

Aug. 18, 1936.

D. B. REPLOGLE

2,051,058

COMBINED WAX APPLIER, POLISHER, AND CARPET SWEEPER

Filed May 7, 1935

2 Sheets-Sheet 1

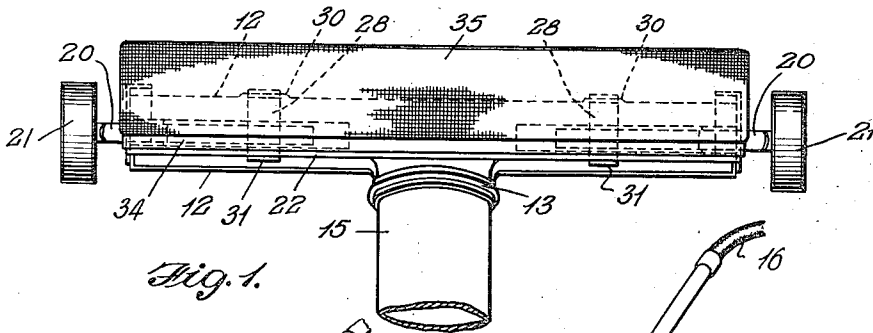


Fig. 1.

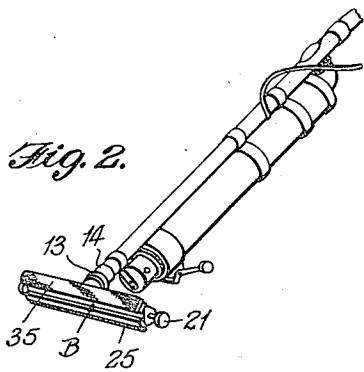


Fig. 2.

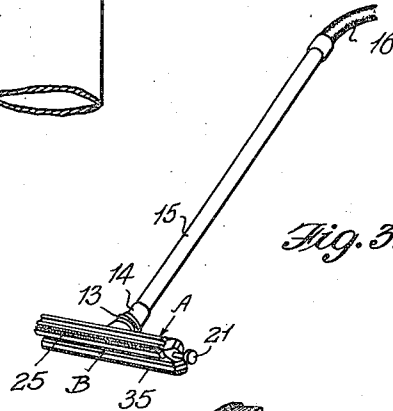


Fig. 3.

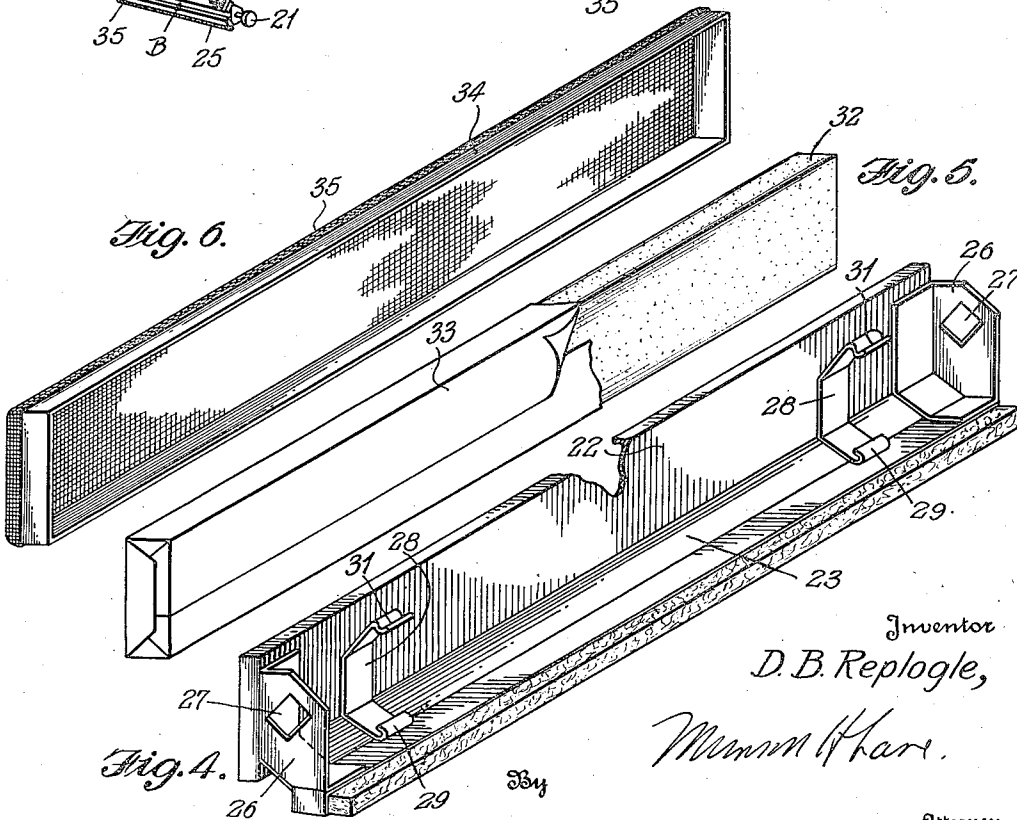


Fig. 4.

