March 27, 1956 E. F. HARDEY 2,739,334

CLEANING, DUSTING AND POLISHING DEVICE

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Fig. 1.

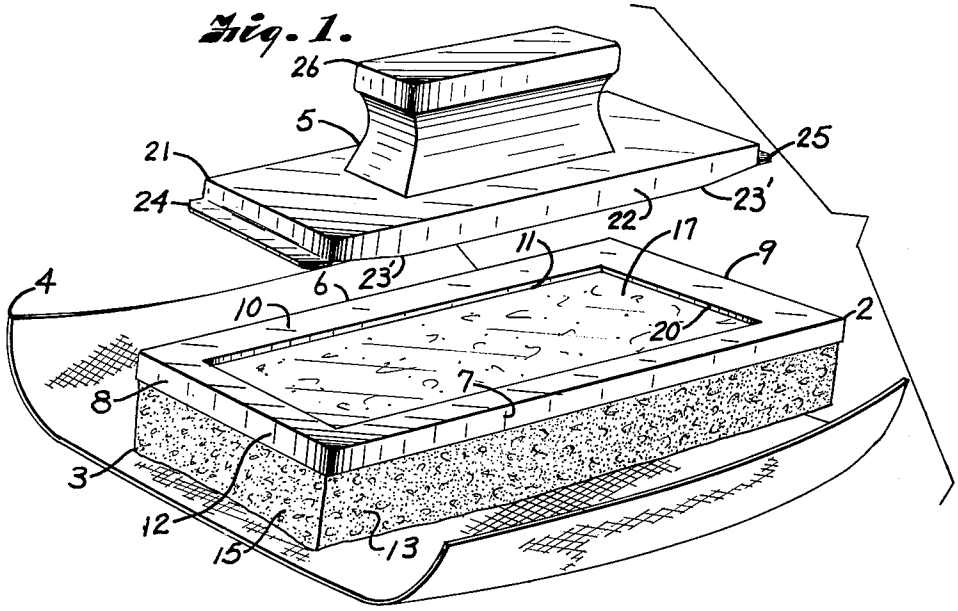


Fig. 2.

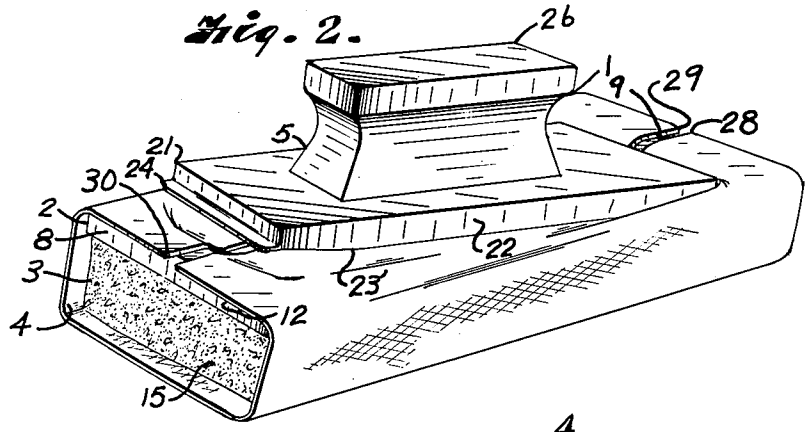
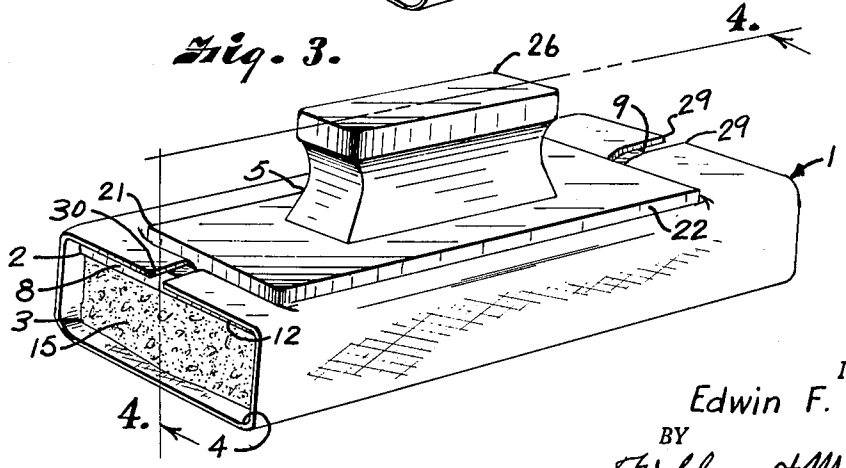


Fig. 3.



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Fig. 4.

