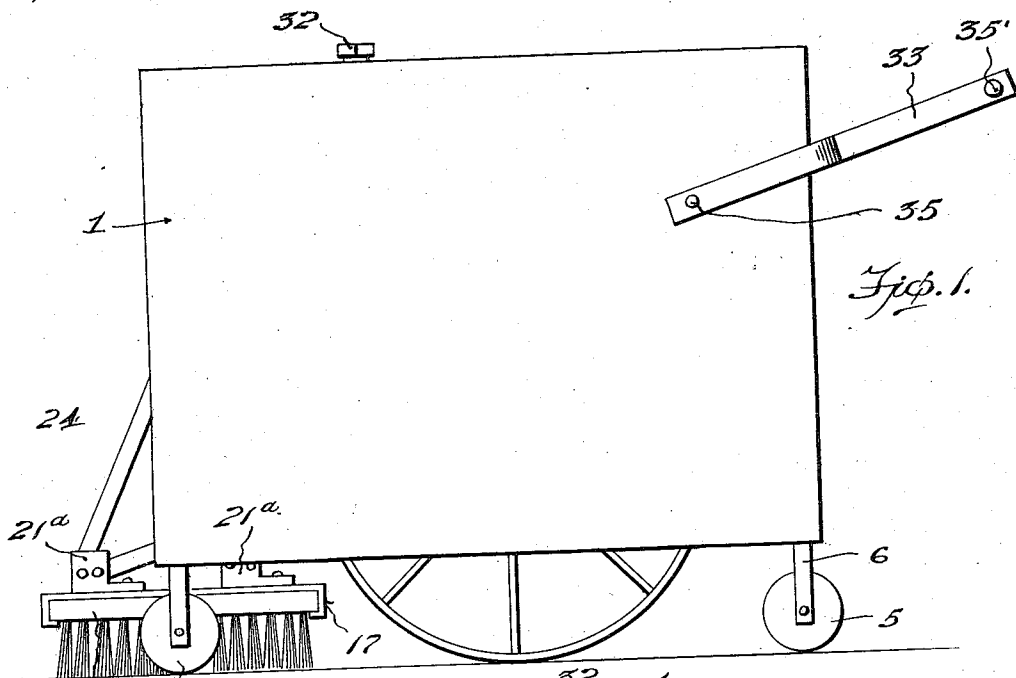
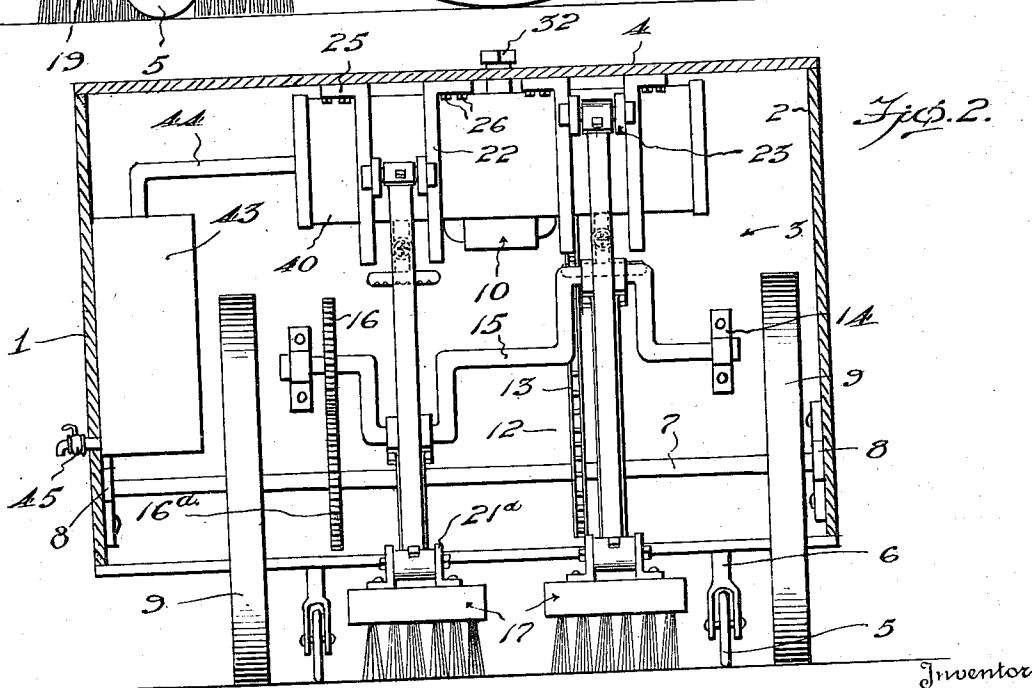


F. ADAMS.
SCRUBBING MACHINE.
APPLICATION FILED DEC. 23, 1914.

Patented Nov. 9, 1915.
2 SHEETS—SHEET 1.