Fig. 5.

Fig. 6.

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2 Sheets-Sheet 2

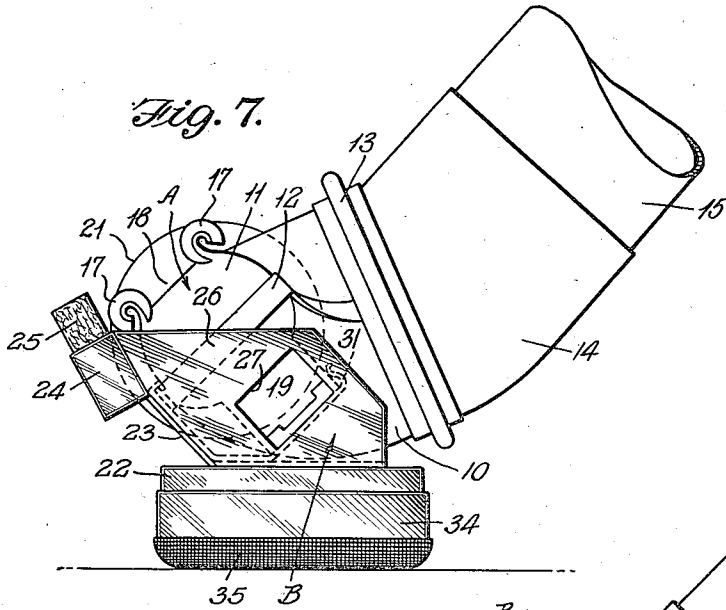


Fig. 8.

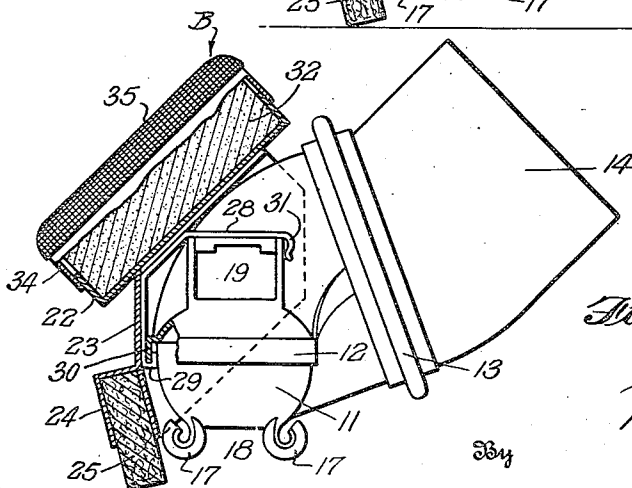
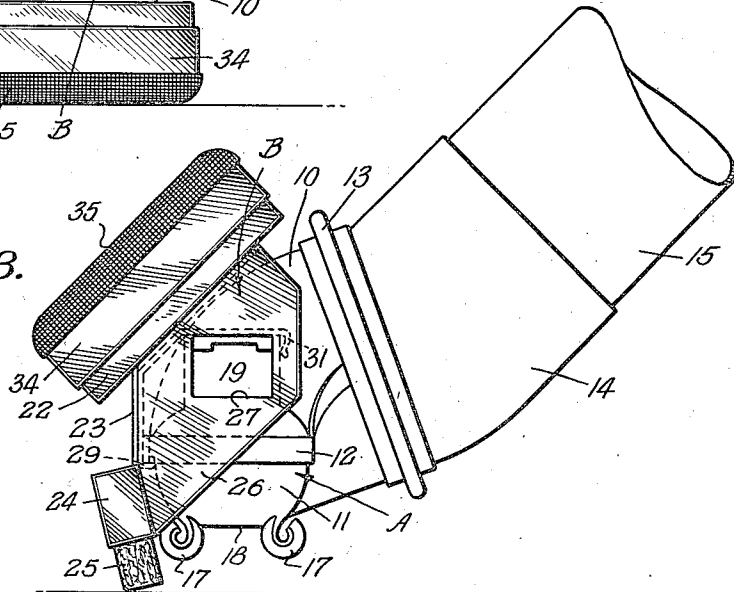


