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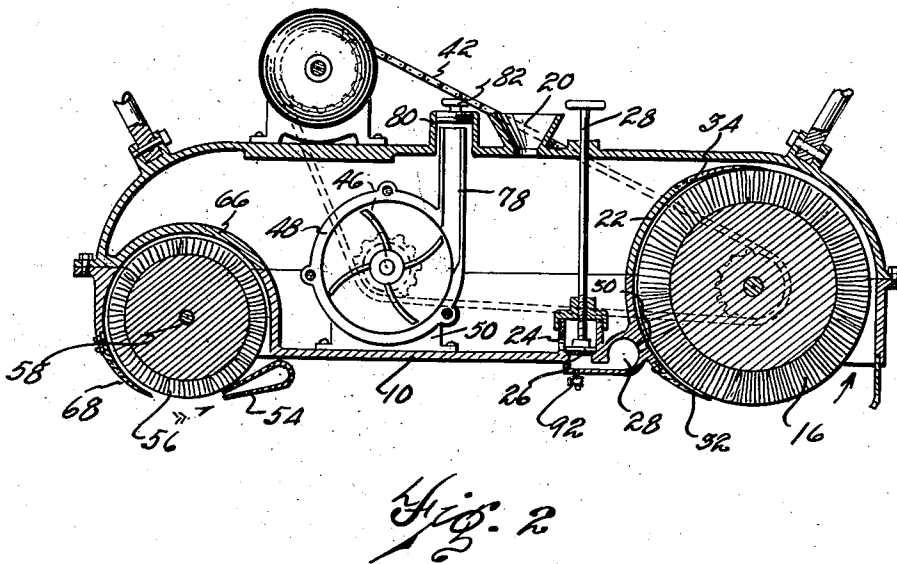
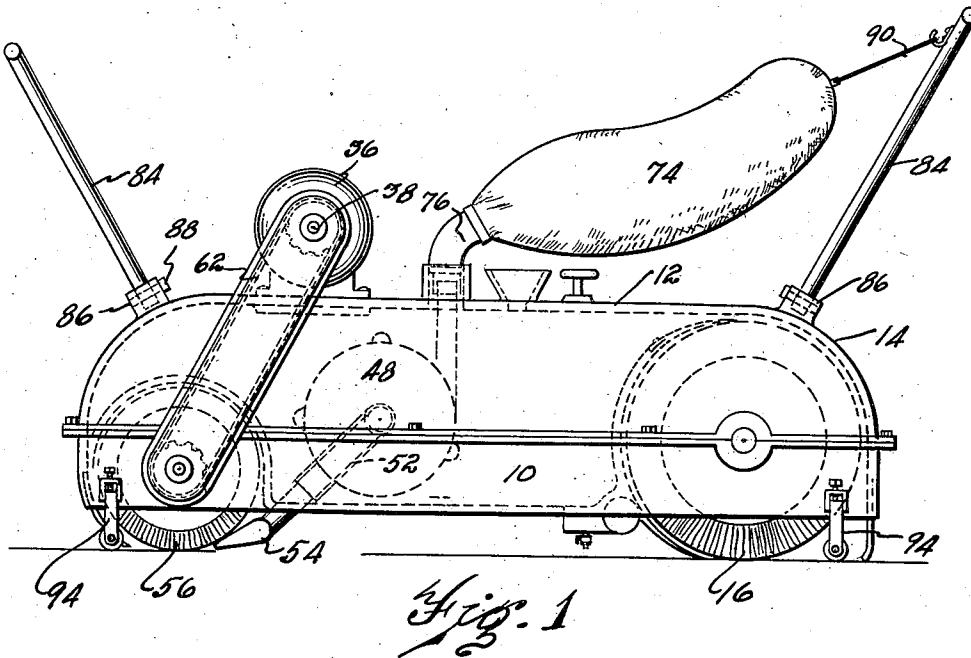
A. ONOFRIO

