

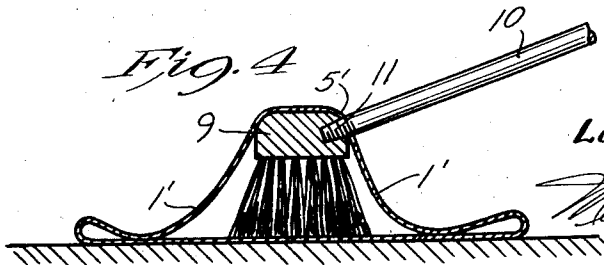
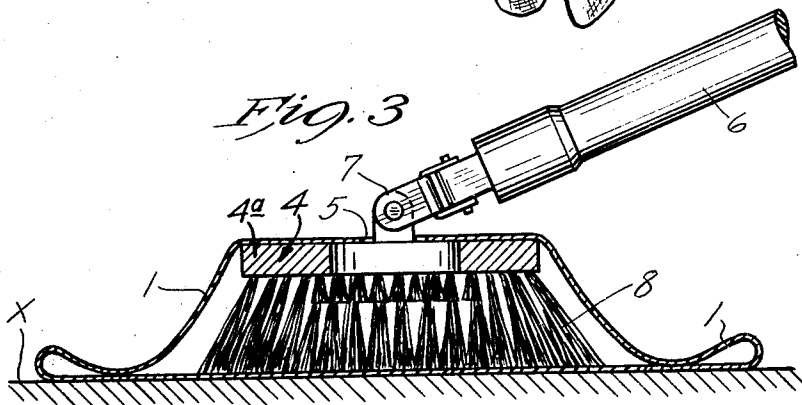
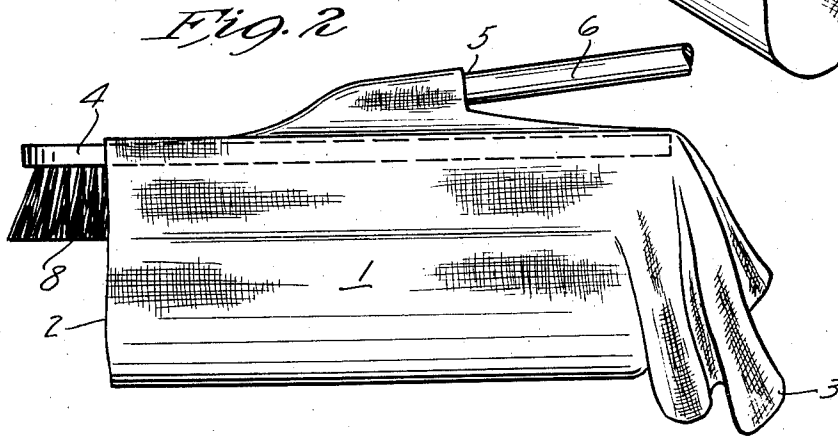
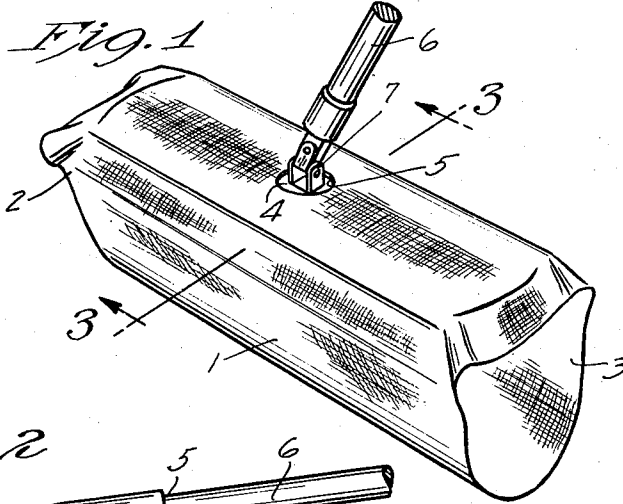
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DUSTING MOP FOR USE OVER FLOOR BRUSH

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DUSTING MOP FOR USE OVER FLOOR BRUSH

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3 Claims. (Cl. 15—247)

My invention relates generally to improvements in cleaning and dusting tools and more particularly to improvements in that type of cleaning and dusting tools comprising a floor brush, or equivalent basic tool, and an associated soft flexible dusting cloth.

