July 11, 1939. J. S. BENISH 2,165,331

FLOOR SCRUBBING MACHINE

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Fig. 1.

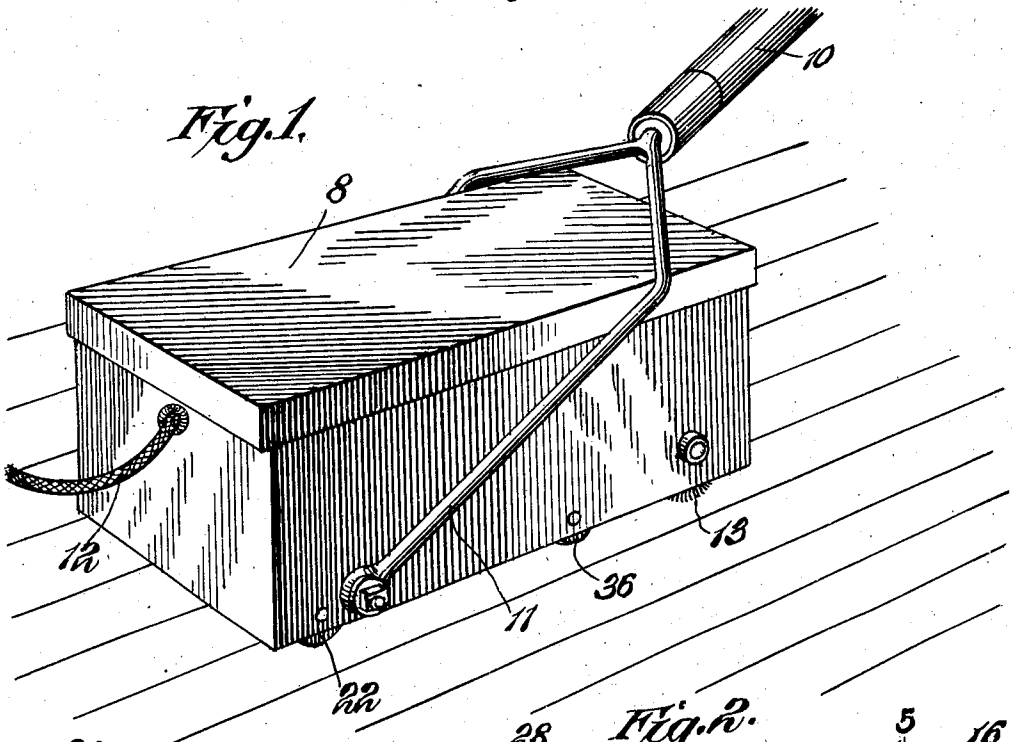
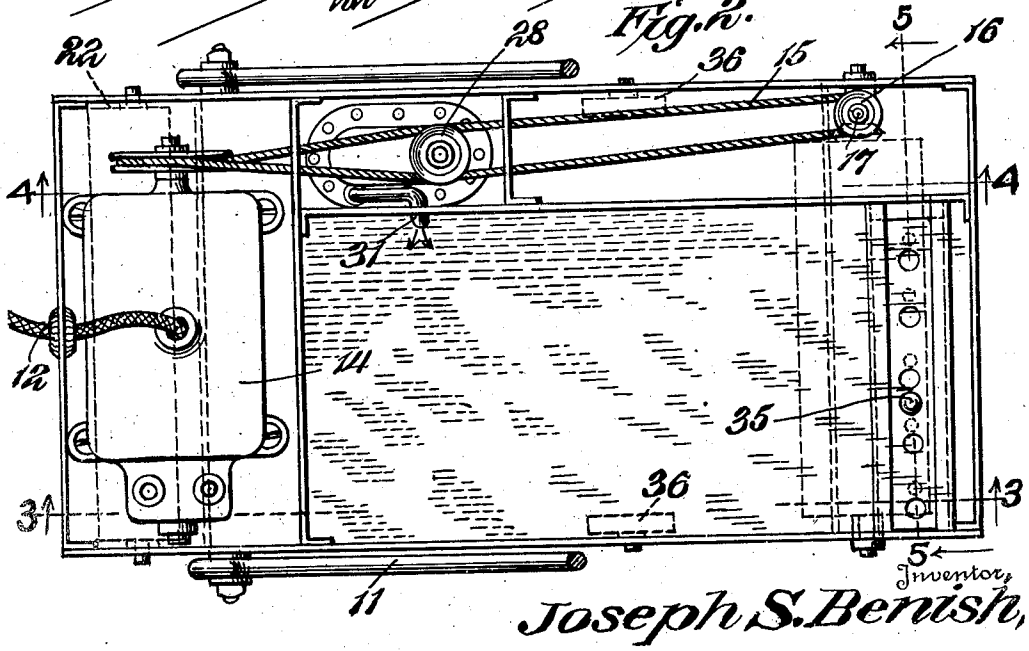


Fig. 2.



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Fig. 3.