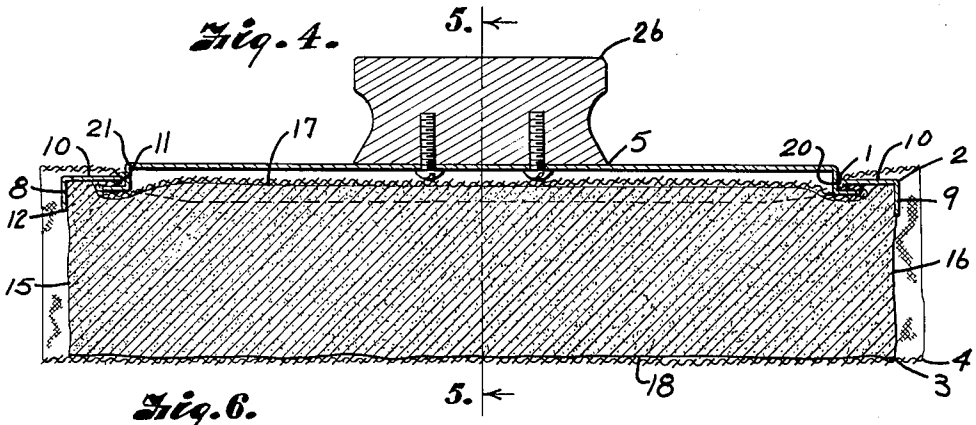


Fig. 6.

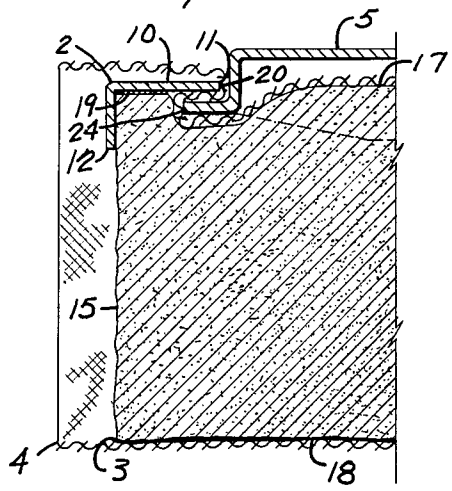


Fig. 5.

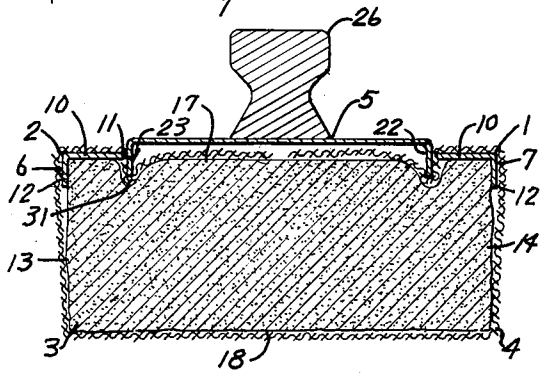


Fig. 7.

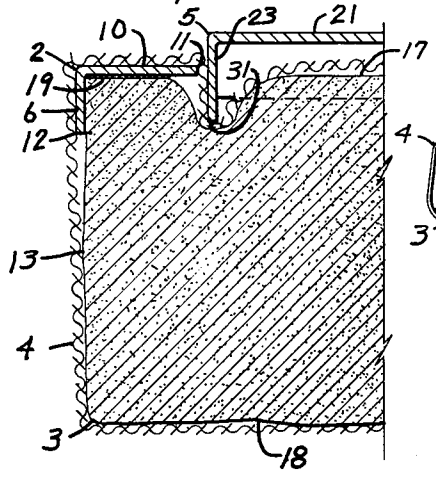
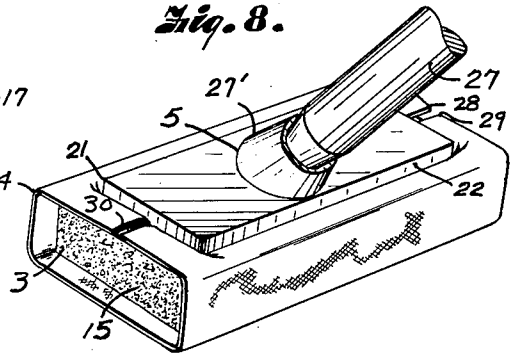


Fig. 8.



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CLEANING, DUSTING AND POLISHING DEVICE

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7 Claims. (Cl. 15—231)

This invention relates to cleaning, dusting and polishing devices of the type which includes a resilient pad forming a backing for a removable covering material and has for its principal object to provide a device of this character wherein the resiliency of the pad is utilized for securing the covering material and/or head to which a handle may be attached.

