Feb. 4, 1958 E. J. KASPER 2,821,733

FLOOR POLISHER ATTACHMENT

Filed April 13, 1954

Fig. 2

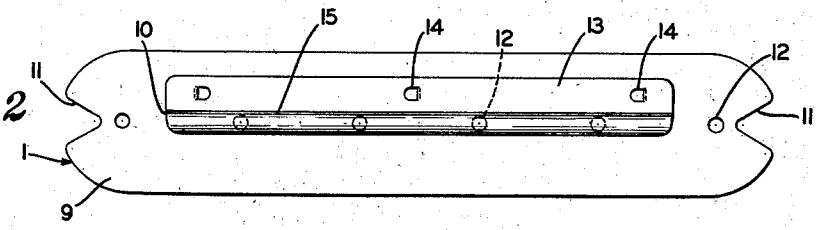
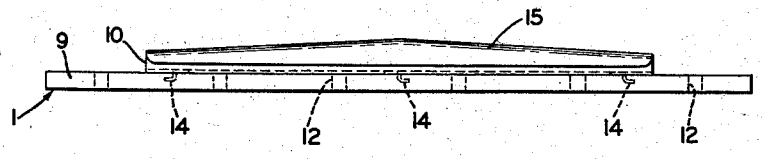


Fig. 3



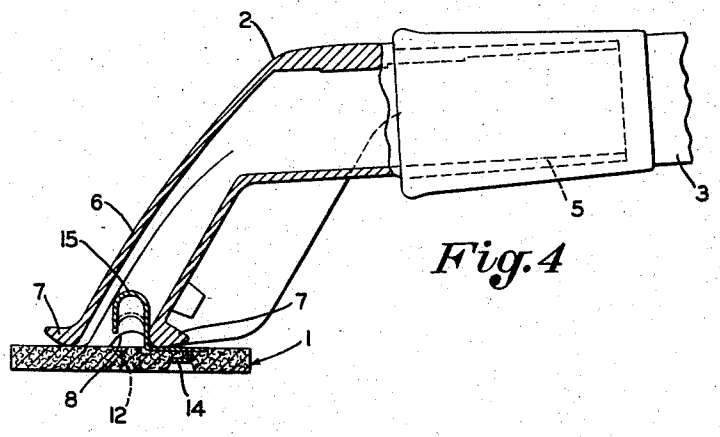


Fig. 4

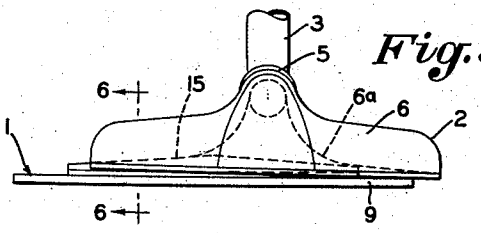


Fig. 5

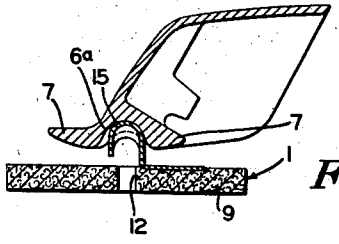


Fig. 6

Fig. 1

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FLOOR POLISHER ATTACHMENT

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This invention relates to a device for polishing floors. More particularly it pertains to a floor polisher attachment for use with a suction cleaner or with suction cleaner attachments.

Various types of floor polishers have been suggested and used with the nozzle of a suction cleaner. Most of these have been relatively complicated and expensive. Many prior floor polisher attachments of which I am aware have included certain means for fastening the attachment to a cleaner suction nozzle, such as spring clips, set screws and the like, which means require manipulation for attachment and detachment.

Obviously such prior floor polishers require a nozzle having a specific construction providing co-operating means for engaging the particular polisher fastening means on the nozzle.