1,160,031.



Inventor
F. Adams.

Witnesses

Paul M. Hunt.
Charles Wheeler

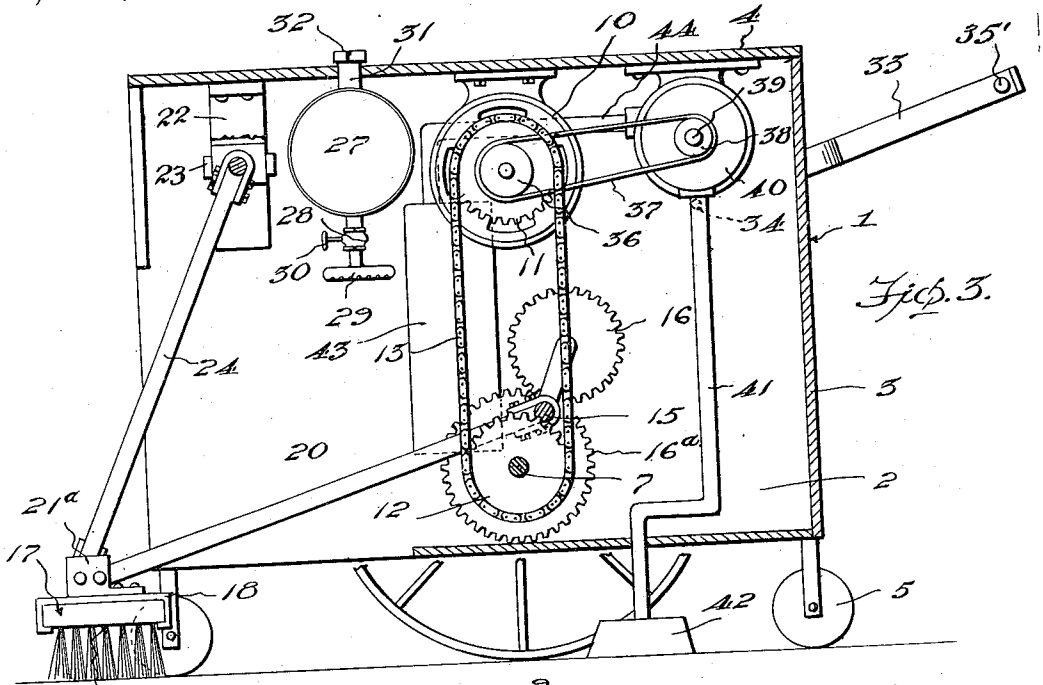
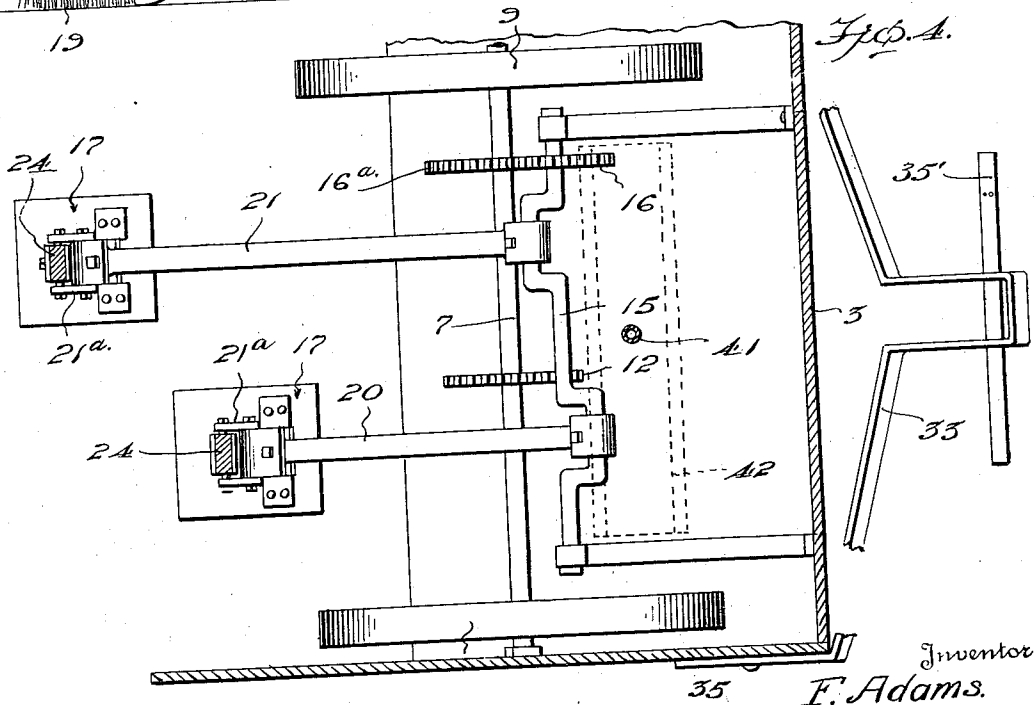
By *A. H. Randolph, Jr.*

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UNITED STATES PATENT OFFICE.

