Nov. 10, 1942. J. D. BATES 2,301,505

CLEANING DEVICE

Filed Aug. 20, 1940 2 Sheets-Sheet 1

Fig. 1

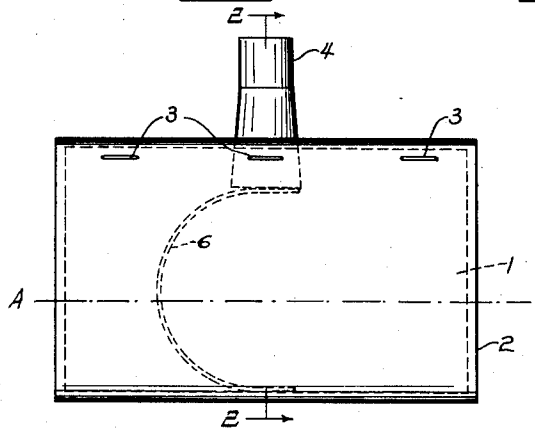


Fig. 2

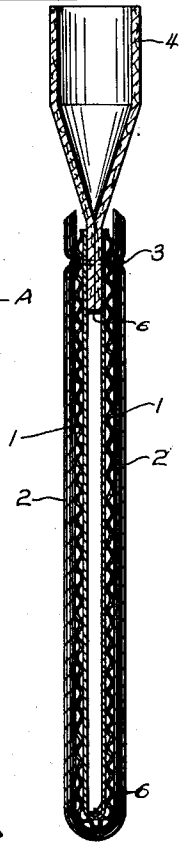
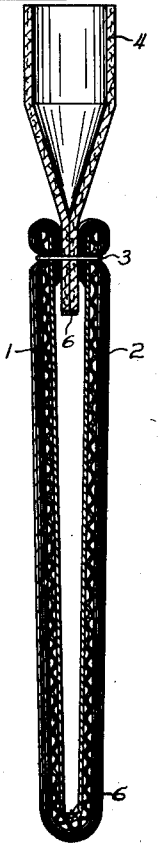


Fig. 4



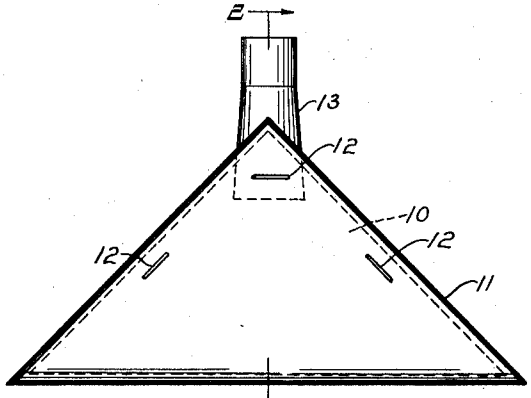


Fig. 3

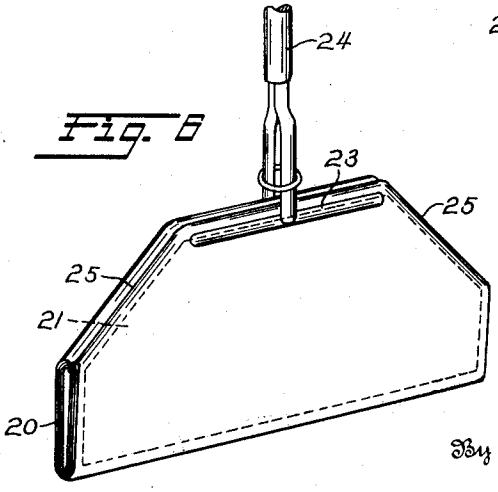


Fig. 6

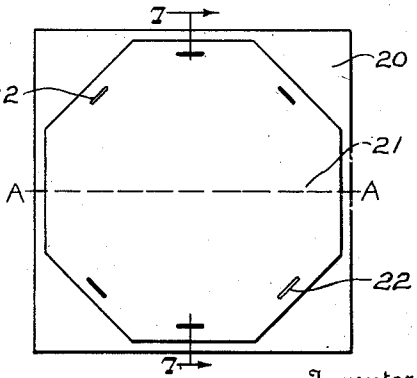


Fig. 5

Inventor

Joseph D. Bates

By Samuel Scrivener Jr.

