Dec. 31, 1940. J. D. BATES 2,226,654

CLEANING DEVICE

Filed Jan. 14, 1938

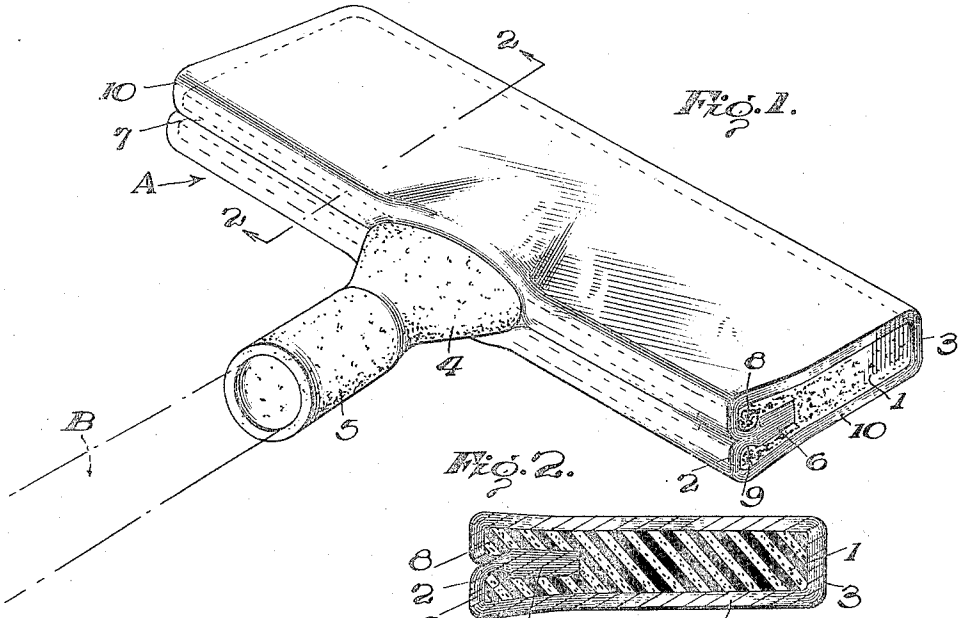


Fig. 1.

Fig. 2.

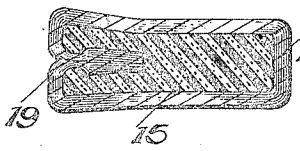


Fig. 4.

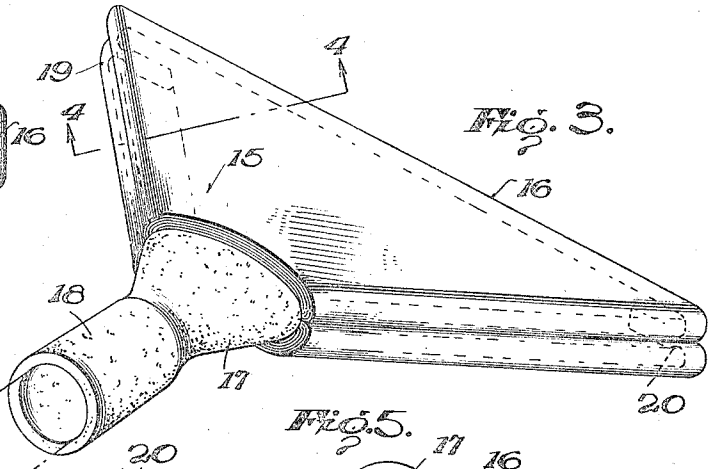


Fig. 3.

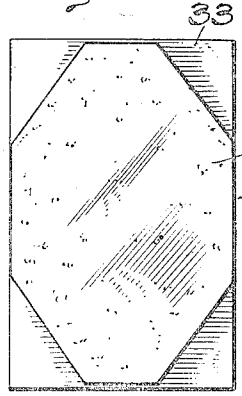


Fig. 7.

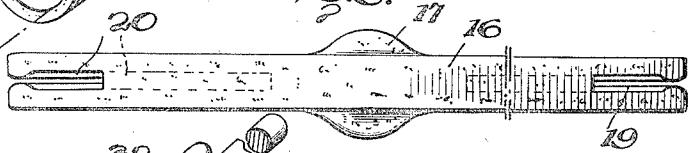


Fig. 5.