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UNITED STATES PATENT OFFICE

2,051,058

COMBINED WAX APPLIER, POLISHER, AND
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trustee

Application May 7, 1935, Serial No. 20,240

14 Claims. (Cl. 91-39)

The invention relates to cleaning apparatus, and more particularly to apparatus of this type utilizing the cleaning effect of swiftly moving air and to attachments for such cleaning apparatus, whereby wax may be applied to a surface to be cleaned and after the application of wax the floor may be polished, while at the same time air is being drawn into the tool over the waxed surface, thus drying such surface and picking up such particles of wax and dirt as may be rubbed loose from the floor.

In designing the apparatus it is my aim to utilize to a large extent standard and interchangeable parts, connections and the like, which are covered by my prior patents and pending applications, and which are included in what is known as the "Air-Way" system, the term "Air-Way" being covered by a registered trade-mark.

One of the objects of the invention is to provide a combined waxer and polishing attachment for a cleaning tool of the general type covered by my Patent No. 1,994,868, dated March 19, 1935, in which the floor tool is adapted to be connected to a suction tube or handle through the medium of a rotatable joint cutting obliquely through the axis of the tube or pipe, whereby the tool in one position may be employed for sweeping or polishing, with the lips of the tool forming the open mouth thereof substantially parallel to the floor, while on reversing the tool about the oblique joint the same may be used for waxing the floor.

A further object of the invention is to provide a waxing and polishing attachment for an "Air-Way" cleaning tool which may be readily applied to or removed from the tool and which may be held in position upon the tool in part at least by the spring supports of the usual end rollers with which such tool is equipped.

Other objects of the invention will be apparent from the following detailed description and accompanying drawings, in which are set forth an illustrative embodiment of the invention which is not intended to limit the invention to the details therein set forth.

In the drawings,

Fig. 1 is a top plan view of a floor tool of the "Air-Way" type equipped with a waxing and polishing attachment embodying my invention;

Fig. 2 is a diagrammatic view on reduced scale illustrating a floor tool equipped with the waxing and polishing attachment and forming part of a portable "Air-Way" cleaner of the can or caddy type;

Fig. 3 is a similar view showing the tool con-

nected through a tubular handle to a remote source of suction;

Fig. 4 is a perspective view of the wax carrier attachment equipped with a polisher, which attachment is adapted to be secured to an "Air-Way" tool;

Fig. 5 is a perspective view of a wax bar to be carried by said attachment.

Fig. 6 is a perspective view of a lid with netting face adapted to cover the wax bar when in position on said attachment, and to telescope with a trough carried by the attachment;

Fig. 7 is an end elevation showing a floor tool of the "Air-Way" type equipped with a waxing and polishing attachment, the floor tool being shown in the waxing position, the end rollers having been removed to show the details of construction of the attachment;

Fig. 8 is a similar view of the tool in the polishing or sweeping position, and

Fig. 9 is a view similar to Fig. 8 but showing the waxing and polishing attachment in action.

Referring to the drawings, A represents generally a tool of the "Air-Way" type, this tool being shown unshaded, and B represents a waxing and polishing attachment shown shaded for contrast with the tool. The attachment is adapted to be removably secured to the floor tool without the use of attaching screws or the like.

As shown, the floor tool is of the general type covered by my Patent No. 1,994,868, dated March 19, 1935, the details of construction being more specifically covered in a joint application of Replogle and Queen, Serial No. 613,068, filed May 23, 1932. This floor tool comprises upper and lower halves 10 and 11, preferably of sheet metal, the upper half being formed with a flange 12 telescoping over the lower member to form a fluid-tight joint. The parts are preferably permanently connected together by spot welding or the like, and are connected through an oblique joint 13 to a stub portion 14, which may be connected to any suitable source of suction.

In Fig. 2 the floor tool, with waxing and polishing attachment, is shown as a part of a portable cleaner of the caddy type, covered by my Patent No. 1,887,600, dated Nov. 15, 1932, the parts of which are diagrammatically illustrated in the present application and correspond with the elements detailed in said patent.

