

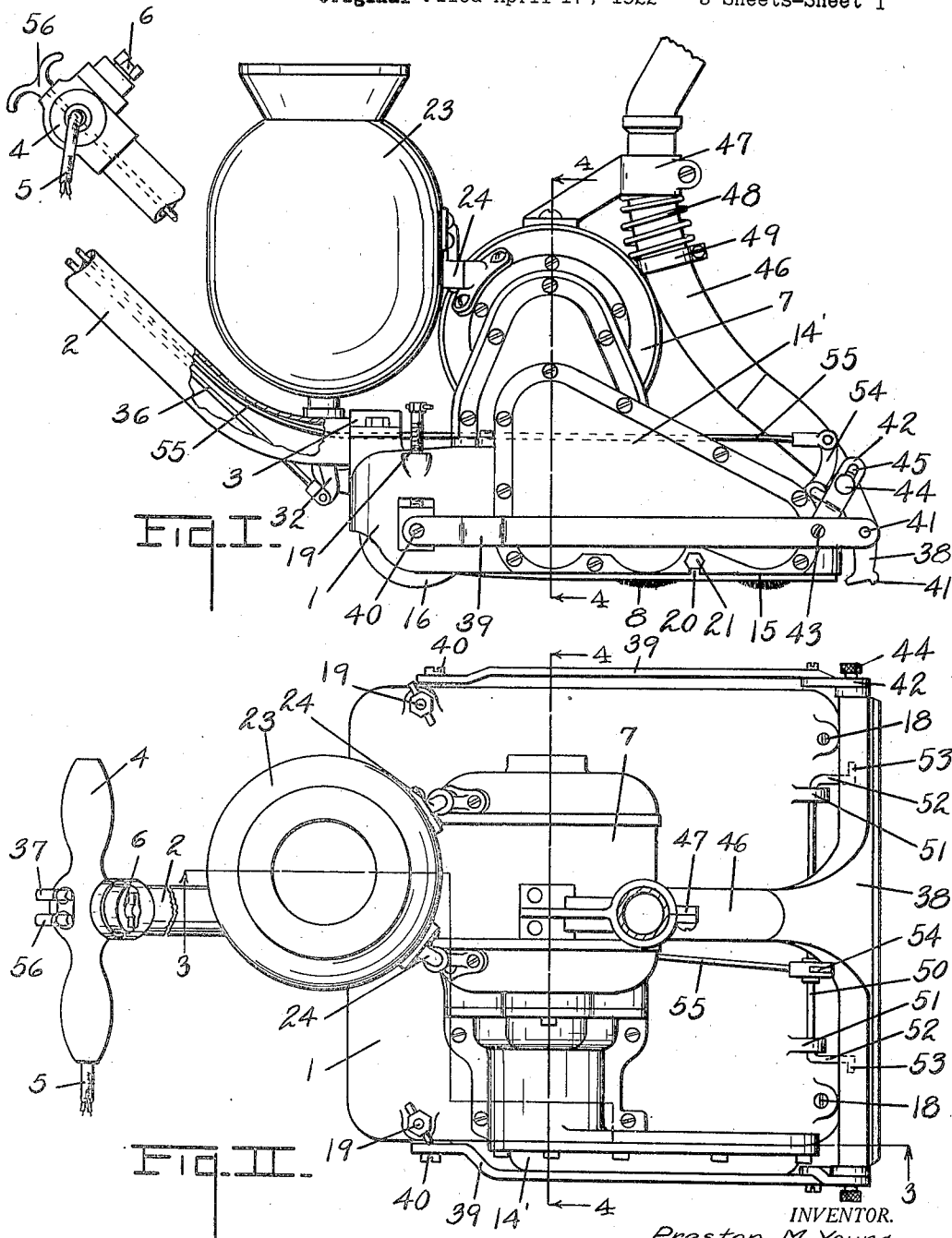
Aug. 17, 1926.

