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JOHN RALPH GILLILAND AND WILLIAM J. GILLILAND, OF SAN FRANCISCO,
CALIFORNIA.

POLISHING ATTACHMENT FOR PORTABLE VACUUM CLEANERS.

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To all whom it may concern:

Be it known that we, JOHN RALPH GILLILAND and WILLIAM J. GILLILAND, citizens of the United States, and residents of the city and county of San Francisco, State of California, have made a new and useful invention, to wit, Improvements in Polishing Attachments for Portable Vacuum Cleaners; and we do hereby declare the following to be a full, clear, concise, and exact description of the same.

This invention relates particularly to a polishing or scrubbing attachment for a standard and conventional type of a portable suction cleaning apparatus.

An object of the invention is to provide a polishing or scrubbing device that may be quickly and easily attached to or detached from a conventional portable, suction cleaning apparatus, of the type used for household purposes, in lieu of a dust bag, permitting a double use of the apparatus, either of a suction cleaner or of a polisher and scrubber.

A further object of the invention is to provide an attachment that will be superior in point of simplicity, inexpensiveness of construction, positiveness of operation, and facility and convenience in use and general efficiency. Other objects and advantages will appear as this description progresses.

In this specification and the annexed drawings, the invention is illustrated in the form considered to be the best but it is to be understood that the invention is not limited to such form, because it may be embodied in other forms; and it is also to be understood that in and by the claims following the description, it is desired to cover the invention in whatsoever form it may be embodied within the scope of the terminology of the claim.

In the accompanying drawings,

Fig. 1 represents a side elevation of a typical suction cleaner having a polishing or scrubbing attachment secured thereto as constructed in accordance with our invention.

Fig. 2 is an enlarged front elevation of Fig. 1.

Fig. 3 is a plan section taken through Fig. 2 on the line 3-3.

Fig. 4 is an enlarged vertical section taken through Fig. 1 on the line 4-4.

In detail, the construction illustrated in

the drawings comprises a standard and conventional type of enclosing frame or casing 1 of a suction cleaning apparatus supported on the rollers 2 to permit a free and easy movement of said casing through the handle 3. The casing 1 is provided with a motor 4, or other equivalent prime mover, having means thereon, within the interior of said casing, to create a suction necessary for the functioning of the apparatus as a suction cleaner. An electric switch 23 is arranged on the casing 1, to which the lead wires 24 and 25 are connected and through which the source of energy is directed to the motor, whereby the starting and stopping of said motor may be controlled. An end of the casing 1 is provided with a flanged outlet neck 5 thereon, to which a dust bag (not shown) might be secured for receiving dust and other articles passed from the casing 1.

Our invention contemplates the removing of the dust bag from the flange 5, when the apparatus is not to be used as a suction cleaner, and securing a bracket 6, by a flange facing 7 to the flange 5, on the casing 1 by the detachable wing nuts 8. The flange facing 7 on the bracket 6 is a solid member and when secured in position on the flange of the casing 1 entirely closes the exhaust opening therein so that the same will not function as a vacuum or suction cleaner.

The outer end of the bracket 6 is provided with an opening therein, in which the shaft 9 is adapted to be revolvably journaled on substantially a vertical axis. Collars 10 and 10' are secured on the shaft 9 on the opposite sides of the bracket 6 to eliminate vertical end play of said shaft. The opposite ends of the shaft 9 project above and below the bracket 6. The upper end of said shaft has a pulley 11 secured thereon, substantially in alignment with a companion pulley 12 secured by the machine screw 13 to the commutator shaft 14 of the motor 4 on the casing 1. A flexible driving belt 15 passes around and connects the pulleys 11 and 12, so that each will be driven in unison.

A scrubbing or polishing brush 16, having bristles 17 of any desirable character therein, is arranged adjacent the lower end of the shaft 9. A flanged bushing 18 is secured on the upper face of the brush 16, said bushing having an enlarged cavity 19 therein adapted to receive the knob-like end of the shaft 9. The bushing 18 is slotted

throughout its entire length, as at 21, at diametrically opposite points to receive the pin 22 passed transversely through the knob-like end of the shaft 9. The connection between the shaft end and brush bushing permits of a universal movement of the brush relative to the shaft, thus eliminating the possibility of the apparatus becoming inoperative in the scrubbing or polishing operations, should the same come in engagement with irregularities or other unevenness on the floor or surface being worked upon.

Our invention has proven to be a very necessary attachment for vacuum cleaners in that for a very small additional cost, it is possible to secure an apparatus capable of transforming very arduous and hard work into a light and easy duty. At the present time, hardwood floors are polished by means of a heavy brush, weighing from ten (10) to twenty (20) pounds, which is unwieldy to handle and operate and cumbersome to manipulate. It is possible by means of our attachment to convert the vacuum cleaner into a more efficient polisher and scrubber than the unwieldy polishing brush and at

the same time, the apparatus can be handled and operated with the same ease as a vacuum cleaner. The construction of the polishing attachment is decidedly simplified so that the ordinary unskilled mechanic, such as a housewife, merely by removing the dust bag on the suction cleaner can secure the polishing attachment thereto or detach the same therefrom at will.

Having thus described this invention, what we claim and desire to secure by Letters Patent is:—

In combination with a vacuum cleaner casing having a motor thereon, of a bracket detachably secured to said casing; a vertical shaft revolubly mounted in said bracket; driving means connecting said shaft and motor; and a brush connected to the lower end of said shaft by means of a universal joint.

In testimony whereof, we have hereunto set our hands at San Francisco, California, this 28th day of August 1922.

J. RALPH GILLILAND,
WILLIAM J. GILLILAND.