In the sweeping of uncarpeted floors of marble, terrazzo, linoleum, wood and the like, the raising of dust in places such as large offices, laboratories and the like, presents a problem. In such places, the conventional dust mop is not adequate to remove the dust thoroughly, even with frequent shaking out of the mop, and a bristle brush or broom does not satisfactorily remove all of the fine dust. Even when used with extreme care, a bristle brush tends to raise dust into the air from whence it settles on equipment in the room, thereby adding to the labors of the janitor or cleaning person. For the purpose of efficiently dusting large floor areas and the like, it has been found that a chemically treated dust cloth detachably secured to the head of a floor brush operates to remove dust without raising dust particles in the air, provided that the dust cloth is maintained in an operative position between the bristles of the brush and the surface to be cleaned and providing that there be additional dusting cloth material to lay in loose wiping contact with the surface to be cleaned both in front of and in back of the brush head. An important object of my invention is therefore the provision of an improved tool comprising a soft flexible dust collecting element which when mounted on the head of a floor brush or equivalent basic tool will be interposed automatically between the bristles or other yieldable facing thereof of the brush and the surface to be wiped thereby and which will provide an excess of soft, flexible wiping material both ahead of and behind the tool head and to allow shifting of the soft flexible material to dispose different portions thereof between the tool head and the floor or other surface being wiped.

Another object of my invention is the provision of a dust cloth which may be quickly and easily mounted on and removed from a brush for cleaning or the like, and which when mounted on the brush head is not subject to accidental removal or displacement from operative position.

Another object of my invention is the provision of a dust cloth of the type set forth which is easily reversible to permit use of both sides thereof for dust collecting purposes.

Still another object of my invention is the provision of an improved tool of the character set forth which is simple and inexpensive to manufacture and install, which is efficient in operation, and which is extremely durable in use.

The above and still further objects and advantages of my invention will become apparent from the following detailed specification, appended claims and attached drawings.

Referring to the drawings, which illustrate the inven-

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tion, and in which like reference characters indicate like parts throughout the several views:

Fig. 1 is a view in perspective, with some parts broken away and some parts shown in section, showing one form of floor brush having my novel dusting cloth mounted thereon;

Fig. 2 is a fragmentary view in side elevation illustrating a preferred method of applying my novel dusting cloth to the floor brush of Fig. 1;

Fig. 3 is an enlarged transverse sectional view taken substantially on the line 3—3 of Fig. 1; and

Fig. 4 is a view corresponding to Fig. 3 but showing my novel dust cloth applied to a different form of floor brush.

In the preferred form of the invention illustrated, my novel cleaning and dusting tool comprises a permanently formed, circumferentially endless, reversible tube 1 of constant diameter made from suitable cloth fabric material and open at its opposite ends 2 and 3 for insertion of an elongated basic tool head which preferably takes the form of a bristle-equipped brush head 4. The brush head comprises an elongated rigid backing 4a and brush bristles 8. The brush bristles 8 define a yieldable facing providing a relatively deflectable bottom working surface for the tool head 4 that extends an appreciable distance on opposite sides of the handle 6. At its longitudinal central portion, the tube 1 is provided with an opening 5 intermediate its ends for freely receiving a brush handle 6 which preferably and as shown is connected to the longitudinal center of the brush head 4 by a conventional universal joint 7. The joint 7 permits the brush handle 6 to be swingably displaced from a normal operative position at substantially right angles to the head 4 to an extreme assembly position generally parallel to the head 4, as shown in Fig. 2. Also preferably and as shown, the tube 1, which is of substantially constant diameter from end to end, is of greater length than the brush head 4 and has a diameter which is substantially larger than the maximum width of the brush head 4 so that, when the tube 1 is mounted on the brush head, it will encompass the entire brush head and at all times be situated between the bristles 8 of the brush and the underlying wall or floor surface to be dusted. Said surface is indicated by the letter X in Fig. 3.

When my novel dusting cloth is to be applied to the brush of Figs. 1 to 3 inclusive, the brush handle 6 is moved from its normal operative position of Figs. 1 and 3 into its assembly position wherein it is generally parallel to the head 4; such handle displacement being made necessary because of the fact that the maximum possible diameter of the tubular cloth is greatly less than the length of the handle 6. The free end of the handle 6 is then inserted through one of the open ends 2 or 3 of the tube 1 and outwardly through the central opening 5 therein. The cloth tube is then moved along the handle 6 towards its connection to the brush head 4 and the adjacent end of the brush head 4 is inserted into the tube. When the central aperture 5 reaches the joint 7, the tube 1 will be centered on the brush head with the opposite ends 2 and 3 thereof overlapping the opposite ends of the head 4. Then when the handle 6 is moved to its operative position of Fig. 1, there is little, if any, likelihood of accidental removal of the dusting cloth from the brush head.

When it is desired to remove the tubular dusting cloth 1 from the brush head 4, it is merely necessary to swing the handle 6 into its said assembly position in generally parallel relationship with the brush head 4 and slide the tube 1 toward the free end of the handle 6 in a manner directly reverse to that used in mounting the dust cloth on the brush head. When the outside of the tube 1 has

become fully dust laden, the same may be quickly and easily removed as above indicated and, after having been turned insideout reapplied to the brush head where it may be used until it is again fully impregnated with dust. After the similar opposite sides of the tubular cloth have accumulated as much dust as they will hold, the cloth is removed and sent to a suitable place for cleaning and treating with chemicals designed to cause dust to adhere to the cloth.