FRANCESCO ADAMS, OF CLARKE STATION, INDIANA.

SCRUBBING-MACHINE.

1,160,031.

Specification of Letters Patent.

Patented Nov. 9, 1915.

Application filed December 23, 1914. Serial No. 878,762.

To all whom it may concern:

Be it known that I, FRANCESCO ADAMS, a citizen of the United States, residing at Clarke Station, in the county of Lake and State of Indiana, 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.

My invention relates to improvements in scrubbing machines of the motor driven type that are particularly designed for polishing or scrubbing floors and resides in the provision of a scrubbing machine which includes reciprocatory scrubbing members arranged so that a wide strip of the floor may be cleaned in an effective and expeditious manner.

An object of importance is to provide a scrubbing machine of the character described in which the scrubbing members are slidably arranged in a reliable manner so that an even and effective scrubbing action is had and possibility of streaking of the floor being treated or causing injury thereto is prevented and drying means provided for cooperation with the scrubbing members.

Another object is to improve and simplify scrubbing machines of the character described so as to cheapen the cost of manufacture thereof, make them easier to handle and of more compact form.

The above and additional objects are accomplished by such means as are illustrated in the accompanying drawings, described in the following specification and then more particularly pointed out in the claims.

With reference to the drawings, wherein I have illustrated the preferred embodiment of my invention as it is reduced to practice, and throughout the several views of which similar reference numerals designate corresponding parts, Figure 1 is a side elevation showing my improved scrubbing machine assembled and ready for use, Fig. 2 is a vertical sectional view taken through the machine, Fig. 3 is a longitudinal sectional view, and Fig. 4 is a horizontal sectional view.

Referring to the drawings by characters of reference, 1 designates a frame of the scrubbing machine that is of a preferably rectangular outline and consists of side walls 2, end walls 3 and a top wall 4, the bottom of the frame being entirely open. The frame

is supported adjacent to each corner by a roller 5 that is rotatably journaled in the lower end of a depending bracket 6 carried upon the side walls 2 of the frame. Journaled transversely through the side walls 2 of the frame 1 is a drive shaft 7 mounted in suitable bearings 8 carried upon the side walls. The shaft 7 has journaled thereon supporting wheels 9 which are carried inside the frame. A suitable electric motor 10 is carried interiorly of the frame and secured upon the top wall 4 thereof. A sprocket gear 11 is operatively connected with the motor 10. A sprocket gear 12 is fixed upon the shaft 7 and a chain 13 is mounted upon the sprockets 11 and 12. Journaled transversely in the frame 1 and having its ends resting in bearings 14 on the rear wall 2, is a crank shaft 15 having two crank portions. A pinion 16 is keyed upon the crank shaft 15 and meshes with a pinion 16^a carried upon the shaft 7.

I provide a pair, preferably, of brushing or scrubbing members 17. Each of the scrubbing members consists of a brush or scrubbing element holder 18 that is of substantially U-shape and has its free ends directed inwardly and parallel to the body portion thereof. The brush or scrubbing element 19 is inserted within the holder 18 as shown clearly in Fig. 3.

The brushing or scrubbing elements 17 are arranged in advance of the crank shaft 15 and crank or operating rods 20 and 21 connect the crank shaft 15 with the holders 18. A pair of upstanding spaced ears 21^a are carried upon the top of each of the plates 18. The outer ends of the rods 21 and 20 are pivotally connected between the ears. It will thus be seen that the scrubbing elements are alternatively moved forwardly and rearwardly relative to the frame. I provide for each of the operating rods 20 and 21 vertical guide plates 22 that are spaced. A block 23 is slidable between the plates 22 which are spaced from one another and arranged in pairs. Pivottally connected with the blocks 23 and with the upstanding ears 21^a are guide bars 24. It will be seen that when the scrubbing or polishing members 17 are moved rearwardly and forwardly the guide bars 24 move upwardly and downwardly and are guided by the blocks 23 which are slidable within the vertical plane between the plates 22. The upper ends of the plates 22 are provided with lateral

flanges 25 that have inserted therethrough bolts or other suitable fastening elements 26.

