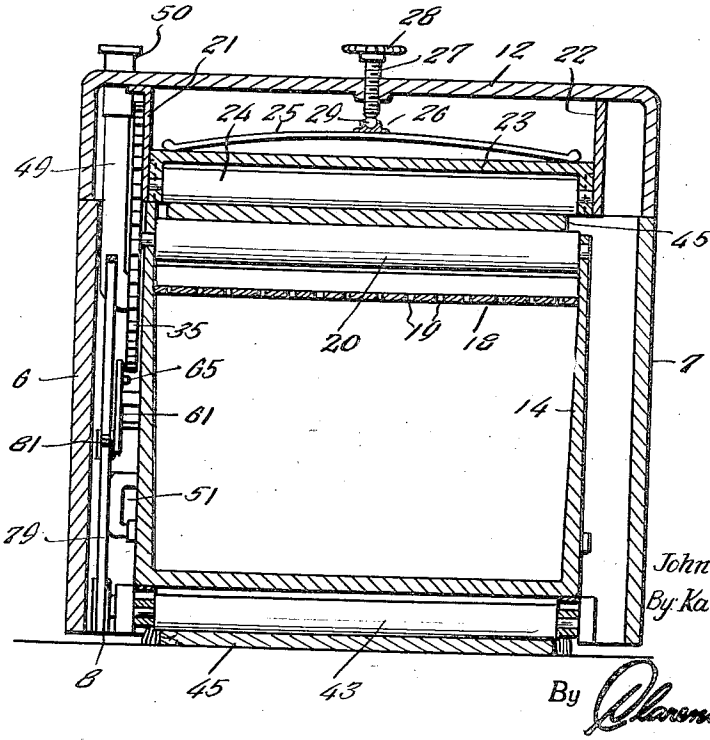


Fig. 5.



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SCRUBBING MACHINE

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Fig. 6.

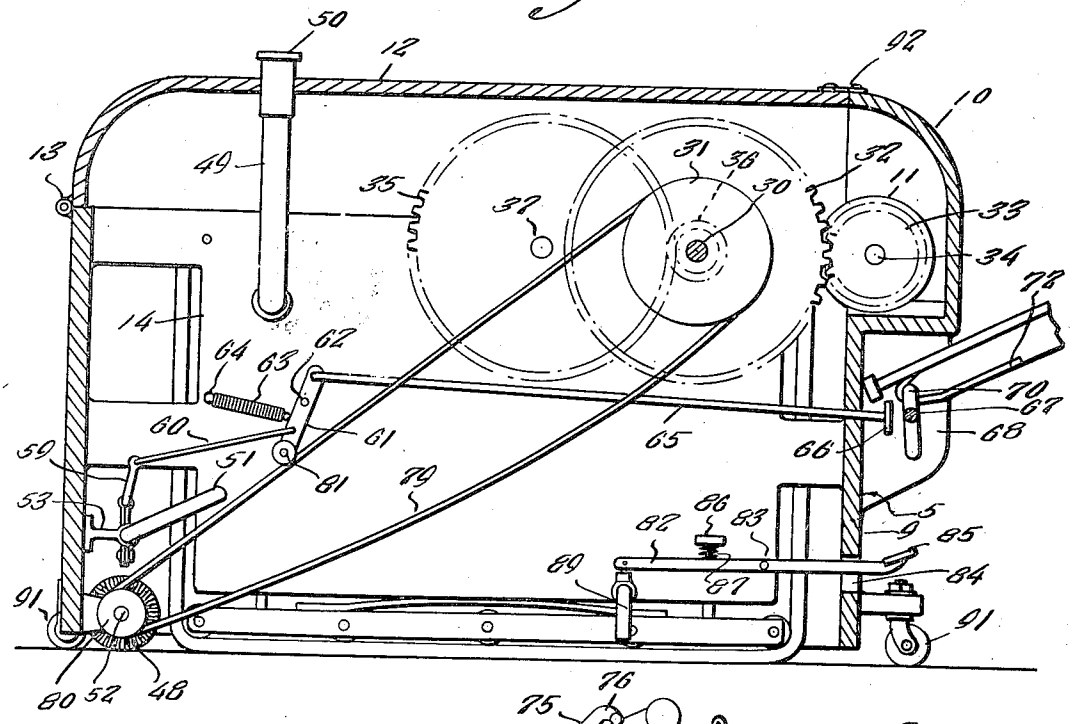


Fig. 9.

