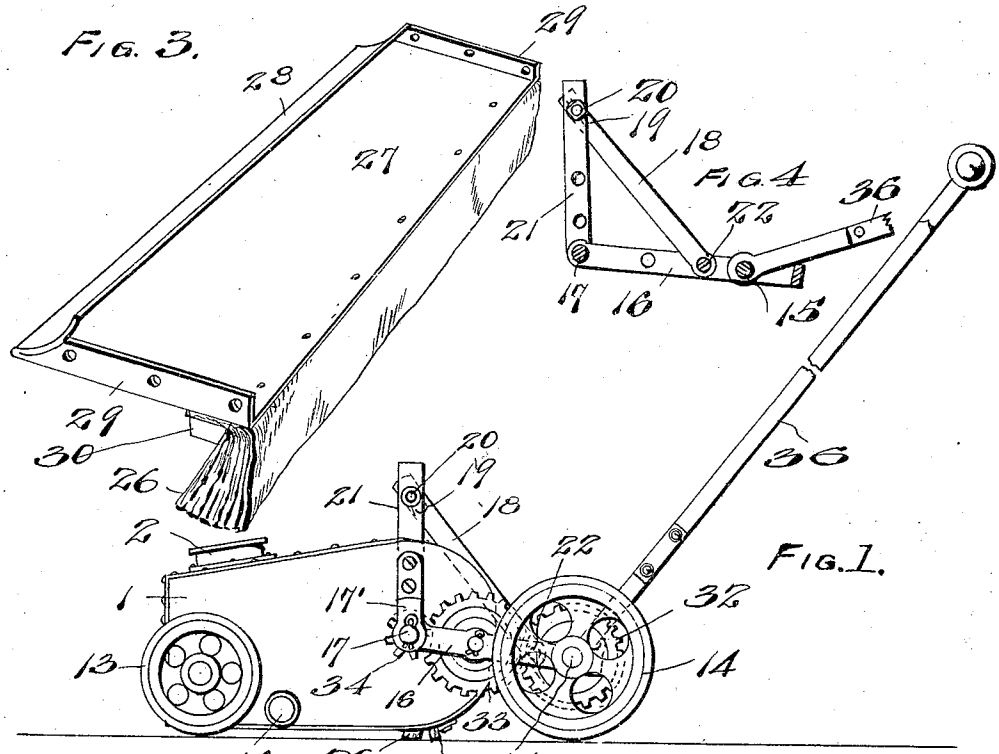
F. A. ESPELAND.

SCRUBBING MACHINE.

APPLICATION FILED OCT. 29, 1918.

1,346,643. **Patented July 13, 1920.**



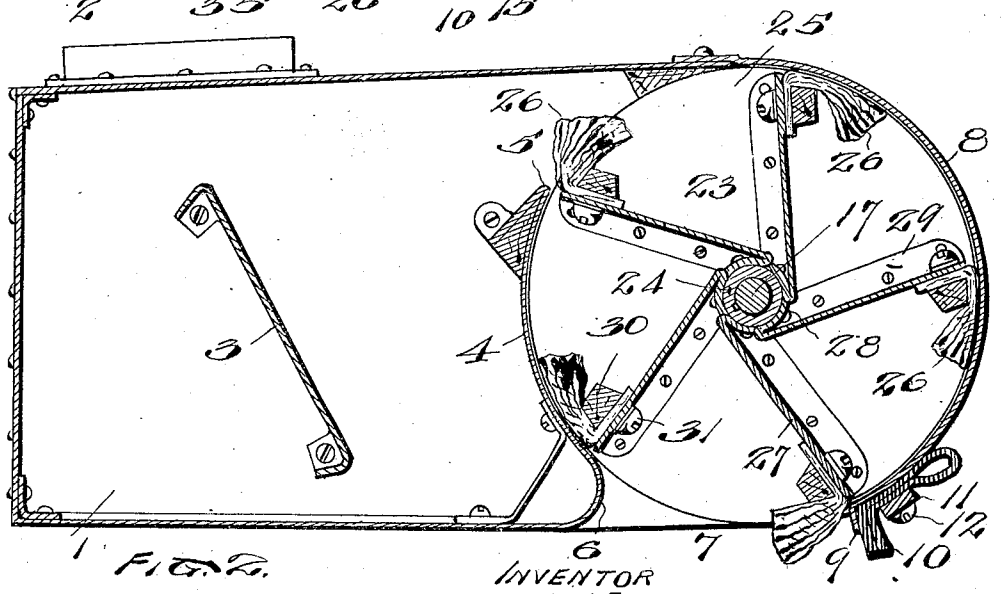


FIG. 2.

INVENTOR
F. A. ESPELAND
Chas. T. Davies
Attorney

UNITED STATES PATENT OFFICE.

FRANKLIN A. ESPELAND, OF OAKES, NORTH DAKOTA.

SCRUBBING-MACHINE.

1,346,643. Specification of Letters Patent. Patented July 13, 1920.

Application filed October 29, 1918. Serial No. 260,136.