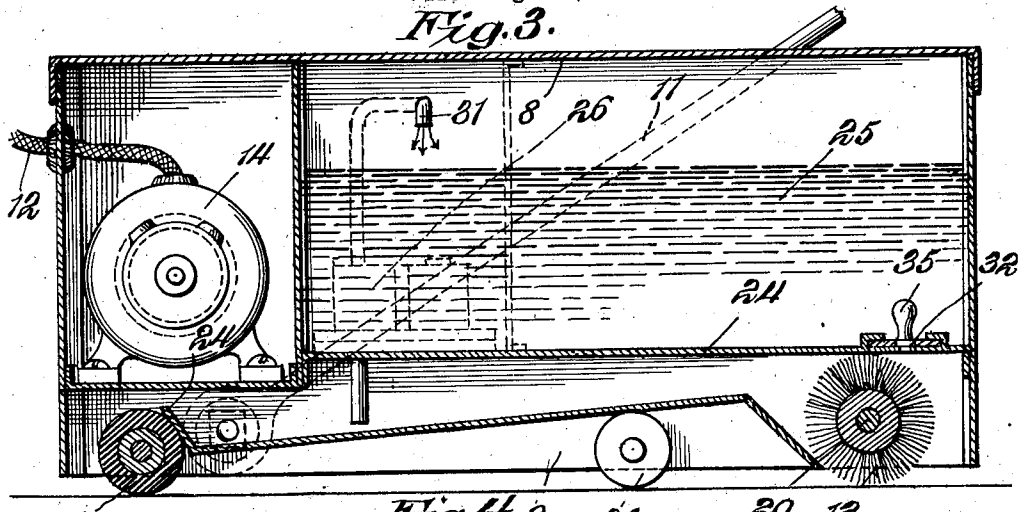


Fig. 4.

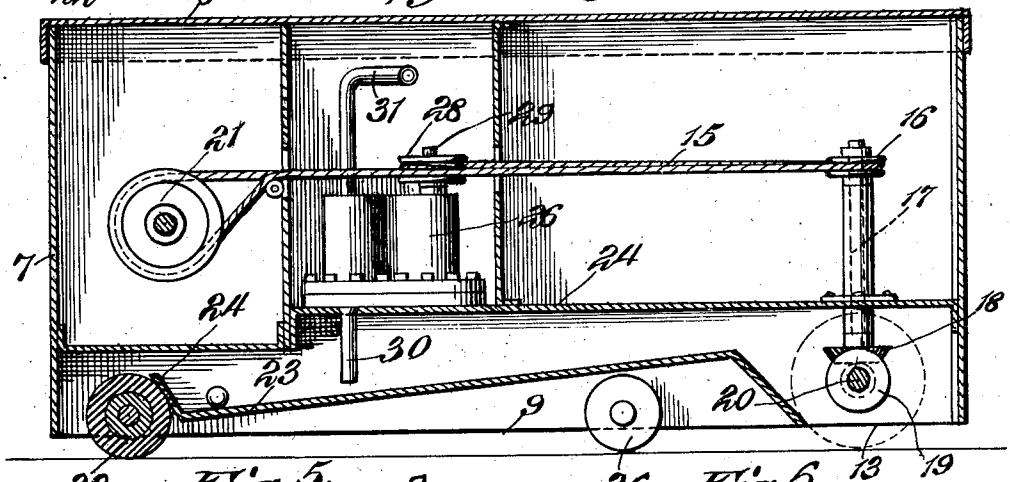


Fig. 5.

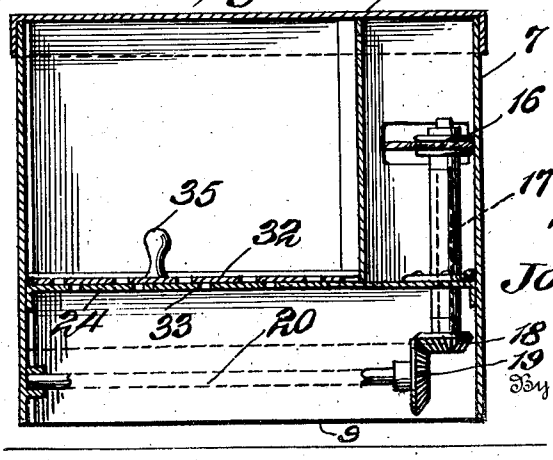
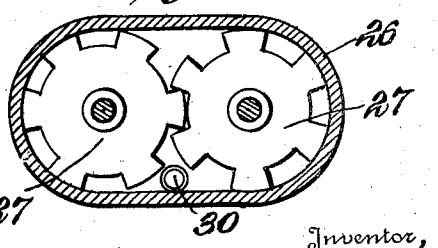


Fig. 6.



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Patented July 11, 1939 2,165,331

UNITED STATES PATENT OFFICE

2,165,331

FLOOR SCRUBBING MACHINE

Joseph S. Benish, Rhinelander, Wis.

Application August 10, 1938, Serial No. 224,163

1 Claim. (Cl. 15—52)

The present invention relates to machines for scrubbing floors or other like surfaces and consists in the combinations and arrangements of elements hereinafter described and particularly set forth in the accompanying claims.