Other objects of the invention are to provide a cleaning, dusting and polishing device of simple and relatively inexpensive construction that is easily assembled and the covering material retained without the use of clamps or other fastening devices.

A further object of the invention is to provide a frame for containing the resilient material or pad and a head cooperating with the frame for engaging the covering material.

In accomplishing these and other objects of the invention hereinafter pointed out, I have provided improved structure, the preferred form of which is illustrated in the accompanying drawings wherein:

Fig. 1 is a perspective view of the parts which comprise a cleaning, dusting and polishing device in accordance with the present invention, the parts being shown in spaced relation.

Fig. 2 is a similar view of the covering material extended about the pad and frame of the device and the head being inserted in the frame to cooperate with the resilient material for securing the covering.

Fig. 3 is a perspective view of the assembled device.

Fig. 4 is an enlarged transverse sectional view through the device on the line 4—4 of Fig. 3.

Fig. 5 is a section taken on the line indicated 5—5 of Fig. 4.

Fig. 6 is an enlarged fragmentary section through one end of the frame and head to better illustrate the manner of gripping the covering material at the ends of the device.

Fig. 7 is a similar fragmentary section through a side of the device illustrating the manner of gripping the ends of the covering at the longer sides of the device.

Fig. 8 illustrates an adaptation of the invention to a floor mop or duster.

Referring more in detail to the drawings:

1 designates a cleaning, dusting and/or polishing device constructed in accordance with the present invention and which includes a frame element 2 carrying a resilient pad 3, a covering 4 adapted to be extended over the pad and frame, and a head 5 that is inserted in the frame for cooperation with the resilient material in retaining the covering.

The frame 2 is shown of substantially elongated rectangular shape having transverse bar portions 6 and 7 and end bar portions 8 and 9 preferably formed as an integral part, the bar portions being of angle shaped cross section to provide a substantially flat inward flange 10 surrounding a rectangular opening 11 for receiving the head 5 as later described. The bar portions also include depending outer marginal flanges 12 for stiffening the frame and for surrounding the resilient material 3.

The pad 3 may consist of a block of sponge rubber or similar resilient porous material having substantially vertically side and end faces 13—14 and 15—16 and top and bottom faces 17 and 18. The block of resilient material is of a size to fit snugly within the flange portions 12, with the upper face 17 engaging the inturned flanges 10 of the frame. In order to positively retain the resilient material, a suitable adhesive material 19 may be used between the outer marginal portion of the frame and the upper face of the resilient material as best shown in Figs. 6 and 7, the adhesive being spaced from the inner edges 20 of the flanges 10 so as to allow for engagement of the head 5.

The head 5 includes a substantially rectangular plate member 21 conforming in shape and size with the opening 11 in the frame 2. The transverse sides of the head have depending flanges 22 and 23 that pass through the opening of the frame in substantially close relation with the edges of the flanges 10, while the ends of the head have laterally directed flanges 24 and 25 which are adapted to be engaged under the flanges 10 of the end bar portions 8 and 9 as later described. The edges of the flanges 22 and 23 have rounding ends 23' to prevent catching of the ends of the flanges on the pad 3 when the head is inserted in the frame as later described.

The head 5 may be provided on the upper face thereof with a knob-like handle 26. However, if the device is to be used as a floor cleaning and polishing device, the head will be provided with a bracket 27' for attaching a handle 27 as shown in Fig. 8.

The covering 4 may be of any desired form but is shown in the drawing as comprising a sheet of fabric material having a sufficient size to cover the face 18 and sides 13 and 14 of the resilient pad 3 and to extend up and over the transverse bar portions 6 and 7 of the frame with the ends 28 and 29 thereof closely approaching the transverse center of the frame 2 as shown in Fig. 2.

The material of the covering 4 is preferably of longer length than the length of the frame 2 as shown in Fig. 1 whereby the projecting material prevents the ends of the frame from striking or marring objects with which the device may come in contact. The covering material may be of ordinary dusting cloth material or provided with a relatively long pile to better pick up and retain the dust or other elements when the device is in use. The covering may also be suitably impregnated, for example, with a wax, oil, polish, an abrasive material, or other types of covering may be used depending upon the use of the device.

In assembling the device, the frame 2 carrying the pad or block of resilient material 3 is placed upon the inner side of the covering as shown in Fig. 1. The ends 28 and 29 of the covering are then drawn up substantially taut over the bar portions 6 and 7 as shown at 30 in Fig. 2. The head 5 is then applied by tilting the plate like body thereof in the position shown in Fig. 2 so that the flange 25 pushes the ends of the covering 4 under the flange 10 of the bar portion 9 shown in Fig. 5.