When wax is applied to a floor surface and it is desired to polish the waxed floor surface, the best polishing effect may be obtained if the wax is dry during the polishing operation or is dried as the polishing progresses. Prior floor polisher attachments for suction cleaners held by a cleaner nozzle usually have functioned only as a wax applicator for rubbing the waxed surface without making use of air currents that can be induced by operation of the cleaner for drying the wax.

Moreover, in the use of prior floor polisher attachments for suction cleaners, it has been difficult to properly manipulate the polishing attachment in confined or restricted spaces such as at floor surfaces in a corner of a room.

Accordingly, it is a general object of this invention to provide a floor polisher attachment which is neither complex nor expensive.

It is also a general object to provide a floor polisher that is adapted for use with a suction cleaner nozzle or with the nozzle of a cleaning tool attachment therefor, as well as with various suction nozzles by varying the size of the floor polisher or certain parts thereof.

Another object is to provide a floor polisher that is used with a suction nozzle without requiring any fastening means whatsoever.

Another object of the invention is the provision of a suction cleaner floor polisher attachment that facilitates the drying of waxed surfaces while the polisher is moved back and forth over the waxed surfaces by utilizing air currents induced by operation of the cleaner during polishing to draw swiftly moving air currents across the waxed surface under and adjacent to the polisher attachment as the polisher attachment is being manipulated.

Furthermore, it is an object of the present invention to provide a floor polisher attachment construction for the nozzle of a suction cleaner including a pad that may be moved or shifted laterally with respect to the nozzle in either direction by manipulation of the nozzle so as to project the pad to a restricted or confined area such as at a floor corner, to perform the drying and polishing operation on a waxed surface at such restricted area.

A further object is to provide an extremely simple and inexpensive floor polisher that incorporates all of the foregoing advantages and eliminates the difficulties experienced with prior floor polishers.

These and other objects are attained by the improvements comprising the present invention, which consists broadly in providing a polishing pad having a plurality of aligned apertures along the longitudinal axis thereof, with a metal rib attached to one surface of the pad having a channel portion spaced from and disposed over the aligned aperture, which rib is adapted for easy fitting into the mouth of a suction nozzle, whereby the polishing pad may be moved back and forth over a floor surface by manipulation of the nozzle as well as being moved laterally with respect to the nozzle when it is necessary to place the pad into spaces too small for the nozzle.

Referring now to the accompanying drawing which is illustrative of the preferred embodiment of the invention by way of example,

Figure 1 is a perspective view of a cleaning tool attachment for a suction cleaner, showing the improved floor polisher in position for use with the suction nozzle thereof;

Fig. 2 is an enlarged plan view of the improved floor polisher;

Fig. 3 is an enlarged elevational view of the improved floor polisher;

Fig. 4 is a transverse sectional view, partly in elevation, taken on the line 4—4, Fig. 1, showing the manner in which the floor polisher is mounted within the mouth of the nozzle of a cleaning tool attachment;

Fig. 5 is a front elevational view showing the manner in which the floor polisher may be shifted laterally with respect to the cleaning tool attachment; and

Fig. 6 is a sectional view taken on the line 6—6 of Fig. 5.

Similar numerals refer to similar parts throughout the drawing.

In the several views of the drawing, the improved floor polisher, generally indicated at 1, is shown attached to a nozzle 2 of a suction cleaning attachment for a suction cleaner, it being understood that the polisher 1 is similarly applicable to the suction head or nozzle of a suction cleaner.

The cleaning tool indicated in Fig. 1 may include the usual nozzle 2 having a tubular conduit 3 detachably connected to the nozzle at one end and connected at the other end to a flexible hose 4 leading to a source of suction in the usual manner. The nozzle 2 may also include a tubular portion 5 (Fig. 4) to which the conduit 3 is attached by a telescopic fit or swivel joint. Moreover, the nozzle 2 includes a flared portion or mouth 6 having outturned lips 7 which provides a working surface for the nozzle. As shown by the dotted line 6a in Fig. 5, the flared portion 6 tapers to each side of the tubular portion 5 extending to opposite end walls. In the walls are aligned grooves 8 communicating with the interior of the mouth 6.