1,625,147

COMBINED SCRUBBING AND VACUUM CLEANING DEVICE

Filed Nov. 21, 1924

2 Sheets-Sheet 1



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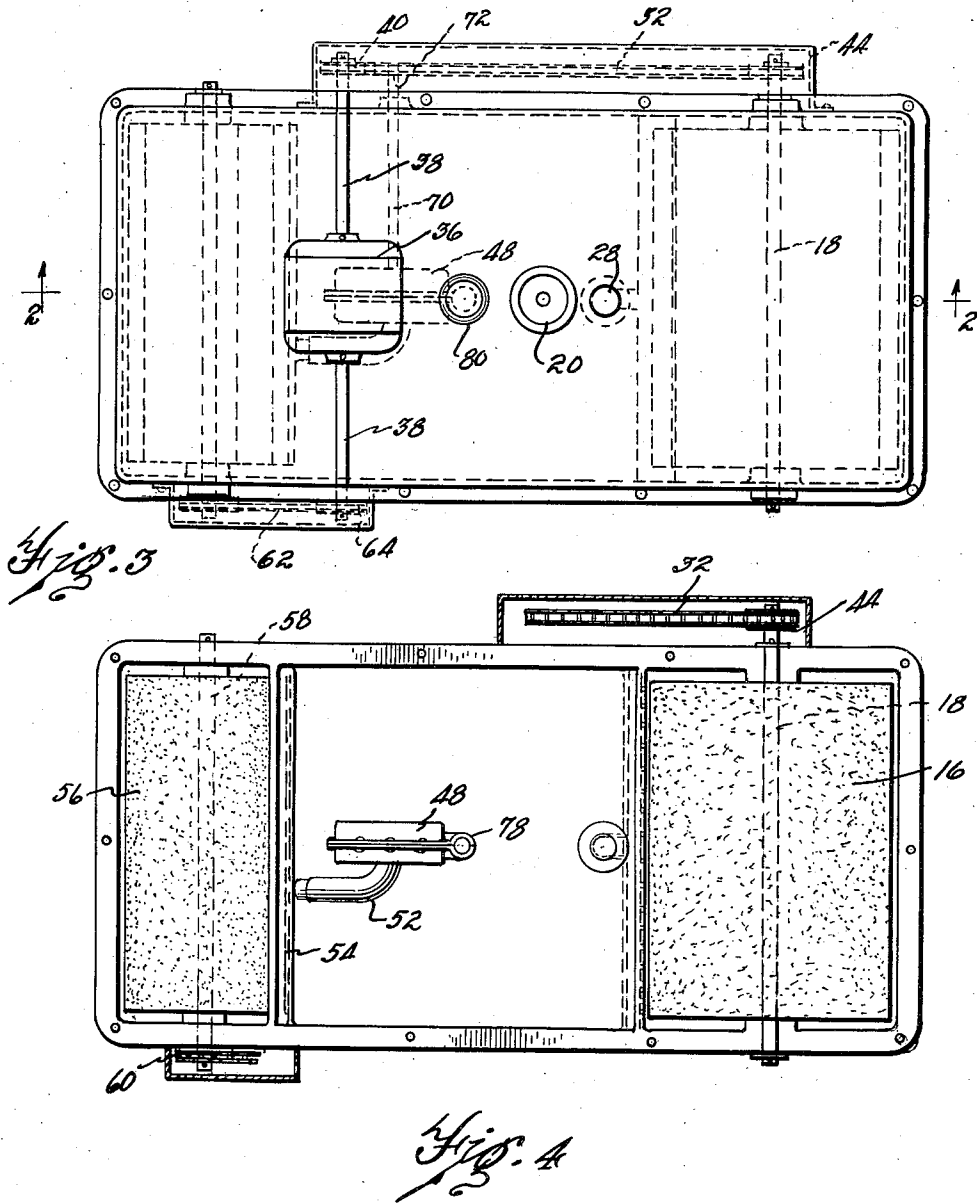
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COMBINED SCRUBBING AND VACUUM-CLEANING DEVICE.

Application filed November 21, 1924. Serial No. 751,249.

My invention relates to an improved combined scrubbing and vacuum cleaning device.

The object is to provide in a simple unitary structure an apparatus of the character described adapted to thoroughly and expeditiously clean any surface such as a floor, performing thereon a scrubbing and sweeping operation either jointly or singly.

A further object is to provide an operable power driven cleaning device having a rotary scrubbing brush fed with cleaning fluid from a suitably located tank adapted to contain cleaning fluid, power driven suction mechanism having an intake arranged to cover the surface to be cleaned following its being acted upon by the scrubbing brush and an exhaust adapted to discharge into the cleaning fluid tank, and a separate receptacle having a connection capable of being detachably coupled with the exhaust of said suction mechanism to receive the discharge thereof.

A meritorious feature is the provision in a device of this character of a rotary scrubbing brush fed with cleaning fluid from a tank and provided with means for cleaning the brush during its rotation and discharging such cleanings into the tank and suction mechanism adapted for joint operation with the brush or operation independently thereof, which suction mechanism is suitably enclosed within the interior of the tank and has an intake disposed rearwardly of the scrubbing brush to collect the water and other material left on the floor in the rear of the scrubbing brush and discharge the same into said tank.

An independent receptacle for sweeping is provided having a suitable connection adapted to be detachably coupled to the discharge of said suction apparatus to receive the exhaust thereof if it is desired to so deliver it.

The above objects and others together with the construction of the preferred embodiment of my invention illustrated in the accompanying drawing, will appear from the following specification and appended claim.

In the drawings:

Fig. 1 is a side elevation of my improved device.

Fig. 2 is a vertical sectional view taken on line 2—2 of Fig. 3.

Fig. 3 is a plan of my improved device.

Fig. 4 is a horizontal sectional view through the tank below the top wall thereof.