Attorney

Nov. 10, 1942. J. D. BATES 2,301,505

CLEANING DEVICE

Filed Aug. 20, 1940 2 Sheets-Sheet 2

Fig. 7

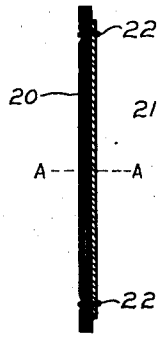


Fig. 8

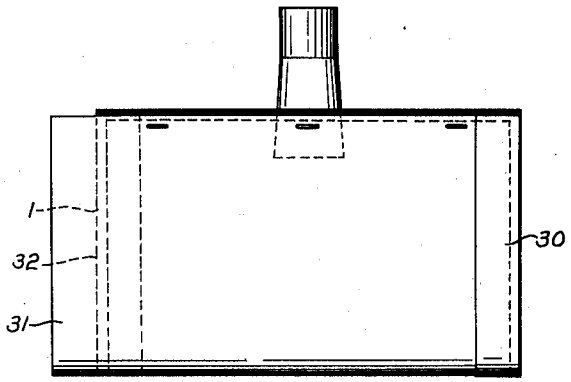
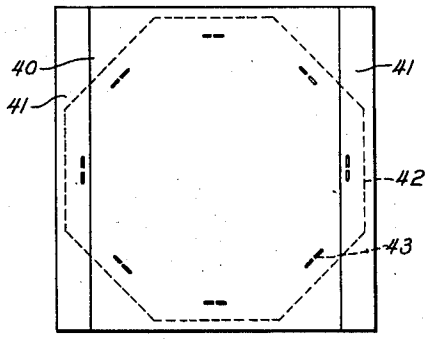


Fig. 9



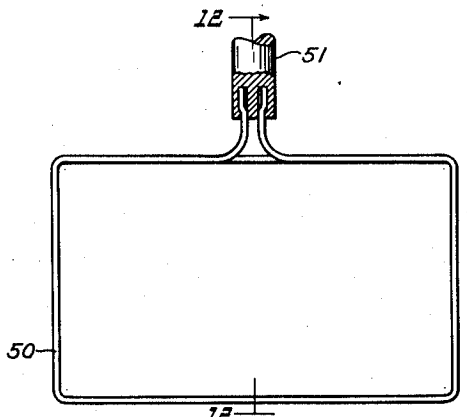


Fig. 10

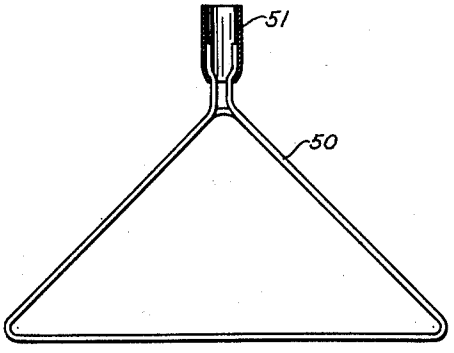


Fig. 11

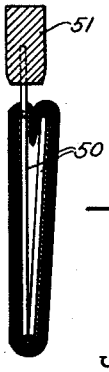


Fig. 12

Inventor

Joseph D. Bates

By Samuel Scrivener Jr.

Attorney

Patented Nov. 10, 1942 2,301,505

UNITED STATES PATENT OFFICE

2,301,505

CLEANING DEVICE

Joseph D. Bates, West Springfield, Mass.

Application August 20, 1940, Serial No. 353,429

9 Claims. (Cl. 15—231)

This application is a continuation in part of my co-pending application Serial No. 185,051, now Letters Patent No. 2,226,654, and the invention here described and claimed, like that of the original application, relates generally to devices for cleaning and dusting.

It is the object of this invention to provide an improved cleaning device which is preferably to be used in the dry state and which is constituted by a pad of superposed cleaning sheets which may be used successively, together with a supporting structure on which these sheets are mounted. By this invention a new and simplified supporting structure and an improved means for attaching the cleaning sheets thereto are provided and, in addition, a new and simplified means is provided for attaching a handle to the cleaning device.