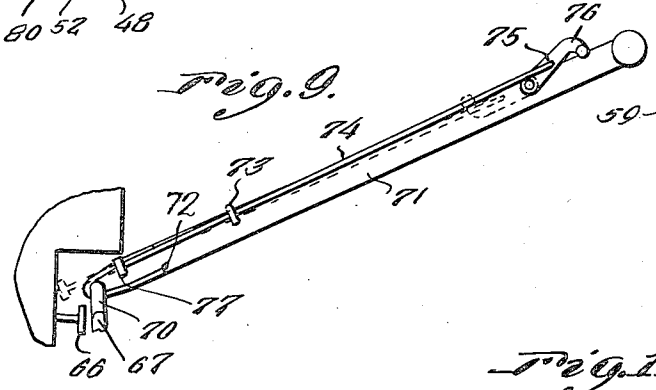


Fig. 10.

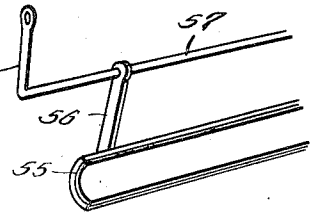
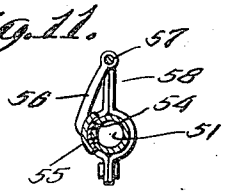


Fig. 11.



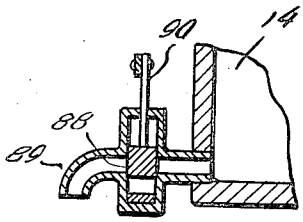


Fig. 12.

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UNITED STATES PATENT OFFICE

2,023,816

SCRUBBING MACHINE

John Milanovich, deceased, late of Hollidays Cove, W. Va., by Katie Milanovich, administratrix, Farrell, Pa., assignor to Nick Tuskan, Detroit, Mich.

Refiled for abandoned application Serial No. 574,181, November 10, 1931. This application December 18, 1934, Serial No. 758,123

3 Claims. (Cl. 15—51)

This invention relates to improvements on the subject of Patent No. 1,804,636 issued May 12, 1931 and a refiling for the abandoned application Serial Number 574,181, filed November 10, 1931.

The principal object of this invention is to provide a scrubbing machine particularly adapted for use in limited quarters, and more particularly adapted for household use, whereas the subject matter of said Patent No. 1,804,636 is especially adapted for surfaces of more extensive area.

Another important object of the invention is to provide a scrubbing machine wherein the water supply to the rotary brush can be controlled automatically.

Still another important object of the invention is to provide a machine of the character stated wherein the scrubbing brush and water supply thereto can both be controlled automatically and in a simultaneous manner.

These and numerous other important objects and advantages will become apparent to the reader of the following specification.

In the drawings:—

Figure 1 represents a side elevational view of the machine proper with the removable side plate detached.

Figure 2 represents a side elevational view of the machine with the removal plate in attached position.

Figure 3 represents a bottom plan view of the machine.

Figure 4 represents a longitudinal sectional view through the machine.

Figure 5 represents a transverse sectional view through the apparatus.

Figure 6 represents a longitudinal sectional view through the gear compartment of the machine.

Figure 7 represents a top plan view of the roller frame and rollers.

Figure 8 represents a top plan view of the handle operating crank shaft.

Figure 9 represents a fragmentary side elevational view disclosing the handle and handle locking means.

Figure 10 represents a fragmentary perspective view of the fluid cut-off means.

Figure 11 represents a vertical sectional view through the fluid supply pipe to the scrubbing brush and showing the cut-off installed thereon.

Figure 12 represents a fragmentary detailed sectional view of the drain valve.

Referring to the drawings wherein like numerals designate like parts, it can be seen that the numeral 5 generally refers to a casing which includes the side walls 6 and 7 as well as the front and rear walls 8 and 9 respectively. At the top of the rear wall 9 is a box-like shell 10 forming a housing for the electric motor 11. Numeral 12 represents a hood for disposition over the open top of the casing 5, the same being hingedly connected as at 13 to the upper edge of the front wall 8 as clearly shown in Figures 4 and 6.