To all whom it may concern:

Be it known that I, FRANKLIN A. ESPELAND, a citizen of the United States of America, residing at Oakes, in the county of Dickey and State of North Dakota, have invented certain new and useful Improvements in Scrubbing-Machines, of which the following is a specification.

The present invention relates to an improved scrubbing machine, especially designed for domestic use in scrubbing floors, or other surfaces, and is of that type having a self contained reservoir from which the water is taken and carried to the floor by successive wipers on a rotary device operated from the traction or supporting wheels of the machine, and the machine is hand operated in a manner similar to carpet sweepers of this type.

The primary object of the invention is a scrubbing machine in which a reservoir is involved and from which the water required to scrub the floor is taken by successive wipers, without unnecessary loss of water from the tank or reservoir, and without spilling the water, and to this end the invention consists in certain novel combinations and arrangements of parts in the construction of the machine as will be hereinafter described and claimed.

Figure 1 is a side view of a machine embodying the invention.

Fig. 2 is a vertical, central longitudinal sectional view of the reservoir and rotor.

Fig. 3 is a perspective view of one of the blades and its wiper.

Fig. 4 is a detail view showing, partly in section, the handle and frame construction for supporting the actuating parts of the machine.

In the preferred form of the invention as depicted in the drawings, the tank or reservoir 1 is preferably of metal, and water tight to contain the water that may be furnished through the inlet 2, and within the tank a transverse baffle plate 3 is arranged at an incline to prevent undue splashing of the water and restrict the movement of the body of the water, as a whole. A second partition 4 is provided and extends transversely of the tank, the partition being curved as shown and at its upper end 5 arranged to leave a passage below the top of the tank, while at the bottom, at 6, the partition has a reverse bend adjacent the bottom opening 7 formed between the curved partition 4 and the outwardly curved end wall 8 of the tank. The end 9 of the wall 8 is bent as shown to form a flange at the edge of the opening 7 and a rubbing device is formed of sheet rubber 10 that is folded and clamped on the tank by means of the clamping strip 11 extending across the tank, and the clamp screws 12.

The whole device is supported on the pairs of rollers or wheels 13 and 14, the latter wheels being the drive wheels fixed on the drive shaft 15, which is journaled in the side arms 16 of a frame that is pivoted on the operating shaft 17 journaled in the side walls of the tank and extending transversely of the tank, a bracket 17′ being utilized to supplement the bearing in the walls of the tank.

The side arms 16 in which the shaft 15 is journaled, are pivoted on the shaft 17, and these arms are held or sustained by the diagonal link 18 slotted at 19 to engage the bolt 20 at the upper end of the post 21 fixed on and projecting above the side walls of the tank, while the lower end of the link 18 is pivoted on a transverse bar 22 (dotted lines Fig. 1) that rigidly connects the two side bars 16.

Within the rounded end of the tank above the opening 7 and operating within the curved end wall 8 is a rotor including in its construction a pair of end disks or round heads 25, and a tubular hub 24 fixed to revolve with the operating shaft 17. The rotor is fashioned to form five buckets 23 as shown and is provided with a similar number of wipers 26, the buckets being formed by, and the wipers attached to a series of tangentially extending transverse, metallic plates 27, each of which has a curved flange 28 to be attached to the hub 24. The plates are arranged tangentially of the hub and extend outwardly in close proximity to the periphery of the end disks 25, while at the ends of these plates flanges 29 are provided for attachment to the end walls of the rotor, thus forming water tight compartments or buckets between adjoining plates, in connection with the walls of the tank.

The wipers 26 are of suitable material similar to that used for mopping and scrubbing and they extend the entire distance between the end disks 25, a binding strip 30 and screws 31 being employed to retain the wipers on the plate. The operation of the

rotor and its wipers will be clear from a study of Fig. 2, and it will be seen that the wipers pass the opening above the partition 4, at 5, and flop over the partition top permitting water to splash into the bucket 23 and also onto the wiper, and as these parts are rapidly revolving when the device is in operation, it will be evident that an excessive amount of water cannot splash into the rotor. The back and forth movement of the machine, as manipulated by the operator, causes the water to splash about in the tank, and even when the water becomes low in the tank, from continued splashing into the open buckets as they pass the upper open corner of the tank, a sufficient quantity of water will be splashed around the baffle plate 5 to wet the passing wiper 26, as seen in Fig. 2. The wipers of course wipe over the floor or surface and are wetted for this purpose, as the rotor revolves, and the rubber 10 which also is in contact with the floor serves as a drying rubber.

The rotor is operated from the shaft 15 by a train of gears 32, 33, and 34 as in Fig. 1, an outlet for the tank is shown at 35, and the usual handle 36 is provided for the device.

What I claim is:—

The combination with a casing formed with an open bottom cylindrical compartment having an upper opening communicating with a source of water supply, of a shaft journaled in the walls of the compartment, a hub and end disks on the shaft, tangentially arranged plates carried by the hub and forming with the disks water receptacles, a wiper attached at the outer free edge of each plate adapted to pass over said upper and lower openings, and a rubber extending across the casing adjacent to the bottom opening of the compartment.

In testimony whereof I affix my signature.

FRANKLIN A. ESPELAND.

Witness:

J. A. McKee.