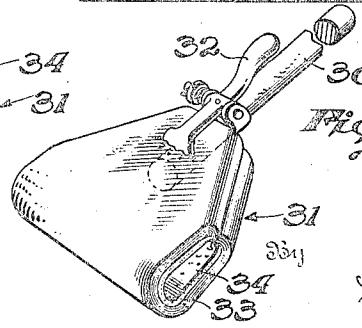


Fig. 6.

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CLEANING DEVICE

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7 Claims. (Cl. 15—231)

The present invention relates to mopping or cleaning devices and, more particularly, to devices of this general type which are preferably intended to be used in the dry condition for cleaning or dusting.

It is the object of the invention to provide a cleaning device embodying a supporting head adapted to receive a removable cleaning element. This cleaning element may comprise either a single sheet of material wrapped about the supporting head or a plurality of superposed sheets of cleaning material wrapped about the head and adapted to be successively used for cleaning purposes, the outer element being stripped off, when desirable, in order to expose a clean element. The head which supports and shapes the cleaning element or elements is preferably formed of resilient or flexible material and is so formed and constructed that such elements may be wrapped about the head and the edges of such elements brought together and releasably secured to the head.

Other objects and features of novelty will be apparent from the following description and the annexed drawing, it being understood, however, that the invention is not in any way limited by such description and drawing or otherwise than by the appended claims.

Referring to the drawing in which similar reference numerals refer to like parts,

Fig. 1 is a perspective view of a mopping or cleaning device formed according to the present invention;

Fig. 2 is a sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of a second embodiment of my invention;

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3;

Fig. 5 is a plan view of the bottom edge of the device illustrated in Fig. 3;

Fig. 6 is a perspective view of a third embodiment of the invention, and

Fig. 7 is a view showing the relation of certain parts of the device illustrated in Fig. 6.

By the present invention I have provided a mopping or cleaning device in which a plurality of superposed separable cleaning elements, such as sheets of paper or cloth, are releasably carried by a supporting head member which is so formed and constructed that it is entirely flexible. By reason of this flexible construction of the head member it is possible to use the device in mopping or cleaning any irregular or uneven surfaces or any remote areas, corners or other parts which may not be reached when the usual type of mop is employed. By reason of the provision of the superposed, separable cleaning sheets it is possible, after placing a plurality of such sheets on the mop head, to successively use these in the cleaning operation, it being merely necessary to remove the outermost sheet when this becomes soiled or unfit for further cleaning, thereby exposing a fresh and unsoiled sheet.

In Fig. 1 of the drawing there is disclosed one embodiment of my invention and, referring to this figure, it will be seen that the device which I have provided comprises a mopping head which is generally designated by the letter A and to which is adapted to be attached a handle member B. As disclosed in Fig. 1, the head member A comprises an elongated generally rectangular portion 1, the thickness of which is preferably small as compared to its other dimensions, thereby forming a flat slab-like member having spaced longitudinal edges 2 and 3, this head member constituting a support for the cleaning elements which will be described hereinafter. Integrally formed with this mopping or cleaning head 1 and extending from the upper longitudinal edge 2 thereof, and being generally formed in the plane of the head, is an extension or neck 4 on the outer end of which is preferably formed a handle-receiving ferrule 5. If desired, a handle may be integrally formed with the neck 4 or with the head member 1 in place of the ferrule 5, such handle being preferably so formed that it may be grasped by the hand. According to my invention, I form this entire mopping head, including the flat portion 1, the neck 4 and the handle or handle-receiving ferrule 5, of some flexible, preferably resilient material such as soft rubber or sponge rubber. While it may not be necessary in all cases to form the ferrule 5 of such material, it is a feature of my invention that the entire supporting head is so formed. I have found that greatly improved results are secured by also forming the neck portion 4, which connects the handle-receiving ferrule to the head, of flexible or resilient material, this providing additional and greater flexibility to the entire mopping device.

Means are provided by the invention for attaching to the head member the cleaning elements which are contemplated by the present invention. Such means are formed in the upper longitudinal edge 2 of the head member 1 and extend from each side of the neck portion 4 toward the opposite ends of the cleaning head, and in the preferred form of the invention, comprise slots or apertures 6, 7 which extend into the material

of the head from the longitudinal edge 2 toward the longitudinal edge 3 for any desired distance and which cooperate with the cleaning elements in a manner to be fully described hereinafter. These slots or apertures are preferably formed in such a way that the entrance thereto, which is preferably, but not necessarily, formed in the exterior surface of the longitudinal edge 2, is made quite narrow and restricted, while the interior portion of the aperture is enlarged considerably. This construction may be achieved by forming inwardly-facing elongated beads or ridges, such as 8, 9, on the inner surfaces of the portions of the head member which are adjacent the edge 2 and which define the apertures or slots. It will be seen that by reason of the fact that the entire cleaning head is formed of resilient or flexible material, the walls of the aperture 6 may be moved with respect to each other and when held apart, as by any material being disposed within the aperture 6, these walls will tend to return to their normal position adjacent each other and will therefore exert a yielding pressure on any material within the apertures 6.