Supported within the casing 5 and in spaced relation to the walls of the casing, is the water tank 14, the same being supported by the bracket 15. The upper edge portion of the tank 14 is provided with a ledge 16 for supporting the anti-splash plate 17 which is provided with a transversely extending trough formation 18 therein having perforations 19, this trough being located beneath the wringer roller 20 which is mounted upon the tank 14.

It will be observed in Figures 4 and 5, that the hood 12 is provided with partitions 21—22 therein, between which the roller carrier 23 is slidably supported and supports the upper roller 24 which is complementary to the lower roller 20. A leaf spring 25 has a socket 26 at its intermediate portion and has its ends bearing against the ends of the carrier 23.

Numeral 27 represents a screw having a knob 28 at its upper end and a ball 29 at its lower end engaged in the socket 26. Obviously, tension on the carrier 23 can be regulated at will.

Between one side of the tank 14 and the side wall 6 is the shaft 30 on which the large pulley 31 is secured, along with the gear 32 which meshes with the smaller gear 33 on the armature shaft 34 of the aforementioned motor 11. Another gear 35 substantially the same size as the gear 32, meshes with a pinion 36 on the shaft 30, and through the shaft 37 drives the lower roller 20.

As is clearly shown in Figure 4, a roller 39 is located upon the tank 14 at each end thereof, while beneath the tank 14 is a frame consisting of a pair of side bars 40—40 having openings 41 therein and connected by the rods 42 on which the rollers 43 are operative. Pins 44 depend from the bottom of the tank and extend into the openings 41 of the side bars 40 to serve as guides for the rollers frames, and to maintain the roller frame and rollers urged downwardly to maintain the endless wiper web 45 normally taut, a leaf spring 46 is interposed between the individual bars 40 and the bottom of the tank.

As is clearly shown in Fig. 4, the web 45 is

trained over the rollers 39, between the rollers 20 and 24, and under the rollers 43, and motion is imparted to the web by the roller 20, so that the web moves against the floor 47 in a direction opposed to the direction of travel of the machine, so as to wipe the floor after the floor has been treated by the scrubbing brush 48.

Water taken up by the web 45 is wrung out by the wringer rolls 20 and 24, and at this point water drops into the trough 18 and drains into the tank 14 therefrom. A filler neck 49 extends from the side of the tank 14 through an opening in the hinged hood 12, and may be provided with a cap 50 if desired.

Extending from the tank 14 adjacent the bottom thereof is a pipe 51 which is bent for disposition over the brush 48, which brush is rotatably carried by the shaft 52, and the pipe 51 is disposed through the bracket 53 and as shown, in Figure 11, the perforations are denoted by numeral 54 and can be closed by the transversely curved plate 55 which has a packing strip on the inner side thereof.

This cut-off plate 55 is provided with a plurality of arms 56 which are rigidly secured to the shaft 57, the latter being disposed through clamping supports 58 on the aforementioned pipe 51. The shaft 57 is provided with a crank 59 at one end which is connected by way of the rod 60 to the lever 61, adjacent its fulcrum point 62. A spring 63 at one end is anchored to the adjacent side of the tank 14 as at 64, while its opposite end is attached to the lever 61, adjacent its intermediate portion.

An elongated rod 65 extends from the free end of the lever 61 through an opening in the rear wall of the casing 5 and terminates in a head 66 adjacent the crank shaft 67. At this point, it will be observed, that the rear wall 9 of the casing 5 is provided with a pair of flanges 68 into which the ends 69—69 of the crank shaft 67 are journalled, the intermediate portion of this shaft 67 being provided with an offset 70.

Numeral 71 represents an elongated handle which is connected to the offset portion 70 of the shaft 67 by the strap 72, which substantially links the shaft 67 to the handle 71 with the crank normally in the upstanding position shown in Figure 6 so that when the handle 71 is moved forwardly or rearwardly the crank will readily operate to control the water supply.

Slidable through an eye or eyes 73, on the handle 71 is an elongated rod 74 which at its outer end is connected as at 75 to the intermediate portion of the lever 76, which can be thrown to the dotted line position shown in Fig. 9, and in this position, being off center, maintains the head 77 at its lower end against the rear wall 9 as is also shown in dotted lines in Fig. 9, when it is desired that the water supply to the brush 48 be maintained cut off.