In Figs. 2 and 3 the improved floor polisher 1 is shown in greater detail as including an elongated polishing pad 9 which may be composed of felt, and a rib or adapter 10.

The polishing pad 9 is substantially a rectangular member preferably having rounded ends. In each end is disposed a V-notch 11, the apex of which is preferably disposed on the longitudinal axis of the pad 9. A plurality of apertures 12 are disposed in a line extending between the notches 11. One surface of the pad is adapted for contact with the surface of a floor to be polished and the opposite surface is adapted to confront the mouth 6 of the nozzle 2.

The rib or adapter 10 is an upright member extending over the greater part of the length of the pad 9. It includes a flange 13 coextensive therewith and adjacent the surface of the pad 9. The flange 13 has a number of tabs 14 integral therewith which are attached to the

pad 9. Moreover, the rib 10 includes a channel portion 15 coextensive therewith, as shown in Figs. 2, 3, 4 and 6. The channel portion 15 is spaced from the surface of the pad 9 and is aligned with and disposed over the apertures 12 in the pad. The open side of the channel portion 15 faces the pad 9. Finally, the channel portion 15 is slightly tapered from its center to each extremity (Fig. 3), for a purpose to be described hereinbelow.

The floor polisher 1 is adapted for use in combination with a nozzle attachment of a suction cleaner. The manner in which the polisher 1 is disposed within the nozzle 2 is generally indicated in Figs. 4–6. The polishing pad 1 lacks means for fastening the same to the suction nozzle 2 for several reasons. The rib 10 extends sufficiently far into the nozzle to enable the normal back and forth movements of the pad over the floor without the nozzle slipping off the pad. In addition, the suction created in the nozzle 2 tends to hold the pad in place. Indeed, with some suction cleaners the suction may be sufficient to permit lifting the pad from the floor when desirable in order to move it over or around a rug or piece of furniture.

As shown in the drawing, the height of the rib 10 is such that when the inner wall of the flared portion 6*a* of the mouth 6 contacts the top of the rib, the lips 7 extend to the top surface of the pad 1. With this construction, most of the air currents enter the mouth 6 of the nozzle through apertures 12 of the pad. The air currents complete the drying of the waxed surface as the pad is moved over the floor. Some air is drawn into the nozzle 2 through serrations that may be provided in the lips 7 and also into the ends of the nozzle and through the loose fit between the nozzle and U-shaped stamping 10. Thus, some air moves over the top of pad 9 in addition to the bulk of the air which passes under the pad 9 through apertures 12.

The polisher 1 is slidably disposed within the nozzle 2 so that it can be shifted laterally within limits. The shifting action takes place between the upper surfaces of the rib 10 and the tapered flared portion 6 as shown in Fig. 5. The taper at the top of the channel portion 15 facilitates the shifting movement and the aligned grooves 8 in the end walls of the nozzle permit movement of the rib 10 through the end walls (Fig. 5). In this manner it is possible to move one end of the pad 9 into corners, such as along the baseboard of a floor, or under objects having overhanging edges too close to the floor for insertion of the nozzle as well as the pad.

The improved floor polisher 1 is conveniently used with the nozzle of a suction cleaner or the nozzle of a cleaning attachment therefor, simply by lowering the mouth of the nozzle upon the floor polisher 1 so that the rib 10 extends within the mouth. The cleaner then may be operated and the pad 9 moved back and forth over the floor surface to be polished by manipulating the handle or tubular conduit 3 of the cleaner as the case may be. Upon completion of the polishing operation, the polisher 1 may be lifted from the floor before turning off the cleaner thereby avoiding the necessity of bending over to reach the polisher on the floor if the particular cleaner creates sufficient suction.

Accordingly, this invention provides a floor polisher attachment for a suction cleaner that permits drying of the wax as well as lateral shifting of the attachment to facilitate corner polishing and drying. Notwithstanding these features the attachment is simple in design, inexpensive in construction, and overcomes the prior art difficulties, satisfies the objects and obtains the new results described.