1,596,041

P. M. YOUNG

VACUUM CARPET WASHING MACHINE

Original Filed April 17, 1922 3 Sheets-Sheet 1



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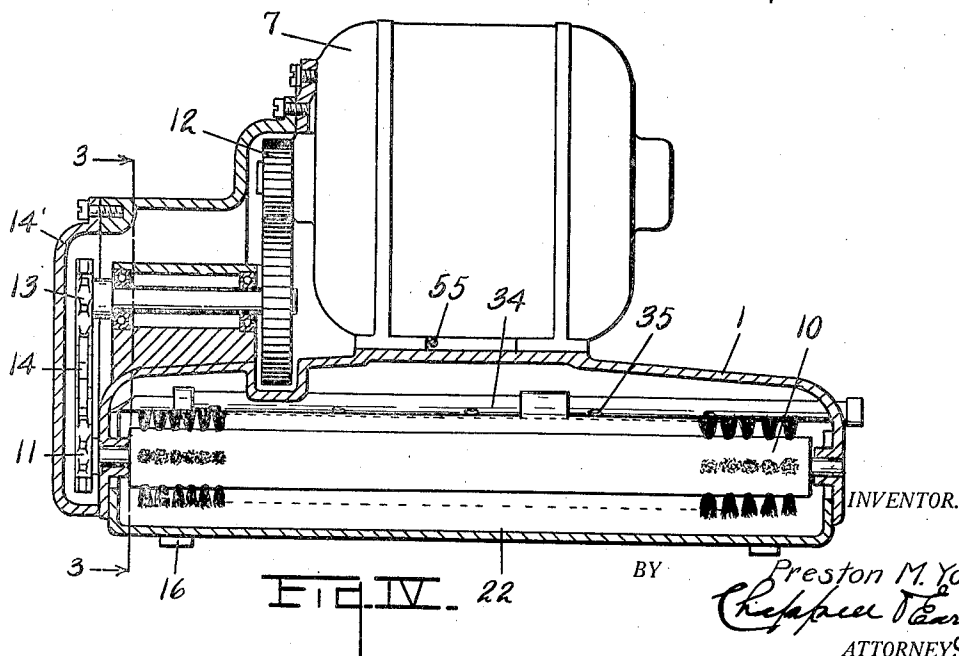
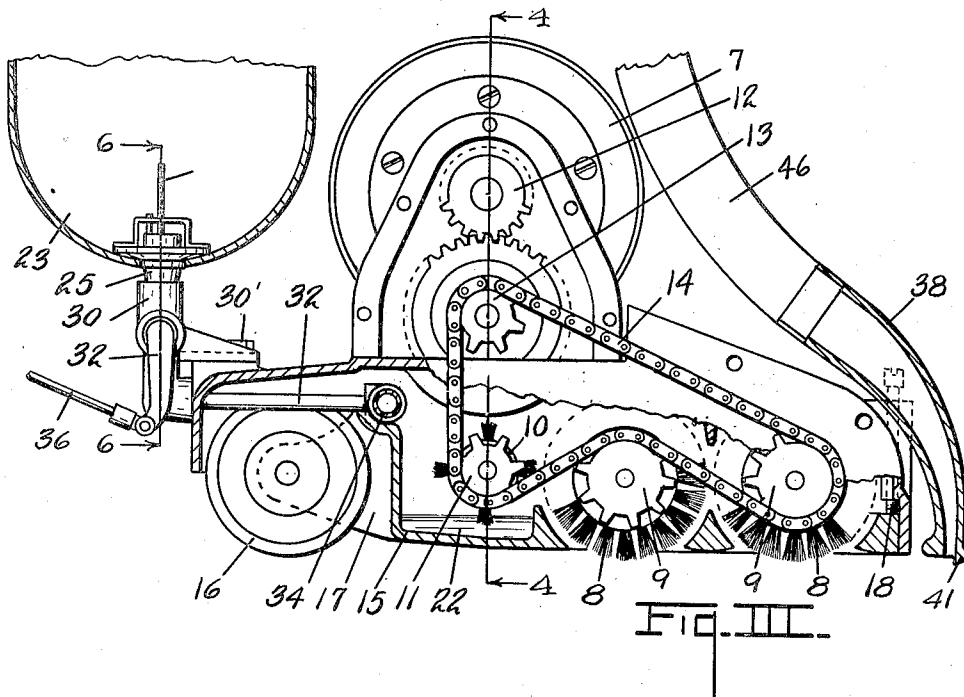
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VACUUM CARPET WASHING MACHINE