It can now be seen that when the rod 74 is in a position having been urged toward the free end of the handle 71, by moving the handle 71 toward the machine so that the crank 67 is urged against the head 66, the water supply will be cut on, and of course when a complete reversed movement of the handle 71 is effected, the water supply will be cut on again after passing through the stage of cutting the supply off and this is desired when the machine is being pushed back and forth across the surface being washed. However, by moving the handle so as to bring the crank midway between these extremes, the water supply is cut off, and if the machine is to be pushed from one point of use to another, the rod 74 is pushed toward the machine so that it bears against the rear wall thereof and prevents any forward motion of the handle. Thus the water supply is maintained shut off until the rod 74 is again moved to a position releasing its machine end from engagement with the rear wall.

At this point, it can be seen, that the spring 63 normally serves to move the lever 61 in a direction away from the belt 79, which is trained over the pulley 31 on the shaft 30 and the pulley 80 on the shaft 52 of the brush 48. A roller 81 is provided on this lever 61 for riding engagement with the belt 79 when the same is engaged against the belt to tighten the same on the aforementioned pulley.

With the spring 63 maintaining the lever 61 urged away from the belt 79, the rod 60 is swinging the shaft 57 to a position maintaining the closure plate 55 against the perforated portion of the pipe 51. Thus, there is no motion of the belt 79 to impart motion to the brush 48 and there is no water being supplied to the brush. As before stated, the machine can be maintained in this manner by retaining the head 77 of the rod 74 against the rear plate 9 of the machine housing 5. However, with the rod 74 released, the shaft 67 is free to swing against the head 66 of the rod 65 when pressure is exerted on the handle 71 to move the machine forwardly. This obviously results in the tensioning of the belt 79 and the removal of the closure plate 55 from the pipe 51 so that the scrubbing brush 48 is rotated simultaneously with a supply of water thereto.

Numeral 82 represents a lever fulcrumed as at 83 to one side of the tank 14 and having one end portion operating through an opening 84 in the rear wall 9 of the casing 5, where it is provided with a foot plate 85. A boss 86 on the adjacent side of the tank 14 has a compressible spring 89 interposed between it and the lever 82, for normally maintaining the lever in a position urging the valve element 88 in the outlet 89 in a closed position, this valve element 88 being connected to the lever 82 pivotally by the stem 90 on the valve element.

At the forward and rear ends of the casing are caster wheels 91 and as is clearly shown in Fig. 6, hooks 92 are employed for securing the hood 12 to the shell 10 and additional hooks 93 are provided on the sides of the hood 12 for connection to the side walls 6 and 7.

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

What is claimed is:—

1. In a scrubbing machine, a casing, a liquid tank in the casing, a rotary scrubbing brush, a spray pipe over the brush, a conduit from the tank to the spray pipe, a valve in the conduit, a loose drive belt for the brush, a swingable lever, one end of which is adapted to engage and tighten the belt, a control rod connected to the lever for operating the same, and a connection between the lever and the valve whereby the valve will be controlled simultaneously with the control of the belt by the lever.

2. In a scrubbing machine, a casing, a liquid tank in the casing, a rotary scrubbing brush, a spray pipe over the brush, a conduit from the tank to the spray pipe, a valve in the conduit, a loose drive belt for the brush, a swingable lever,

one end of which is adapted to engage and tighten the belt, a control rod connected to the lever for operating the same, a connection between the lever and the valve whereby the valve will be controlled simultaneously with the control of the belt by the lever, a handle, a crank shaft on the casing to which the handle is connected, said crank shaft being operative against the said control rod to operate the same.

3. In a scrubbing machine, a casing, a liquid tank in the casing, a rotary scrubbing brush, a spray pipe over the brush, a conduit from the tank to the spray pipe, a valve in the conduit, a loose drive belt for the brush, a swingable lever, one end of which is adapted to engage and tighten the belt, a control rod connected to the lever for operating the same, a connection between the lever and the valve whereby the valve will be controlled simultaneously with the control of the belt by the lever, a handle, a crank shaft on the casing to which the handle is connected, said crank shaft being operative against the said control rod to operate the same, and means for securing the said handle to prevent actuation of the said crank shaft.

her
KATIE × MILANOVICH.
mark

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Witness to mark:
CHAS. P. ALEXANDER.