The purpose of the invention is to produce a floor scrubbing machine which will embody both means for scrubbing the floor and simultaneously drying the same to the end that when a given surface has been once gone over it will have been thoroughly scrubbed and the excess cleaning water therefrom removed and recovered for further use progressively during the cleaning operation.

Another object of the invention is to provide a floor scrubbing machine of this character wherein the initial supply of water may be continuously used and re-used, or maintained substantially constant during the scrubbing operation of any given surface and thereby avoid the necessity and time lost as a consequence of numerous interruptions for refilling the tank before there is actual necessity for doing so.

The machine in its entirety constitutes a single and self-continued unit of comparatively simple construction, employing but few parts that may be readily assembled or dis-assembled all to the end of economy in cost of manufacture and thereby promoting its wide and extensive use. The size and dimensions of the machine are such that the same may be made up to suit the requirements of the particular service for which it is designed to serve.

The invention is shown by way of illustration in the accompanying drawings wherein:

Figure 1 is a perspective view of the machine;

Figure 2 a top plan view thereof;

Figure 3 a longitudinal sectional view taken on the line 3—3 of Figure 2;

Figure 4 a similar view taken on the line 4—4 of Figure 2;

Figure 5 a transverse sectional view taken on line 5—5 of Figure 2, and

Figure 6 a top plan view of the water pump, with cover plate removed.

Referring to the constructions in further detail and wherein like reference characters designate corresponding parts in the different figures shown, the machine consists of a casing or carrier 7 preferably of sheet metal, having a removable top 8 and forms an open bottom as at 9 whereby the surface of the floor may be scrubbed and dried progressively as the machine moves thereover, and a handle 10 connected with the sides of the casing by the bale or fork 11 serves for moving the machine freely about within the range or limits of the conductor 12 that has the usual socket piece (not shown) for connecting with the floor plug as will be understood.

A rotary scrubbing brush 13 is located at one end of the casing (see Figs. 3 and 4) to freely and frictionally engage with the floor or other surface to be scrubbed and said brush is connected to be driven from the motor 14 by a cord 15 that drives on a pulley 16 on the upper end of the shaft 17 which in turn has a bevelled gearing connection 18 and 19 with shaft 20 which carries the brush 13. Said cord 15 engages with pulley 21 on the motor 14 as illustrated in Figures 2 and 4 and it will therefore be seen that as the machine is moved from place to place by handle 10 the scrubbing brush 13 will effectively clean the surface within the radius of said cable 12 as heretofore stated.

To the end that the scrubbed floor may have all excess water removed therefrom progressively with the cleaning operation, i. e. substantially dried, there is provided a roller 22, of rubber or other suitable material, located at the opposite end of the machine from the scrubbing brush 13 and otherwise so positioned that as it contacts with the wet surface it will collect or absorb the water therefrom and deliver the same into a receptacle or pan 23 located beneath the casing partition plate 24 and immediately under the motor 14 whereby said roller may have the full benefit of weight of the motor in contacting with and collecting the maximum amount of excess water, and further to this end said pan or receptacle has upturned lower edge portion 24 that frictionally engages with the roller 22 in such a way that the latter is freed of the film of water adhering to the surface thereof and the said water is thereby recovered from the floor and collected to the receptacle 23 as will be understood.

The recovered water thus collected within the pan 23 is delivered into the main reservoir or tank 25 through the medium of a pump 26 which comprises a pair of vertically set and intermeshing rotors 27 and said rotors are in turn connected to be actuated from the cord 15 by groove pulley 28 on shaft 29 of the pump and the intake pipe 30 and the outlet of discharge pipe 31 will serve for conveying the water from the pan 23 into the reservoir 25 as shown in Figures 3 and 4.

In the operation of the machine the water or other liquid within reservoir 25 is delivered by gravity directly upon the rotary scrub brush 13

and suitable control for regulating the same consists of a slide valve 32 apertured to correspond with openings in the partition plate 24 as indicated in Figures 3 and 4, and the handle 35 serves for adjusting the slide plate 32 as required.

It will therefore be noted that as the machine is moved across the floor on the supporting wheels 36 forward of the absorbent roller 22 full scrubbing action may be had of the rotary brush 13 and all excess water will be recovered for continuous re-using progressively as the cleaning operation continues.

It will be understood the invention as herein disclosed is not limited to the details of construction shown and described, since these may be varied without departing from the principles of the invention as defined by the claim.

What is claimed as new is:

A floor scrubbing machine of the character described comprising a carrier providing a water reservoir, a scrubbing brush located at one end of the carrier and adapted to receive water from the reservoir, a water absorbent roller providing a support for the carrier located at its opposite end, supporting wheels located at a position forward of the absorbent roller providing a fulcrum for said carrier, said reservoir being so located relative to said wheels so that fluid therein produces no tendencies for said carrier to rotate about said fulcrum in either direction, a water pan located between said absorbent roller and the brush and having an edge thereof arranged to receive liquid from said roller, a pump for delivering water from said pan into the reservoir, and a motor located over the absorbent roller and having driving connection with said pump and the scrubbing brush, substantially as set forth.

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