Original Filed April 17, 1922 3 Sheets-Sheet 2



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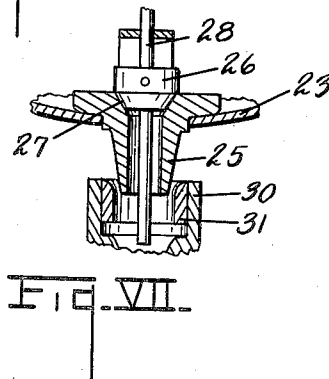
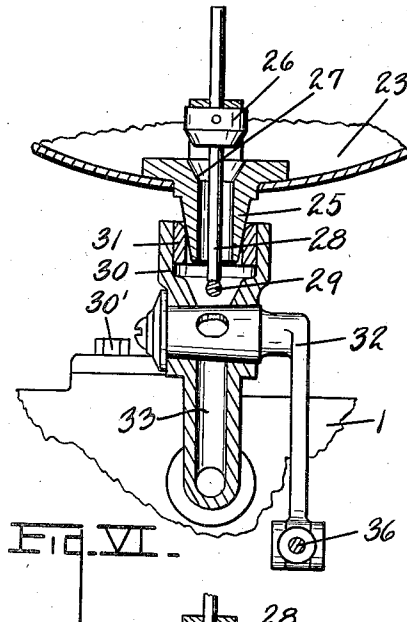
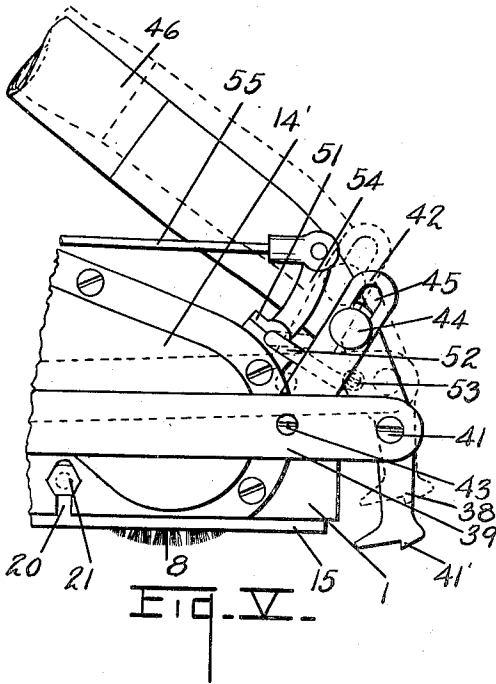
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VACUUM CARPET WASHING MACHINE

Original Filed April 17, 1922 3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE.

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VACUUM CARPET-WASHING MACHINE.

Application filed April 17, 1922, Serial No. 553,857. Renewed March 20, 1923.

This invention relates to improvements in vacuum carpet washing machines.

The objects of the invention are:

First, to provide an effective machine whereby a lather or suds can be effectively applied to the surface of carpet and removed while the carpet or rug is disposed upon the floor or other flat surface.

Second, to provide an improved brush mechanism for use in such a structure.

Third, to provide an improved means of using a soap suds and lather in a machine of this character.

Fourth, to provide an improved vacuum means for use in connection with a carpet washing machine.

Further objects, and objects relating to details and economies of construction and operation will definitely appear from the detailed description to follow.

I accomplish the objects of the invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of the invention is fully illustrated in the accompanying drawing forming a part of this specification in which:

Fig. I is a side elevation of my improved vacuum carpet washing machine, part of the handle and discharge pipe being broken away.

Fig. II is a plan view of the structure appearing in Fig. I.

Fig. III is a detail elevation partially in section on irregular line 3—3 of Figs. II and IV.

Fig. IV is a detail transverse sectional view on the irregular line 4—4 of Figs. I, II and III, the motor and certain parts being in full lines.

Fig. V is a detail elevation view of the suction nozzle elevating and suction nozzle adjusting means.

Fig. VI is an enlarged detail sectional view on line 6—6 of Fig. III showing details of the soap solution tank with the valve in open position.

Fig. VII is a detail view of the valve thereof on the same section in closed position.

In the drawing the sectional views are taken looking in the direction of the little arrows at the ends of the section lines and similar numerals of reference refer to similar parts throughout the several views.

The numbered parts of the drawing will be considered by their numbers. 1 is the main casing open at its under side and of rectangular box-like contour to carry the remaining parts. It is provided with a handle 2 at the front retained detachably by bracket 3. The handle has a crossbar 4 at the top and electric connections 5 are disposed inside the handle and controlled by a switch 6 which supplies the driving motor 7 on the top of the said main casing 1.

Journalled in suitable journal bearings on the main casing are a pair of cylindrical scrubbing brushes 8, 8, the same being provided with sprocket wheels 9, 9. A beater brush 10 is also journalled in said main casing and is provided with a small sprocket wheel 11 whereby it is driven at relatively high speed. This brush 10 is preferably supplied with four rows of tufts. The motor is provided with a train of gears 12 which drives the small sprocket wheel 13 which is the brush driving means. A sprocket chain 14 is disposed around the said sprockets so that the beater brush 11 strikes from the under side towards the scrubbing brushes 8 to deliver lather and suds thereto. The scrubbing brushes are driven towards each other so that they collect the lather and suds and deliver it down onto the carpet. They brush in opposite directions away from each other, thus effectively distributing and brushing the lather or suds on the carpet and thoroughly brushing and cleaning the same. The sprockets and chains are housed by the casing 14'.