It will be apparent that the head 1 may be formed in a single piece by a molding operation, or may be formed by folding a piece of sponge or other rubber and cementing the abutting faces together, leaving the slot or aperture as an uncemented edge portion. This head member may also be formed by cementing together two pieces of sponge or other rubber, again leaving one edge portion un-attached in order to provide the aperture or slot. All of these, and other, methods of forming the head member are included within the scope of my invention.

Cleaning means are provided by the invention and are adapted to be mounted on the head member hereinbefore described. According to the present invention I propose to entirely cover the head member 6 by wrapping around it a plurality of superposed, separable cleaning elements such as sheets of paper or cloth, any number of the elements of which may at any time be removed as desired in order to expose a fresh cleaning surface. These sheets of cleaning material are illustrated at 10 in the drawings and it will be seen that these may be rectangular sheets of cleaning material which are wrapped relatively tightly about the head 1 and the adjacent free edges of which are brought together and disposed within the apertures or slots 6 which extend along the upper longitudinal edge of the head 1. When the edges of the sheets of cleaning material are so disposed within the slot or slots 6 it will be seen that these sheets will be held securely on the head 1 and that the portions of the head which define the slots 6 will exert yielding pressure on the edge portions of the sheets of cleaning material in order to hold these edge portions within the apertures, thereby maintaining the entire group of sheets in proper position on the head member. It will also be seen that as the outermost sheet of material becomes soiled and unfit for further cleaning purposes it may be stripped off without disturbing in any way the remaining sheets of cleaning material, thereby exposing other sheets for cleaning purposes.

By reason of the entirely flexible construction of the head 1 and the connection of this head to the handle B by a flexible neck 4, it will be apparent that the entire cleaning head with the cleaning sheets mounted thereon may be used in any corner or uneven area or surface which might not ordinarily be reached by a mopping device of the usual type. It will be apparent that in order to achieve this result the sheets of cleaning material 10 must be of flexible nature.

In Figs. 3, 4 and 5 of the drawing I have illustrated a second embodiment of my invention and it will be seen that this form is generally similar in nature and construction to that illustrated in Figs. 1 and 2 and is somewhat preferred over the form illustrated in Fig. 1 by reason of being cheaper in construction and being so constructed as to permit access to areas which might not be reached by the device of Fig. 1. In this embodiment of my invention the mop head, which is generally designated at 15, is formed of generally triangular shape. One side of the triangular head, which is preferably the longer side 16, may be designated as the cleaning or lower edge of the mop. Extending from the apex opposite this lower edge of the mop is a neck portion 17 to the outer end of which is attached a handle or handle-receiving ferrule 18. The two sides of the triangular head which extend from the neck 17 to the ends of the cleaning edge 16 are provided with slots or apertures 19, 20 which are preferably formed in the same manner as the slots or apertures 6 of the device of Fig. 1. This entire head device, preferably including the neck portion 17, is formed of flexible or resilient material such as soft rubber or sponge rubber, for the purposes set forth hereinbefore. An assembly of superposed, separable sheets of cleaning material of the character hereinbefore described are adapted to be wrapped about the head 15 and the free edge portions of these sheets are received within the slots or apertures 19, 20, whereby the superposed cleaning sheets will be held in position about the mopping head.

It will be apparent that the slots or apertures formed in the head members disclosed in Figs. 1 and 3 need not extend entirely to the ends of the head members although, if desired, they may not only extend to the ends of the head but may also extend along the end edges of the head. It is to be understood that the fact that I have shown these apertures or slots as extending to the ends of the head is not to be considered as limiting the invention in any way, and these slots may be made of any desired extent. As illustrated in Fig. 5, it is preferred that the slots formed in the triangular head illustrated in Fig. 3 be extended to intersect the lower or cleaning edge 16 of the head.