I provide a tank 27 that is secured upon the wall 4 and disposed within the frame 1. A depending discharge pipe 28 is carried by tank 27 and at its lower end is connected with a discharge nozzle 29 that is preferably formed with a number of perforations so as to emit a fine spray of liquid. Any number of these nozzles 29 and pipes 28 may be provided. A valve 30 is carried by the pipe 28 so as to cut off the supply to the nozzle. Water or a cleaning fluid of any kind may be carried within the tank 27 and it is preferable to arrange the nozzle 29 in the rear of the brushing members and in alinement therewith. A filling tube or pipe 31 is extended upwardly through the top wall 4 and the cap 32 is removably mounted upon said pipe 31.

I provide a handle for guiding or pushing the device designated 33. This handle is pivoted as at 35 to the side walls 2 of the frame 1 and is provided with a grip portion 35'.

Fixed upon the shaft upon which the pinion 11 is mounted is a pulley 36 upon which is mounted a belt 37. The belt 37 is also mounted upon the pulley 38 that is carried upon the shaft 39 of a rotary suction pump 40. The pump 40 is carried by the top wall 4 in depending relation thereto at a point rearwardly of the motor 10. Connected with the pump 40 and extending downwardly toward the floor is a suction pipe 41 which at its lower end is connected to and carries an elongated suction pan 42. This pan 42 is of such length as to cover the area of floor surface operated upon by the scrubbing members 17 and is provided for the drying of the floor by sucking the moisture upwardly through the pipe 41 to the pump 40. A tank 43 is carried in any suitable manner interiorly of the frame 1 preferably upon one side wall thereof and a pipe 44 connects the tank 43 with the pump 40. The moisture or liquid sucked or drawn upwardly by the pan 42 and pipe 41 and pump 40 is forced through the pipe 44 into the tank 43 from whence it may be drawn by suitable means not shown. It will be seen that by providing a suction pan 42 to cover the expanse of floor which has been scrubbed that a drying of the floor may be quickly and reliably effected.

In operation, assuming that the motor 10 is operated the shaft 7 is rotated and propels the device. By means of the gears 16 and 16^a the crank shaft 15 is rotated and imparts a reciprocatory movement to the members 16 and 17 through the medium of the rods 20 and 21. The rods 24 guide the members 17 in their reciprocal movements so that effective and expeditious scrubbing or polishing action is had. If desired the

brushes 19 may be removed and polishing elements not shown, placed within the holder 18. The surface being treated may be sprayed with the liquid within the tank 27 and a thorough polishing or scrubbing action is thus provided. By means of the handle 33 the device may be guided in the proper direction and in view of the fact that the rollers 5 are arranged at the four corners of the rectangular frame, the device is supported evenly and in such manner that the brushes or scrubbing elements will move smoothly and not cause the surface being treated to become streaked or injured in any manner.

By means of the suction pan 42 and the operating means therefor it will be seen that the floor will be dried in an effective manner and that all wet lint and other foreign matter will be removed from the floor. A drain cock 45 is provided for the tank 43 and extends through one of the side walls of the frame 1 as shown clearly in Fig. 3.

With reference to the foregoing description and accompanying drawings, it will be observed that I have provided a compact and easily operable machine that will operate in a reliable and effective manner to clean or polish a wide strip of floor surface in such manner that injury or streaking of the surface is prevented.

In practice, I have found that the form of my invention, illustrated in the drawings and referred to in the above description, as the preferred embodiment, is the most efficient and practical; yet realizing that the conditions concurrent with the adoption of my device will necessarily vary, I desire to emphasize the fact that various minor changes in details of construction, proportion, and arrangement of parts may be resorted to, when required, without sacrificing any of the advantages of my invention, as set forth.

What is claimed is:—

1. A scrubbing machine including a rectangular frame, rollers carried at the corners of the frame, a shaft journaled transversely of the frame, supporting wheels mounted upon said shaft and arranged to rotate thereon, means to rotate said shaft, a crank shaft carried within the frame, scrubbing members, rods connecting the crank shaft with the scrubbing members, means to rotate said crank shaft, depending guide plates carried by the frame, blocks slidable vertically within the guide plates and guide rods connecting the scrubbing members with said blocks.

2. A scrubbing machine including a rectangular frame, rollers carried at the corners of the frame, a shaft journaled transversely of the frame, supporting wheels mounted upon said shaft and arranged to rotate thereon, means to rotate said shaft, a crank shaft carried within the frame,

scrubbing members, rods connecting the crank shaft with the scribbing members, means to rotate said crank shaft, depending guide plates carried by the frame, blocks slidable vertically within the guide plates, guide rods connecting the scrubbing members with said blocks, said guide plates being arranged above and rearwardly of

the scrubbing members, and a guide handle carried by said frame.

In testimony whereof I affix my signature ¹⁰
in presence of two witnesses.

FRANCESCO ADAMS.

Witnesses:

HOMER STANTON,
JOHN M. WATKINS.