My novel tubular dust cloth is also adapted for use with a form of basic tool comprising a conventional floor brush having a detachable rigid handle which is screw threaded into the intermediate portion thereof. Such a brush is shown in cross section in Fig. 4 as comprising an elongated, bristle-equipped brush head 9 and a handle 10 projecting upwardly and outwardly from the intermediate portion of the brush head 9 and being screw threaded therinto as indicated at 11. With this type of basic tool, the tool handle 10 is displaced from its normal operative position, for the purposes of application and removal of the tubular dusting cloth, by removal from the head 9. The tubular dusting cloth of Fig. 4, indicated by 1', corresponds to the tubular dusting cloth 1 of Figs. 1 through 3 and its handle receiving opening is indicated by 3'.

An important feature of the instant invention contributing greatly to the efficiency thereof resides in the fact that the internal circumference of the flexible cloth tubes 1 and 1' are, as shown clearly in Figs. 3 and 4, respectively, sufficiently greater than the transverse circumference of their cooperating heads 4 and 9, respectively, to make available an excess of tube material to lay in loosely folded condition on a work surface ahead of and behind the deflectable surface of the tool head and to allow the yieldable working face of the tool head, as defined by the free ends of the bristles of the structures shown, to be brought into pressure working contact by the handle with different circumferentially spaced areas of the flexible tube without rotation of that portion of the tube overlying the tool head and through which the handle projects.

My invention has been thoroughly tested and found to be completely satisfactory for the accomplishment of the objectives set forth; and while I have shown and described a commercial form of my novel dusting cloth in combination with floor brushes of conventional design, it will be understood that the structure is capable of modification without departure from the spirit and scope of the invention as defined in the claims.

What I claim is:

1. In a cleaning or dusting tool comprising a head having a handle connected thereto and projecting therefrom, said head comprising a rigid backing having a yieldable facing on the underside thereof providing the tool with a relatively deflectable working facing, said backing and its yieldable facing extending an appreciable distance on opposite sides of said handle connection with the head, the improvement comprising in combination with the head and its yieldable working facing, a reversible cylindrical tube open at both ends and composed of flexible material of substantially uniform diameter from end to end and having similar inner and outer work surface engaging portions, said tube encompassing the head and its yieldable working facing and having an opening intermediate the ends thereof of sufficient size to freely receive said handle and through which the handle projects; said cylindrical tube having a length and diameter materially greater than the maximum length and width respectively of the rigid backing and its yieldable working facing so as to extend therebeyond in end and side folds,

the diameter of said tube being considerably less than the length of said handle, whereby the end and side folded portions of said tube will spread loosely over a surface being cleaned for a substantially greater area than that of the yieldable working facing of the head being brought into pressure contact by the handle with different circumferential areas of the tube during such cleaning and dusting operations.

2. The structure defined in claim 1 wherein the handle is pivotally secured to the head for movement between an operating position substantially normal to the head and a tube assembly position in a plane substantially parallel to said head so that said handle may be moved to the tube assembly position and inserted through said opening and said tube may be urged toward said head until the tube totally encloses the rigid backing and yieldable working facing and the handle may then be pivoted to the operating position for use of the tool.

3. In a cleaning and dusting tool comprising an elongated head and an elongated handle, said tool head comprising a rigid backing having a yieldable facing on the under side thereof providing the tool with a relatively deflectable working surface, the handle being connected to and projecting from the rigid backing of the head, said backing and its yieldable facing extending an appreciable distance on opposite sides of said handle connection with the head; a circumferentially endless, permanently formed, reversible tube of soft flexible material open at both ends and of substantially uniform diameter from end to end and having similar inner and outer work surface engaging portions; said flexible tube encompassing the head and its yieldable working facing and having an opening intermediate its ends of sufficient size to freely receive said handle and through which the handle projects; said tube having a length and diameter materially greater than the maximum length and width respectively of the rigid backing and yieldable facing of the tool head to always enclose same with the ends of the tube extending beyond the ends of the head in side and end folds, the maximum possible diameter of the flexible tube being greatly less than the length of the handle and the handle being displaceable from a normal working position to allow endwise application of the tube to the tool head, the internal circumference of the reversible flexible tube being sufficiently greater than the transverse circumference of the tool head to make available an excess of tube material to lay in loosely folded condition on a work surface ahead of and behind the deflectable surface of the tool head and to allow the yieldable working facing of the tool head to be brought into pressure working contact by the handle with different circumferentially spaced areas of the tube without rotation of that portion of the tube overlying the head and through which the handle projects.

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