In the foregoing description, certain terms have been used for brevity, clearness and understanding, but no unnecessary limitations are to be implied therefrom beyond the requirements of the prior art, because such words are used for descriptive purposes herein and are intended to be broadly construed.

Moreover, the embodiment of the improved construction, illustrated and described herein is by way of example, and the scope of the present invention is not limited to the exact details of construction illustrated or described.

Having now described the features, discoveries and principles of invention, the characteristics of the new floor polisher, and the advantageous, new and useful results provided; the new and useful discoveries, principles, parts, elements, combinations, subcombinations, structures and arrangements, and mechanical equivalents thereof obvious to those skilled in the art, are set forth in the appended claims.

I claim:

1. A floor polisher attachment for a suction cleaner nozzle having a downwardly opening elongated mouth provided with aligned grooves in the bottom of each end wall, the attachment including an elongated felt polishing pad, an elongated rib secured to and projecting from one side of the pad, the rib extending longitudinally centrally of the elongated pad throughout the greater portion of the length of the pad, the pad having a plurality of apertures disposed along the longitudinal axis thereof, the rib having a generally U-shaped transverse cross section forming an elongated inverted channel which opens toward the apertures, one of the U-legs being spaced from the pad, and the upper wall of the rib between the legs thereof tapering downward outward from the center of the rib to the extremities thereof to permit shifting of the attachment laterally of the nozzle and the end wall grooves when the rib is disposed within the mouth of a suction cleaner.

2. A floor polisher attachment for a suction cleaner nozzle having a downwardly opening elongated mouth provided with aligned grooves in the bottom of each end wall, the attachment including an elongated felt polishing pad having rounded ends with a V-notch in each end and having a plurality of apertures disposed along the longitudinal axis of the pad and in alignment with the V-notches, an elongated metal rib secured to and projecting from one side of the pad, the rib extending longitudinally centrally of the elongated pad through the greater portion of the length of the pad, the rib having a generally U-shaped transverse cross section forming an elongated inverted channel which opens toward the apertures, the rib also having a flange adjacent the upper side of the pad, the flange having a plurality of tabs secured to the pad, and the upper wall of the rib between the legs thereof tapering downward outward from the center of the rib to the extremities thereof to permit shifting of the attachment laterally of the nozzle and the end wall grooves when the rib is disposed within the mouth of a suction cleaner nozzle.

3. A floor polisher attachment for a suction cleaner nozzle having a downwardly opening elongated mouth with front and rear lips and with aligned grooves in the bottom of each end wall, said floor polisher attachment including an elongated pad, an elongated rib secured to and projecting from one side of the pad, the rib extending longitudinally centrally of the pad throughout the greater portion of the length thereof, the rib having a generally U-shaped transverse cross section forming an elongated inverted channel which opens toward the pad, one of the U-legs being spaced from the pad, the other U-leg being adapted to be disposed in the mouth of and to be in contact with the rear lip of a suction cleaner nozzle, and the upper wall of the rib between the legs tapering downward from the center of the rib to the opposite extremities thereof to permit shifting of the attachment with respect to the nozzle when the rib is disposed within the mouth of the nozzle, and the tapered portion of the rib permitting the rib to enter the nozzle end wall grooves during such shifting.

(References on following page)

References Cited in the file of this patent

UNITED STATES PATENTS

1,404,889	Owen	Jan. 31, 1922
1,657,111	Desnoyers	Jan. 24, 1928
1,809,302	Lawrence	June 9, 1931
2,240,005	Moyer	Apr. 29, 1941
2,302,111	Dow et al.	Nov. 17, 1942
2,349,371	Patterson	May 23, 1944
2,594,189	MacFarland	Apr. 22, 1952
2,653,341	Nicoli	Sept. 29, 1953
2,685,098	Palma	Aug. 3, 1954
2,698,955	Trindl	Jan. 11, 1955
2,742,660	Van Esley	Apr. 24, 1956