Other objects and features of novelty of the invention will be made apparent by the following description and the annexed drawings, it being clearly understood, however, that such description and drawings are only illustrative of the invention which is not limited thereby or otherwise than by the appended claims.

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

Fig. 1 is a plan view of a preferred form of the invention

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

Fig. 3 is a plan view of a modified form of the invention;

Fig. 4 is a view similar to Fig. 2 showing a modified method of attaching the cleaning sheets to the supporting member;

Fig. 5 is a plan view of the assembly of cleaning sheets and supporting member which are employed in the cleaning device of Fig. 6;

Fig. 6 is a perspective view showing a third embodiment of the invention;

Fig. 7 is a sectional view taken on the line 7—7 of Fig. 5;

Fig. 8 is a view similar to Fig. 1 but showing a modified form of cleaning pad;

Fig. 9 is a view similar to Fig. 5 showing a prepared cleaning pad employing an improved form of cleaning sheet;

Figs. 10 and 11 are plan views of two modified forms of my invention, and

Fig. 12 is a sectional view taken on the line 12—12 of Fig. 10.

The cleaning device which I have provided by the present invention comprises, generally, a backing and supporting member consisting of two flat members of similar size and shape which are held closely together in substantially face-to-face relation and about which is folded a prepared cleaning pad formed of a plurality of superposed sheets of cleaning material, means being provided to attach the sheets of this pad to the backing and supporting member.

In the cleaning device disclosed in Figs. 1 and 2 of the drawings the backing and supporting member is formed by folding a flat sheet of relatively flexible material such as cardboard or pasteboard to provide two substantially co-extensive side members, about which are folded a plurality of superposed sheets of cleaning material such as soft fibre paper. About this backing member there is folded a pad 2 consisting of a large number of superposed sheets of cleaning paper or other suitable cleaning material. The sheets forming this pad are preferably rectangular and slightly larger in dimensions than the unfolded sheet of material which forms the supporting device. The fold of these sheets is preferably made to coincide with the fold of the supporting device and the free edges of the sheets therefore extend slightly beyond the free edges of the two sides of the backing member, all as illustrated in Figs. 1 and 2. These sheets are preferably attached to the supporting structure by wire staples 3 which are positioned near and spaced along the free edges of the supporting device and the cleaning sheets. Obviously, other devices than staples may be used to attach the cleaning sheets together and to the supporting head.

A handle member or a handle-receiving ferrule 4, which is preferably formed of paperboard or cardboard, is attached to the supporting device in a particularly advantageous manner. The ferrule 4, which is made cylindrical in form in order to receive the end of a handle, is crushed or flattened at one end and such end is positioned between the two free edges of the folded support, midway of the length thereof, and is rigidly held in position by one of the staples 3 which attach the paper sheets to the supporting structure. The upper or outer end of the ferrule is left in cylindrical form in order that the end of a handle may be inserted therein. The attachment of a crushed end of the ferrule between the sides of the backing member not only securely attaches the ferrule to the backing member but provides a tight recess within which the end of the handle is received.

The folded assembly described may be initially creased along a transverse line, such as the line A—A of Fig. 1, in order to permit the cleaning

part of the device to be more easily bent, with respect to the handle, during cleaning. This same result may be achieved, however, by forming the backing member of more flexible material. As shown in Figs. 1 and 2, a spring or other resilient device 6 may be positioned within the backing member, bearing on the interior of the bottom fold and on the lower end of the ferrule or on the staples 3, thus maintaining the mop device in extended condition.

In Fig. 3 of the drawings there is illustrated a further embodiment of the invention, in which a triangular supporting or head member 10 is formed by folding a preferably square piece of cardboard, pasteboard or other suitable material about one of its diagonals to form two substantially co-extensive triangular sides which are joined along the diagonal by a fold. Superposed rectangular sheets of paper or other cleaning material 11, which are of slightly larger dimensions than the head 10, are also folded to triangular shape about one of their diagonals and are placed about the head member in such a way that the fold of the backing member abuts that of the cleaning sheets. The cleaning sheets are attached to the head by staples 12 and a cylindrical ferrule 13 is attached to the head by flattening one end thereof and inserting this end between the two side walls of the head, preferably at the apex of the triangular cleaning device, as illustrated in Fig. 3. The ferrule may be held in place by stapling, as illustrated. This triangular cleaning device has certain advantages for cleaning corners and recesses which are under some obstruction.