A shoe-like carrying member 15 is adjustably supported within the said main casing 1. It is provided with a pair of carrying wheels 16 on rearwardly projecting brackets 17 at the rear. It is adjustable up and down within the outer shell by the set screws 18, 18 at the front and 19, 19 at the rear. The outer shell 1 is slotted at 20 and receives clamping screws 21 which securely lock the inner shoe member to the outer case after it has been properly adjusted. By the adjustment of this shoe member the brushes may be allowed to project to different distances beneath the bottom of the shoe securing different degrees of brushing effect taking care of different conditions and kinds of carpet.

A soap solution tray 22 is formed in the shoe part integral therewith and disposed transversely across the same in position to

have its contained solution acted upon by the soap beater 10. The soap solution tank 23 is secured by brackets 24 to the shell of the motor casing and is provided with a valved outlet 25 containing the automatically adjustable valve 26 which seats at 27 by gravity. A stem 28 is the means for controlling and opening the same. It strikes a cross stop 29 on the valve bracket support 30 of the tank. This is secured to the casing by screw 30'. A gasket 31 is provided to make a tight joint. The discharge is controlled by stop cock 32 and delivers through pipe 33 to the perforated cross pipe 34 containing perforations 35 which permit the soap solution to drizzle onto and run down the wall of the tray beneath so gradually as to avoid any slopping. The stop cock 32 is controlled by rod 36 disposed within the hollow handle 2 and provided with a finger hold 37 (see Figs. I and II) for manipulation.

A suction nozzle 38 is disposed at the rear of the machine where it is carried by a pair of side bars 39 which are pivoted at 40 towards the rear part of the machine to the inner or shoe shell. These side bars are pivotally connected to the ends of the nozzle at 41 and the angle of the nozzle is adjustable by the slotted link 42 pivoted at 43 to the side arm and connected by thumb screw 44 in slot 45 to the end of the nozzle. The nozzle is provided with a downwardly projecting lip 41' at the rear which by the adjustment of the nozzle can be made to engage upon and scrape the surface of the carpet at varying angles and depths, thus providing a varying mouth and a varying scraping effect for the removal of the suds distributed upon the carpet by the brushes.

The nozzle is connected to suction hose 46 loosely held in bracket 47 and is held yieldingly down by the coiled spring 48 beneath the bracket 47 acting against the adjustable collar 49.

The nozzle is raised out of engagement manually. A rock shaft 50 is supported in bearing lugs 51, 51 on the top of the shell 1 and has lateral arms 52 at each end pivotally connected at 53, 53 to the said nozzle. An upwardly projecting rock-shaft arm 54

is the actuating means, a flexible rod 55 extending therefrom along the top of the machine (see Fig. I) out through the hollow handle 2 to a finger piece 56. By pulling on this finger piece, the nozzle will be readily raised to the position indicated by dotted lines in Fig. V and the suction device is, of course, thereby effectively thrown out of use. Any sort of suction pump can be connected; such means being common for vacuum cleaners they are not here illustrated.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. In a portable washer cleaner machine, the combination of a casing with an open bottom, a revolving cleaner brush within the casing, an open top tray adapted to contain cleaner solution, and a beater brush adapted to strike the surface of said solution and deliver suds to the cleaner brush.

2. In a washing machine for carpets of the class described, the combination of a suitable box-like casing open at the bottom, a pair of cylindrical scrubbing brushes disposed and journaled in the sides of said casing, a shoe-like structure disposed beneath the said brushes and adjustably secured therein to regulate the height of the same and affording a sliding support for the machine, carrying wheels at the front of said shoe-like support, a transversely disposed tray carried by the shoe structure disposed in front of said brushes for soap solution, a beater brush journaled in the said outer casing and disposed to cooperate and beat against the upper surface of the contents of said tray, and an electric motor mounted on the top of said outer casing with connections for driving said brushes.

3. In a washer cleaner machine, the combination with suitable suction means, of a pair of cleanser brushes, an open top tray in proximity thereto, means for supplying the same with a cleanser solution, and a beater distributor brush disposed to act on the top surface of the contents of the tray and deliver to the cleanser brush, as specified.

In witness whereof, I have hereunto set my hand.

PRESTON M. YOUNG.