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SANDPAPER BLOCK

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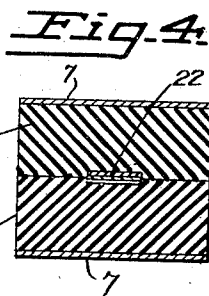
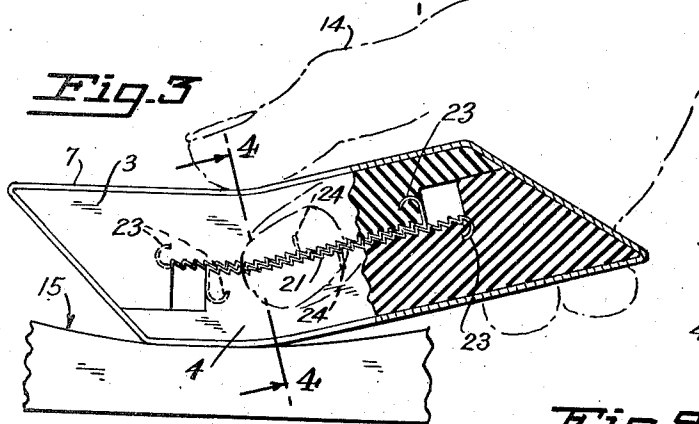
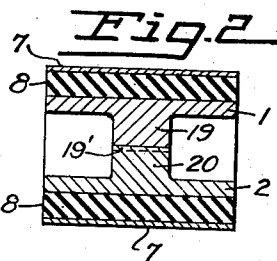
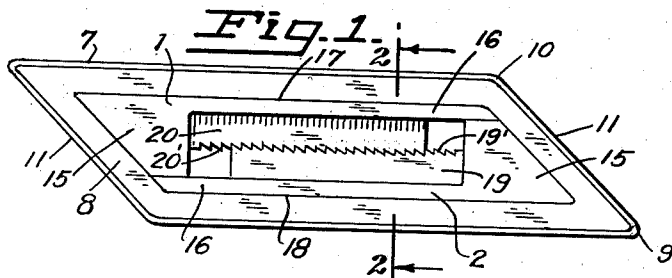


Fig. 5.

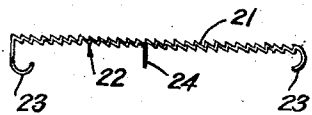


Fig. 6.

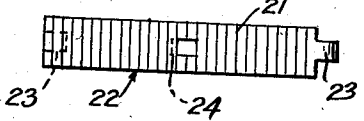


Fig. 9.

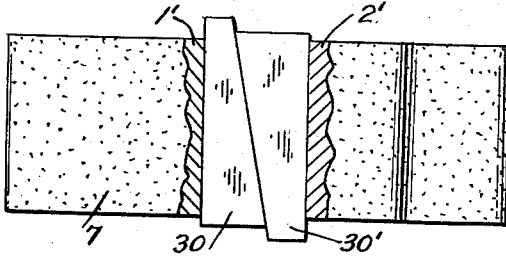


Fig. 7.

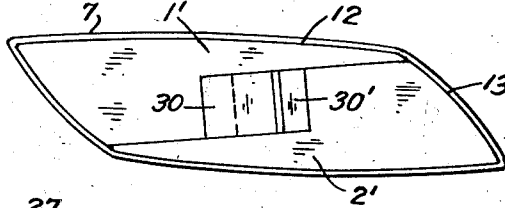
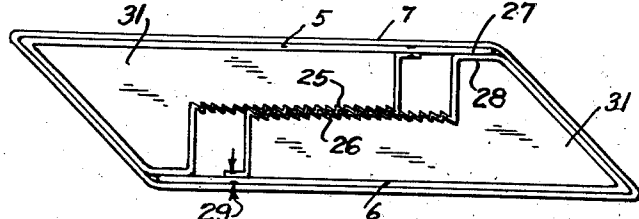


Fig. 8.



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SANDPAPER BLOCK

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4 Claims. (Cl. 51-185)

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This invention relates to mechanics' devices to facilitate sandpapering various surfaces, and in particular to a support or "block" about which sandpaper or emery cloth or the like may be tensioned for use in sanding various shaped objects and surfaces.

The principal object of the invention is to provide such a device or block which will facilitate maintaining the sandpaper or emery cloth taut with minimum of effort.

Also such a device which may be cheaply and quickly produced.

Also such a device which may incorporate any desired degree of resilience so as to conform to or fit against uneven or curved surfaces.

Other features and advantages of the invention will appear in the following description and accompanying drawing.

In the drawing

Fig. 1 is a side elevation of a sanding block incorporating the main features of my invention.

Fig. 2 is a cross section of Fig. 1 taken along the line 2-2 thereof.

Fig. 3 is a side elevation of a modified form of my sanding block shown as the forcibly bent to a curved contact with the work.

Fig. 4 is a cross section of Fig. 3 taken along the line 4-4 thereof.

Fig. 5 is a detached side view of one of the ratchet strips.

Fig. 6 is a plan view of the ratchet strip of Fig. 5.

Fig. 7 is a reduced size side view showing a modified trapezoidal form of the block.

Fig. 8 is a side elevation showing my block made of sheet metal construction.