The embodiment of the invention disclosed in Fig. 4 of the drawings is similar in all respects to those of Figs. 1, 2 and 3 except that the free ends of the cleaning sheets are folded around the free edges of the sides of the supporting device and are extended between the two sides a sufficient distance to be engaged and held by the staples which attach the cleaning sheets and the ferrule to the backing member. The ends of the cleaning sheets are thus held by the staples and additionally by the clamping action of the sides of the supporting device, thus providing a more secure assembly.

A still further form of my invention is disclosed in Figs. 5 and 6 of the drawings. In Fig. 5 there is illustrated a prepared cleaning assembly comprising superposed sheets of cleaning material 20 over which is laid a single sheet 21 of relatively heavy backing material, such as cardboard, rubber or the like which may have the same shape as the cleaning sheets or may be of octagonal or other suitable shape as shown in Fig. 5 for a purpose which will be explained. The backing sheet 21 is preferably attached to the pad of cleaning sheets as by the staples 22, but, obviously, may be attached by adhesive means applied over the face of the backing member or along an adjacent edge of the backing member and the cleaning sheets. This cleaning assembly may be folded about a median line such as A—A with the backing sheet within the cleaning sheets and the adjacent free edges may be engaged within a clamp 23 which is attached, or adapted to be attached to a handle 24, all as illustrated in Fig. 6.

In the event that the backing sheet is formed of octagonal or other non-rectangular shape the corners of the folded assembly may be turned inwardly as illustrated at 25 in Fig. 6, thereby providing a more secure assembly.

I have found that it is very desirable to prevent the soiling of the edges of any sheet of cleaning material until the sheet is purposely exposed for use. In order to prevent such undesired and unintentional soiling I provide a cleaning pad formed of a number of superposed sheets of cleaning material, each sheet having its opposite edges turned inwardly, as at 30 in Fig. 8 of the drawings. In use, when a sheet is exposed, these inturned flaps or edges are turned outwardly and extend beyond and shield the edges of the underlying cleaning sheets. The manner of use of such edge portions is illustrated in Fig. 8 in which, at 31, one of the edge flaps has been turned outwardly to shield the edges 32 of the underlying sheets. While the cleaning pads of the other figures are not illustrated as having these inturned edges it is to be understood that they may be so formed, and it is to be further understood that one of the features of my invention is the provision of a cleaning pad formed of superposed sheets of cleaning material, each of which is provided with the described inturned or folded opposite edge portions. Such a prepared cleaning pad is illustrated in Fig. 9 of the drawings, in which there is illustrated the pad 40 of superposed sheets of cleaning material, each of such sheets having its opposite edges turned inwardly as at 41. A sheet of cardboard or other suitable, relatively flexible material 42 is superposed on the pile and is attached thereto by staples 43 or by adhesive or other desirable means.

In a further embodiment of my invention, I provide a backing member formed by bending a length of relatively flexible wire 50 into a rectangular shape, as shown in Fig. 10 or into a triangular shape, as shown in Fig. 11. In both cases the wire is bent into a double rectangle or triangle in order that the edges of the cleaning sheets may be positioned between adjacent portions of the wire frame which grasp these edges and hold the sheets of the frame, as illustrated. The free ends of the wire which forms the frame are attached in any suitable manner to a handle or handle-receiving ferrule 51.

The use and operation of cleaning devices according to the invention will be obvious. As the outer sheet becomes soiled by use it may be removed by merely tearing it from the pad, thereby exposing the next sheet for use.

While I have described and illustrated a number of embodiments of my invention, other embodiments will be apparent to those skilled in the art, as well as modifications of the disclosed forms. These additional embodiments may be produced and modification of the disclosed forms may be made, all without departing in any way from the scope of the invention, for the limits of which reference must be had to the appended claims.