A still further form of my invention is illustrated in Figs. 6 and 7 of the drawing. Referring first to Fig. 6 it will be seen that this embodiment of my invention comprises a handle portion 30 and a mopping or cleaning portion 31, this mopping or cleaning portion being releasably attached to the handle 30 by some means such as the spring clamp 32 which is carried by the handle. As will be seen clearly from the disclosure of Figs. 6 and 7 I propose to form the cleaning element 31 by superposing a plurality of cleaning sheets 33, such as sheets of paper or cloth, on a similarly shaped sheet 34 which may be formed of sponge rubber, soft rubber or other flexible material and which provides a backing or support for the sheets of cleaning material 33. This assembly, after being made up, as illustrated in Fig. 7, is folded along a medial line and the adjacent free edges of the folded assembly are inserted between the handle 30 and the movable jaw of the clamp 32 which is mounted on the handle, thereby maintaining the cleaning assembly in folded condition and attaching it to

the handle. In the preferred form of this embodiment of my invention, as illustrated, the rectangular sheets of paper are superimposed upon an octagonal backing sheet. When this assembly is folded, the corners of the paper sheets will overlap the backing sheet and these corners may be folded between adjacent edges of the backing sheet to thereby provide a more secure assembly. This folded assembly provides a flexible cleaning head from which successive sheets of cleaning material may be stripped as they become soiled.

While I have illustrated and described certain embodiments of my invention it will be apparent to those skilled in the art that the invention is not limited in any way by the constructional features disclosed in the drawing and that the scope of my invention is not restricted in any way but by the appended claims.

What I claim is:

1. A cleaning device comprising an elongated slab-like head member formed of flexible material and having spaced parallel edge portions extending longitudinally thereof, a handle connected to said head member and extending outwardly from one of said edge portions, the head member being recessed to provide an elongated slot or aperture extending longitudinally of the head member and extending inwardly from said one edge portion, opposed ridges extending longitudinally of said one edge portion and being formed on the inner faces of opposite walls of said slot or aperture and adjacent said one edge to provide a restricted entrance to said slot or aperture, said slot or aperture being adapted to receive the edges of sheets of cleaning material which are wrapped about said head member.

2. A cleaning device comprising a flat, slab-like head member formed of flexible material and having spaced edge portions extending longitudinally thereof, a handle member attached to said head member and extending outwardly from the midpoint of one of said longitudinal edges, said one longitudinal edge being recessed to provide elongated slots extending from said handle member toward the opposite ends of the head member and which are adapted to receive the edges of a plurality of superposed separable cleaning sheets which are wrapped about the head member.

3. A cleaning device comprising a slab-like head member formed of resiliently compressible material and having an elongated edge and having two shorter edges which intersect said longer edge and are extended to intersect each other, a handle member attached to said head member at the juncture of said two shorter edges, each of said two shorter edges being formed with an elongated aperture adapted to receive the edges of superposed cleaning sheets which are wrapped about said head member.

4. A cleaning device comprising a slab-like head member formed entirely of resiliently compressible material and having an elongated edge and having two shorter edges which intersect said longer edge and are extended to intersect each other, a handle member, an integral neck formed of resiliently compressible material and connecting said handle member to said head at the juncture of said two shorter edges, each of said two shorter edges being formed with elongated apertures within which are received the edges of superposed cleaning sheets which are wrapped about said head member.

5. A cleaning device comprising a flexible head member of slab-like configuration having a free edge portion and a second edge portion spaced therefrom, a handle member extending from said second edge portion and connected with said head member, slots formed in edge portions of said head member extending away from the handle receiving ferrule toward the opposite ends of the head member, said slots being adapted to receive the edges of sheets of cleaning material which are wrapped about said head member.

6. A cleaning device comprising a flexible head member of slab-like configuration having a free edge and a second edge spaced therefrom, a handle member extending from said second edge in a direction away from said free edge and being connected with said head member, edge portions adjacent said handle member having slots formed therein defined by flexible walls and extending in opposite directions from the handle member, and sheets of cleaning material folded about said free edge portion and having the opposite ends thereof brought together and held in the slots by means of the flexible walls of said slots.

7. A cleaning device comprising a head member of slab-like configuration having a first edge portion and a second edge portion spaced therefrom, a handle member connected to said head member and extending from said second edge portion, parallel, substantially abutting members forming said second edge portion and extending longitudinally thereof and in opposite directions from the handle member and forming therebetween an elongated aperture, and sheets of cleaning material folded about said first edge portion and having the opposite edges thereof brought together and held in said elongated aperture.

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