My invention is intended to embody in a unitary structure, apparatus capable of performing a scrubbing operation and a vacuum cleaning operation and is so constructed that these functions may be performed simultaneously or independently and comprises a tank or casing formed in separate sections suitably secured together and here illustrated as consisting of a lower section 10, and a top section 12, provided with abutting flanges and suitable bolts whereby the sections may be fastened to each other. I provide a rotary scrubbing brush 16 mounted upon a suitably supported axle 18 to rotate with the axle. The tank has a filler opening 20 and an interior end wall 22 shaped to follow the contour of the scrubbing brush 16. The tank has an outlet 24 controlled by a valve 26 which is here shown as provided with a suitable handle 14 whereby the valve may be opened and closed through which cleaning fluid carried in the tank is permitted to pass to an independent compartment 28 which extends lengthwise the scrubbing brush 16 and has suitable outlet apertures 30 through which cleaning fluid is discharged to said scrubbing brush. An apron 32 which may be formed of rubber is secured to the casing to extend along underneath the scrubbing brush, as illustrated in Fig. 2. At the top of the end wall 22 there is a flexible scraper 34 which may be constructed of rubber and which is adapted to scrape the cleaning fluid from the scrubbing brush which rotates in the direction of the arrow shown in Fig. 2 and discharges the cleanings back into the cleaning fluid tank.

This scrubbing brush may be driven by a motor 36 having a shaft 38 and driving member 40 mounted at one end thereof connected by means of a suitable driving connection 42 with a driving member 44 mounted upon the adjacent end of the axle 18 of the scrubbing brush.

I provide suitable suction mechanism in the form of a blower 46 mounted within a casing 48 within the interior of the cleaning fluid tank. This casing may be supported on the floor of the tank by a suitable standard 50. This blower has an inlet pipe 52 which leads to an intake 54 disposed beneath the tank at the opposite end from the scrubbing brush and in proximity to a rotary sweeper 56.

The sweeper 56 is carried by a suitably

supported axle 58 having at one end a driving member 60 over which passes a driving connection such as a chain 62 which is driven from a driving member 64 mounted upon the end of the motor shaft opposite the end upon which is mounted the driving member 40. The bottom wall 10 of the tank extends as at 66 over the sweeper 56. A suitable apron 68 extends downwardly from the front of the tank in proximity of the sweeper 56. The nosepiece or intake 54 of the suction mechanism is disposed adjacent and underneath the sweeper 56, as appears in Fig. 2 which shows the sweeper rotating in the direction of the arrow there shown. The blower 46 is mounted upon a shaft 70 on the outer end of which is mounted a driving member 72 over which passes the driving connection 32 so that the blower and scrubbing brush are driven as a single unit.

I provide an independent dust receptacle 74 having an inlet pipe 76 which is adapted to be detachably coupled to the outlet 78 of the blower casing to receive the discharge thereof. This exhaust 78 of the blower casing normally discharges within the interior of the tank. The tank is provided with a tubular connection 80 normally closed by a removable plug 82 but adapted to receive one end of the inlet pipe 76 of the receptacle 74 to couple said inlet with the end of the outlet of the blower 78, as appears in Fig. 1.

I have shown my apparatus provided with a handle 84 adapted to be inserted in a socket 86, one of which is provided at each end of the casing and suitably fastened therein as by means of a pin 88.

There is also shown a support 90 from the upper end of the dust bag 74 to a hook on the handle 84.

For operation, the tank is filled with suitable cleaning fluid. Valve 26 is opened to permit the discharge of said cleaning fluid to the scrubbing brush 16. The scrubbing brush blower and sweeper are all driven from the motor and the intake 54 of the suction mechanism being disposed rearwardly of the scrubbing brush follows the same

over the floor to remove the moisture and dirt left in the rear of the scrubbing brush and in normal operation discharges such dirt into the tank. As heretofore described, the scrubbing brush is itself cleaned during its rotation and the discharge therefrom is also exhausted into the tank. There may be provided a drain plug 92 by means of which the tank may be drained.

If it is desired to operate the vacuum cleaning apparatus independently of the scrubbing mechanism the driving connection may be removed from the scrubbing mechanism or the valve 26 may be closed and the scrubbing brush allowed to rotate, and the machine is operated in the same manner as a vacuum cleaner. In case this latter practice is followed, the dust bag 74 may be connected with the discharge 78 of the blower to receive the exhaust through the blower instead of permitting such exhaust to discharge into the cleaning fluid tank.

I provide at each end of the casing two supporting legs 94, one on each side of the casing. Each leg has a suitable caster to engage the floor.

What I claim is:

In a floor cleaning machine, a cleaning fluid tank having an arcuate end wall, a scrubbing brush rotatably supported at the end of the tank in proximity to the arcuate end wall thereof, said end wall terminating at its upper end in a flexible scraper sloping upwardly and engaging the periphery of the brush during rotation to scrape cleanings therefrom to flow over the scraper into the tank, said end wall terminating at its lower end in a flexible apron sloping downwardly alongside the brush, an independent fluid containing compartment within the tank adjacent to the arcuate end wall thereof and extending alongside the brush communicating with the tank by a valve-controlled passageway and provided with a plurality of discharge openings through said arcuate end wall above the flexible apron.

In testimony whereof, I sign this specification.

ANASTAS ONOFRIO.