I claim:

1. A cleaning device comprising a backing member formed of flexible material, a handle member attached to said backing member, and a cleaning member comprising a plurality of superposed separable sheets of cleaning material arranged exteriorly of and covering both sides of said backing sheet and removably attached thereto, the edges of each of said sheets adjacent the opposite lateral edges of the cleaning device being folded inwardly to provide a flap which may be turned outwardly when the sheet is used, thereby shielding the edges of the underlying sheets.

2. A cleaning device comprising a backing and

supporting member formed of a sheet of relatively stiff material such as cardboard which is folded to provide two substantially co-extensive side members joined by a fold and which is creased along a line which is between the fold and the edges of the backing member and which is substantially parallel to the fold, a cleaning member formed of a pad of superposed sheets of cleaning material which are folded about the fold of the backing member and which substantially cover each of the sides thereof, and a plurality of staples positioned adjacent the edges of the backing and cleaning members and attaching the cleaning member to the backing member in such a manner that successive sheets of the cleaning member may be removed one at a time.

3. A cleaning device comprising a backing and supporting member formed of a sheet of relatively stiff material such as cardboard which is folded to provide two substantially co-extensive side members joined by a fold, a cleaning member formed of a pad of superposed sheets of cleaning material which are folded about the fold of the backing member and which substantially cover each of the sides thereof, a cylindrical handle member having a flattened end positioned between the free edges of the sides of the backing member, and means attaching the cleaning member to the backing member and attaching the flattened end of the handle member between the sides of the backing member.

4. A cleaning device comprising a backing and supporting member formed of a sheet of relatively stiff material such as cardboard which is folded to provide two substantially co-extensive rectangular side members joined by a fold, a cleaning member formed of a pad of superposed sheets of cleaning material which are folded about the fold of the backing member to form two rectangular pads each of which substantially covers one of the sides of the backing member, a cylindrical handle member having a flattened end positioned between the free edges of the sides of the backing member adjacent the midpoint thereof, and means attaching the cleaning member to the backing member and attaching the flattened end of the handle member between the sides of the backing member.

5. A cleaning device comprising a backing and supporting member formed of a sheet of relatively stiff material such as cardboard which is folded to provide two substantially co-extensive triangular side members joined by a fold, a cleaning member formed of a pad of superposed sheets of cleaning material which are folded about the fold of the backing member to form two triangular pads each of which substantially covers one of the sides of the backing member, a cylindrical handle member having a flattened end positioned between the free edges of the sides of the backing member at the apices thereof, and means attaching the cleaning member to the backing member and attaching the flattened end of the handle member between the sides of the backing member.

6. A cleaning device comprising a backing and supporting member formed of a sheet of relatively stiff material such as cardboard which is folded to provide two substantially co-extensive side members joined by a fold, a cleaning member formed of a pad of superposed sheets of cleaning material which are folded about the fold of the backing member and which substantially cover each of the sides thereof, the free edges of the sheets of cleaning material being folded over the free edge of the adjacent side member and being received between the side members, and means attaching the cleaning member to the sides of the backing member and attaching the free edges of the cleaning member between the sides of the backing member.

7. As a new article of manufacture, a cleaning pad comprising a plurality of superposed rectangular sheets of cleaning material such as fibre paper, and an octagonal-shaped backing sheet of relatively stiff material such as cardboard overlying one face of said pad and being attached thereto.

8. As a new article of manufacture, a cleaning pad comprising a plurality of superposed rectangular sheets of cleaning material such as fibre paper, the opposite narrow side edges of each of said sheets being folded inwardly toward each other to provide flaps which may be folded outwardly when the pad is in use to thereby protect the edges of underlying sheets.

9. A cleaning device comprising a backing and supporting member formed of a sheet of relatively stiff material such as cardboard which is folded to provide two substantially co-extensive side members joined by a fold, a cleaning member formed of a pad of superposed sheets of cleaning material which is folded about the fold of the backing member and which substantially covers each of the sides thereof, means for attaching the cleaning member to the sides of the backing member, and means disposed between the side members and constantly urging the fold away from the edges of the backing members to thereby urge the cleaning device to extended position.

JOSEPH D. BATES.