In Fig. 3 the tool, with waxing and polishing attachment, is shown provided with a removable suction handle 15 preferably of hard fiber, which may be connected through a flexible tube 16 to a stationary power plant or remote source of suc-

tion, as set forth in my Patent No. 1,533,271, dated April 14, 1925. The floor tool is preferably provided with stokers 17, which may be removed by sliding endwise, if desired, such stokers being preferably composed of hard fiber, and if desired formed with notches as set forth in Replogle and Queen application Serial No. 613,068, referred to above. The stokers are coplanar and form the inlet mouth of the tool, and as they extend downwardly beyond the end walls of the tool, end openings 18 are provided to permit air to enter when suction is applied. At the upper portion of the tool end openings or pockets 19, 19 are provided, which are adapted to receive spring supports 20 of end rollers 21, which rollers and supports are removable in the manner described in my prior patents and applications. If desired, end closures, not shown, similar to those described in my Patent No. 1,895,584, dated Jan. 31, 1933, may be carried by the spring supports and serve to vary the size of the end openings 18.

The waxing and polishing attachment in Fig. 4 as shown comprises a trough-shaped wax holder 22 having a wall or wing 23 set at an angle thereto and connecting with a holder 24 for a polisher 25. The polisher is preferably of felt and removably fits in the channel shaped holder in such a manner as to bring it into engagement with the floor when the floor tool is in its regular carpet sweeping position. The felt may be replaced by another felt when worn, or may be replaced by a brush-like sweeper adapted to fit into the channel. The trough 22, wall 23 and holder 24 are preferably of sheet metal. At the ends of the attachment are a pair of sheet metal lugs 26, 26, which may be welded or otherwise secured thereto. These lugs are provided with rectangular oblique openings 27, 27, and are so arranged that when the attachment is in position upon the tool the holes 27, 27 register with the end pockets 19, 19 in which the roller shanks are usually inserted, the shanks being removed to permit the attachment to be applied, and when replaced in the pockets serving the dual purpose of flexibly supporting the cleaner and holding the combined waxer and polisher in place.

In addition to the support furnished by the end rollers, clips 28, 28 may be spot welded to the brush holder wing and to the trough wing of the sheet metal bottom of the trough. Each of these clips is provided with a small hook 29 adapted to fit into an ear or seam 30 formed on the overlapping flange 12 of the upper member of the casing of the floor tool. When thus hooked the other end of the clip is brought over the top of the tool and serves to tightly yet releasably hold the attachment in position. The clips 28, 28 are preferably of spring metal. The wax bar 32, shown in Fig. 5, is of rectangular shape adapted to fit the trough 22, and will be delivered to the customer wrapped in paper 33. The paper is opened, laying bare one side, so that it faces upward in the trough, and the extra paper is then clipped away. After the bar has been pushed in the trough a cover 34, having a face 35 of netting, preferably of cloth or other textile fabric, is telescoped over the bar and inside of the trough 22, the netting being pressed down so as to follow up as the wax is exhausted through the mesh when the waxer is applied to the floor.

It will be noted that the parts of the attachment and floor tool are so shaped and related and the angle of the joint 13 with reference to the axis of the outlet pipe is so formed that the flat face of the netting of the waxer will be flush

with the floor when the tool is reversed from the normal sweeping position about the joint 13, as illustrated for example in Figs. 3 and 7, while in the opposite position the plane of the lips 17 forming the mouth of the tool is parallel with the floor. It will be noted that the plane of the face of the waxer extends at an angle of about 45° to the plane of the lips 17 forming the mouth of the tool. It will be apparent from a comparison of Figs. 7 and 8 that the joint 13 extends at the same angle in both positions of the floor, tool, there being no change in the angle of inclination of the handle portion.

The attachment may be readily removed, if desired, for ordinary sweeping purposes, or may remain in position without interfering with the sweeping operation. For cleaning bare floors the felt brush 25 assists in removing adhering matter, or may be removed and replaced by a bristle brush, if desired, said brush being fitted into the same holder.

Where end covers or lids are carried by the end roller supports, variations in the downward pressure applied to the tool serve to vary the size of the end openings.

After the floor has been cleaned, either with or without the use of the felt brush, the tool is reversed for waxing so as to bring the waxing face parallel to the surface of the floor. An electric heater, not shown, may be employed, if desired, in conjunction with the apparatus, the heater being adapted to be carried in the trough with the wax and current supplied from a separate outlet leading from the fan motor through a separate outlet plug, such as is shown in my Patent No. 1,887,600, dated Nov. 15, 1932. The waxing operation being completed, the floor tool may be again reversed and the floor polished with the felt applicator or lip, suction being applied at the same time, so that air entering the nozzle serves to dry the wax and to pick up any particles of rolled-up wax and dirt that may be rubbed loose from the floor.

It will be understood that many modifications and variations may be resorted to without departing from my inventive thought.

