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2,446,183

SANDING DEVICE

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Fig. 1.

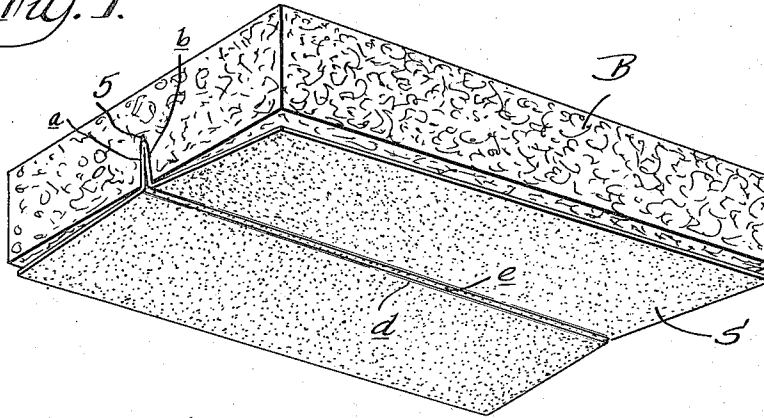


Fig. 2.

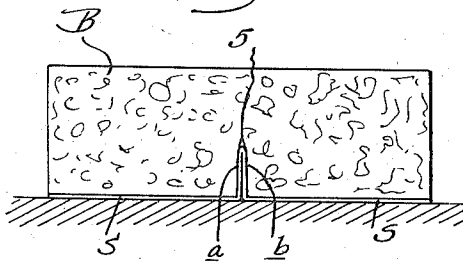


Fig. 3.

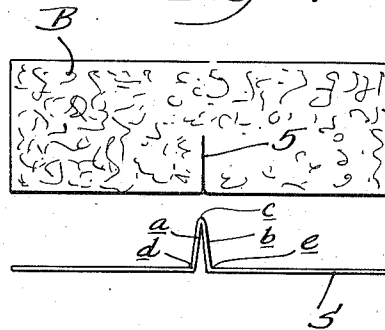
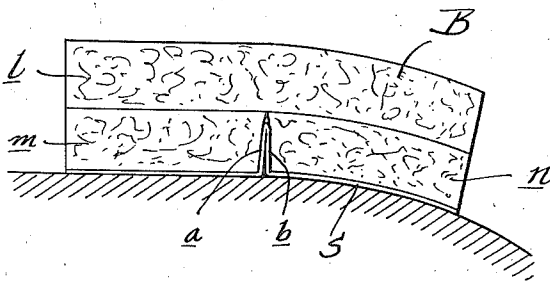


Fig. 4.



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SANDING DEVICE

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2 Claims. (Cl. 51-187)

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My invention relates to a device in the form of a block mounting a sheet of sanding material adapted for pressure engagement with the surface of any work that is to be cleaned or smoothed. Such a block should be easy to hold in the hand, to manipulate over the work, and to transmit from the hand a desired and uniform pressure to the surface of the work.

It is an object of my invention to provide for such a purpose a block which is soft and resilient, and to which a sheet of sanding paper or the like may be readily applied; also to provide means whereby the applied sanding sheet will be retained fixedly in a predetermined position. In addition, it is an object to utilize a sanding sheet having an area commensurate with the face of the block which confronts the work, without any extension of the sheet laterally therebeyond whereby to avoid any liability of engagement by the fingers of the operator. A resilient block of this character may be advantageously used upon work whose surfaces are flat, convex, concave, or otherwise, the block in every case conforming readily and accurately to the contour of the work so as to maintain contact between every portion of the sanding sheet and the surface of the work with which it engages.

These and other objects of my invention will more clearly appear from the following description taken in conjunction with the accompanying drawing which exhibits a suggestive embodiment of my invention in the manner following:

Fig. 1 is a perspective view, from the underside, of a sanding block to whose underface is applied a sanding sheet;

Fig. 2 is an end elevation of the assembled block and sheet;

Fig. 3 is an end elevation of the block and sheet, one disassembled from the other; and

Fig. 4 which is a view similar to Fig. 2 shows the sanding block in operative engagement with a piece of work having a convex contour, the block in this case being modified to embody a laminated construction.