The other end of the head is then brought toward the opposite end of the frame with the curved ends of the flanges 22 and 23 rocking on the pad. During this movement, pressure is applied in the direction of the inserted flange 25 so that that end of the head is depressed within the resilient material a sufficient distance to allow the head to slide under the flange 10 of the bar portion 9. The flange 24 is then in position so as to clear the flange of the end bar portion 8 of the frame, after which the head is slid retractively to bring the flange 24 under the flange of the bar portion 8 and return the flange 25 under the flange of the bar portion 9 as shown in Fig. 4.

When the head is thus applied, the flanges 22 and 23 depress the covering material into the pad of resilient material 3 as shown in Figs. 5 and 7 so that edges 31 of

the flanges bear upon the covering material and cooperate with the resiliency of the pad 3 to provide the gripping necessary to retain the covering material.

The device may be used in conventional manner with the resilient material retaining the covering in yielding contact with the surface to be cleaned while the stored-up action in the resilient material firmly holds the covering in position during the use of the device.

When the covering is to be removed for cleaning thereof or for replacement, one end of the head is depressed into the resilient material a sufficient distance so that the opposite end may be slid from under the overlying flange of the frame, after which the head is readily withdrawn from the frame to free the ends of the covering. The covering may then be readily removed for cleaning or it may be replaced with a new or different type of covering.

From the foregoing, it is obvious that I have provided a cleaning, dusting and/or polishing device which is of simple and inexpensive construction and wherein the resilient material of the pad 3 functions to effect grip of the covering material 4 with the frame 2 and head 5 of the device.

What I claim and desire to secure by Letters Patent is:

1. A device of the character described including a frame, a pad of resilient material supported in the frame, a covering extending over the pad and having ends extending over sides of the frame, a head within the frame and having flanges on respective opposite sides for depressing the covering into the pad, and having ends extending between the pad and ends of the frame to retain the pad under pressure.

2. A device of the character described including a frame having an inwardly extending flange surrounding an opening in the frame and having a depending marginal flange for surrounding a pad, a resilient pad seated between the flanges of the frame, a covering extending under the pad and over the frame, and a head insertable in said opening and having portions extending between the frame and the pad and having side portions depressing the covering into the pad.

3. A device of the character described including a frame having in inwardly extending flange surrounding an opening in the frame and having a depending marginal flange for surrounding a pad, a resilient pad seating between the flanges of the frame, a covering extending under the pad and over the frame, and a head insertable in said opening and having projecting flange portions extending between the inwardly extending flange at ends of the frame and the pad and having depending side flanges for depressing the covering into the pad.

4. A device of the character described including a frame, a pad of resilient material supported in the frame, a covering extending over the pad and having ends extending over sides of the frame, a head within the frame and having flanges on respective opposite sides for depressing the covering into the pad and having end flanges extending between the pad and ends of the frame to retain the pad under pressure, said side flanges having the ends curved to facilitate engagement of the end flanges with said frame.

5. A device of the character described including a frame having an opening and having inwardly extending end flanges in the frame and having a depending marginal flange, a resilient pad surrounded by the marginal flanges of the frame, a covering extending under the pad and over the frame, and a head insertable in said opening and having lateral flanges extending between the inwardly extending flanges of the frame and the pad and having side flanges for depressing the covering into the pad.

6. A device of the character described including, a frame having a top face portion and a bottom face portion with an opening extending through said face portions, a pad of resilient material having an upper face supported in contact with the bottom face portion of the frame in covering relation with said opening and a bottom working face, a covering extending over the working face of the pad and having portions extending over the top face portion of the frame on two opposite sides of said frame and overlapping the upper face portion of the pad that is exposed through the opening, and a head within said opening having opposite ends extending between the pad and the bottom face portion of the frame to clamp the overlapped portions of said covering resiliently between the head and pad responsive to action of the pad when the pad is pressed by said head upon engagement of said ends thereof between the bottom face portion of the frame and said pad.

7. A device of the character described including a frame having a top face portion and a bottom face portion with an opening extending through said face portions, a pad of resilient material having an upper face supported in contact with the bottom face portion of the frame in covering relation with said opening and a bottom working face, a covering extending over the working face of the pad and having portions extending over the top face portion of the frame on two opposite sides of said frame and overlapping the upper face portion of the pad that is exposed through the opening in said frame, and a head within said opening of the frame having marginal portions extending below said bottom face portion of the frame for bearing into the material of the pad, said depending portions at opposite ends of the head having lateral portions tucking parts of said overlapping portions of the cover through said opening and between the pad and the bottom face portion of the frame while the remaining parts of said overlapped portions are pressed into the pad by said depending marginal portions.

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