What I claim is:

1. In combination with a floor tool having a tubular extension rotatably connected thereto by an angular fluid-tight joint and communicating with a source of suction, said floor tool having pockets formed at opposite ends thereof adapted to detachably receive spring supports of end rollers; a combined waxing and polishing attachment adapted to be detachably connected to said floor tool and held in position by the end roller supports when said supports are inserted in said pockets.

2. An apparatus as set forth in claim 1 wherein the floor tool is provided with a mouth which is adapted to be supported parallel to the floor in one position of the tool, while, when the tool is reversed about said rotatable joint, a waxing surface of said attachment is brought flush with the floor.

3. An apparatus as set forth in claim 1 wherein the attachment includes a wax carrying trough, a wax bar in said trough, and a cover for said bar having a netting face for engagement with the floor when the apparatus is brought into waxing position by rotating the tool 180° about said joint from the sweeping position.

4. An apparatus as set forth in claim 1 wherein said attachment includes a polisher which is carried in front of the cleaning mouth of the tool

when the apparatus is in sweeping position and serves to polish a waxed surface, while air drawn into the tool serves to dry the wax and to pick up rolled-up wax and dirt that may be rubbed loose from the floor by the waxer or polisher.

5 5. An apparatus as set forth in claim 1 wherein the floor tool is provided with parallel coplanar stroker members, and the attachment includes a waxer having a waxing face lying in a plane
extending at an oblique angle to the plane of said
strokes.

6. In combination with a suction cleaning apparatus including a floor tool or nozzle having parallel coplanar lips outlining an inlet mouth, a tubular outlet pipe connected with a source of suction, and an oblique joint connecting said nozzle with said pipe; an attachment for said tool including a plate extending over the top of said floor tool and constituting the base of a wax-carrying trough set at an oblique angle to the plane of the mouth of the tool, and carrying a flat wax cake whose waxing face is adapted to be brought into flush engagement with the floor by rotation of said floor tool 180° about the tubular pipe with reference to the floor sweeping position.

7. An apparatus as set forth in claim 6 wherein the base of said trough carries a pair of spring fingers adapted to releasably engage over the top of said tool.

8. An apparatus as set forth in claim 6 wherein the base of said trough is provided with an extension parallel to the front of the nozzle and including a channel member composed of spring material releasably and frictionally engaging a felt polishing member adapted to cooperate with the nozzle in the cleaning position.

9. In combination with a floor tool having detachable end rollers, pockets formed at opposite ends of the tool adapted to receive the supports of said end rollers, a floor polishing attachment adapted to be detachably connected to the floor tool and held in position by the end roller supports when said supports are inserted in said pockets.

10. A polishing attachment for use with a suction nozzle having detachable end roller supports, comprising a polishing member of substantially the same length as the nozzle and end plates adapted to snugly fit over the ends of the nozzle for detachably securing the polishing member to the nozzle, said plates being apertured to permit the roller supports to pass therethrough.

11. A combined waxing and polishing attachment for a reversible suction cleaner nozzle, comprising a plate of substantially the same length as the nozzle to which the attachment is to be applied, adapted to extend angularly over the top of the nozzle and constituting the base plate of a wax carrier, a polishing member carried at an oblique angle to said base plate and substantially coextensive therewith, and means for detachably securing the attachment to the nozzle with the working edge of the polishing member adjacent and parallel to one edge of the mouth of the cleaner nozzle and the waxing face of the polishing member in such a position that it is brought flush with the floor when the nozzle is reversed 180° from the sweeping position.

12. In combination with a floor cleaning nozzle having an open inlet mouth and a tubular extension rotatably connected to the nozzle by a fluid-tight joint oblique to the axis of the extension and communicating with a source of suction, a waxer adapted to be detachably secured to the nozzle in such a position as not to obstruct the inlet mouth, said waxer including a plate of substantially the same length as the nozzle and constituting the base of a wax carrying trough, and means for detachably securing the base plate to the nozzle with the base plate extending over the top of the nozzle at an oblique angle thereto when the mouth of the nozzle is in working position, while on the reversal of the floor tool 180° about said oblique joint, the working face of the waxer is brought flush with the floor.

13. For use with a suction nozzle of the character described, a combined waxer and polisher, comprising a base plate of substantially the same length as the nozzle to which it is to be applied comprising the base of a wax carrying trough, a wing extending at an angle to said plate carrying a polishing attachment and end plates carried between said base plate and wing members and adapted to snugly fit over the ends of the nozzle.

14. In combination with a reversible floor tool having an unobstructed suction inlet, a waxing attachment adapted to be secured over the top of said nozzle, having end plates fitting snugly over the ends of the floor tool for detachably securing the waxer to the nozzle.

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