The block B herein shown may be of a size convenient for manual gripping—say about 3" x 5". It is formed from material which is desirably resilient and flexible. For this purpose, foam rubber (either natural or synthetic) will serve admirably.

I provide a slit 5 extending continuously along its underface between opposite faces of the block, and preferably about centrally thereof. This slit which need not involve removal of material remains normally closed as shown in Fig. 3. With-

in the slit may be accommodated the two plies a and b of an abrasive sheet S which is folded upon itself along a medial line c. This sheet may be of the sand paper type or otherwise. To enter the slit, the material of the block is displaced outwardly the very slight distance necessary for accommodation of the two plies of the sheet. When so positioned, the block will exert opposite pressures upon the plies of the sheet, tending to frictionally hold it in position. The two plies are adapted to enter into the slit for its full depth. When so positioned, the sheet is given reverse folds d and e at points which lie substantially at the juncture of the slit with the bottom face of the block. When free of contact with the work, the sheet will tend to spring away slightly from the bottom face of the block, as shown in Fig. 1, but when rested upon a solid surface will be pressed back to engage the underface of the block as shown clearly in Figs. 2 and 3.

In operation, the block is manipulated with the fingers engaging the sides or ends thereof. There is no occasion for contact between the fingers and the sanding sheet which is desirably sized to lie wholly within the confines of the bottom face of the block. This is a factor of safety and comfort, since the fingers are spared the harsh treatment which results from pressure engagement with the sanding sheet, often making for a raw and sore condition of the skin. Pressure transmitted from the hand through the block is delivered to the sanding sheet and thence onto the surface of the work. This pressure is distributed more or less uniformly through the entire mass of the block. Even when the work surface under treatment presents a varying contour, the block will shape itself in conformity therewith so that the pressure engagement of the sanding sheet with the work will remain substantially uniform. This is of particular advantage in such places as rounded corners, etc.

It will be noted that the anchorage of the sanding sheet to the block is confined to a substantially medial line. This permits the sheet to adjust itself flexibly to the work, and without becoming taut under any conditions. The sheet may also be removed very quickly and with little or no effort, simply by manipulating the block to produce a convex curvature upon its underface, thereby opening up the slit to free the two plies of the sheet for disengagement from the block. By a reverse operation a substitute sheet may be installed just as simply. No pressure is required for maintenance of the sheet in place

since the resiliency of the block itself is ample for this purpose.

The present sanding block is not only comfortable to hold and operate, but it is sufficiently soft and pliable to fit itself into odd places for cleaning or smoothing of surfaces. For example, it may be employed for the cleaning of pots and pans, as well as for operating upon surfaces of wood, etc. The block may optionally be built up from united laminations and sections, such as designated by the characters *l*, *m*, and *n* in Fig. 4, but even so its action and performance remains unchanged.

I claim:

1. An elongated sanding device in which is combined a flexible, resilient block of rubber-like material having a single normally closed slit extending lengthwise across its underface, together with an abrasive sheet medially folded for two-ply insertion into the slit and retention therein solely by frictional pressure of the block walls on opposite sides thereof, the sheet being reversely folded at the points of its emergence from the slit to extend oppositely upon the underface of the block substantially co-terminously therewith with opposite ends of the sheet free from attachment thereto, the block when manipulated to a curved shape acting to open the

slit whereby to provide space for the entry of the folded sheet thereinto or its free release therefrom.

2. A sanding device in which is combined a flexible, resilient block of rubber-like material having a single normally closed slit extending medially across its underface, together with an abrasive sheet medially folded for two-ply insertion into the slit and retention therein solely by frictional pressure of the block walls on opposite sides thereof, the sheet being reversely folded at the points of its emergence from the slit to extend oppositely upon the underface of the block substantially co-terminously therewith and to transmit pressure therethrough to the work, the marginal edges of the sheet being free at every point from attachment to the block.

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The following references are of record in the file of this patent:

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