Fig. 9 is a plan view of Fig. 7 partly in section.

In further detail my improved sanding device or sandpaper block, comprises preferably a pair of duplicate body members 1 and 2 in Figs. 1 and 2, 3 and 4 in Figs. 3 and 4, and 5 and 6 in Fig. 8, and which members are reversed end for end with respect to each other and arranged in confronting relation to form a four sided elongated composite block about which an endless band of sandpaper or emery cloth or the like may be tensioned in a simple manner to be described.

In Figs. 1 and 2 the endless band or loop of sandpaper or emery cloth is designated 7 and is outside of a layer or an endless loop of soft material such as of cloth, felt, rubber, or sponge rubber 8 and which may be pre-molded to give it fairly sharp corners as indicated if desired.

In outward form the body is preferably trapezoidal when viewed in side elevation as in Fig. 1

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so as to present acute (9) as well as obtuse (10) corners to reach most every surface, crevice, or inside corners of articles to be sanded, tho it is obvious that the slant of the end walls 11 may be at any angle from a right angle to any slant desired, also if desired any or all of the walls of the block instead of being flat may be permanently curved, either convexly as indicated by the block shown in Fig. 7 wherein the block members 1' and 2' are outwardly arched both on the sides 12 as well as at the ends 13 as may be desirable for special uses, or manifestly they may be reversely or concavely curved for other special uses.

In the form of block shown in Figs. 1 and 2 the material may be rigid such as of metal or hard wood, hard rubber, hard plastic, etc., or it may be more or less flexible or springy, or, as shown in Fig. 3 the block members 3 and 4 may be of tough flexible rubber so that the assembled block itself may be bent or distorted under pressure of the fingers of the user (as dotted at 14) to make its work contacting surface conform more closely to the work 15.

The individual members of the block 1 and 2 (also 3 and 4) are both formed with one thick end 15 and a thin end 16 slidably overlapping the thick end, and with flat upper and lower sides 17, 18 of any width and length desired.

Means is provided for locking the block members at any position of longitudinal displacement, and which means in Figs. 1 and 2 is a pair of rack-bars 19, 20, one formed integrally with or secured to each block member. These rack bars may be much narrower than the width of the block, as indicated in Fig. 2 or they may be as wide as the block, and in which latter case the block members if made of a plastic, may be extruded from a die and cut off to the desired width.

The teeth of the rack bars preferably take the form of slanted ratchet teeth 19', 20', as indicated in Fig. 1 so that the block members may each be grasped by the thick portion and the members pulled outwardly so that the block will become elongated and tension the emery cloth band 7 to any required extent, and to be held in extended position by the engagement of the ratchet teeth.

In order to release the sandpaper or emery cloth band for removal purposes, the edges of the block members may be grasped and the members pulled laterally to separate the rack teeth.

In the flexible form of the block shown in Fig. 3 and wherein the block members 3 and 4 are preferably of solid flexible rubber or synthetic rubber or other flexible material of similar properties, the rack teeth 21 are preferably formed

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on two strips of spring sheet metal 22 which are vulcanized to the flexible body members or otherwise secured thereto, and which strips may include end portions 23, and anchor projections 24 embedded and vulcanized or cemented in place. Manifestly these rack strips may be of any width desired, up to the full width of the block, and should be flexible.

In the construction shown in Fig. 8 the block members 5 and 6 are formed entirely of sheet metal bent to the form shown and with the rack teeth 25, 26 stamped across the width of the sheet. Each member is shown as of substantially the shape of the members 1 and 2 of Fig. 1 and with a free thin end 27 slidably overlapping a thick end 28 of the adjacent member.

The adjacent free ends of the sheet metal of each block members 5 and 6 may be soldered together or spot welded along a transverse line designated by the arrows 29 in Fig. 8.

In the construction of Fig. 7 the thick ends of the block members 1' and 2' may be longer to leave a relatively small transversely extending space between them when assembled and the members may be locked in relatively extended position as by a couple of reversely directed wedges 30, 33' passed transversely through the space between the members, as best shown in plan in Fig. 9.

In the sheet metal construction of Fig. 8, if the sheet metal is thick enough the "block" will be rigid enough though hollow, but it is evident that the two hollow frames 5 and 6 may be filled inside with any desired filler, such as cement, solid rubber, or wood if desired to get greater rigidity with a lighter gage sheet metal, as well as to afford a better grasping surface for a users' fingers. Such a filling material within the sheet metal members is designated at 31.

While suitable endless bands of sandpaper or emery cloth, for use with these expandable blocks, may easily be made by gluing strips together with overlying end margins, or with abutting ends overlapped on their smooth sides by a strip of gummed paper, I prefer to supply prefabricated bands of the correct lengths and width of several degrees of abrasive fineness, also endless bands of resilient underpadding as required for some work, all so that when applying these bands they will go over the assembled block members freely with the thin slidable walls of the block members projecting slightly beyond the ends of the thick portions upon which they bear so that when the block members are pulled relatively outward to even up the ends of the end members the bands will be taut enough for use, but may be stretched still further as they tend to loosen up in use.

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Having thus described my improved sanding block or sandpaper block and the manner of its use, it will be evident that it will also be found useful as a polishing block when smooth non-abrasive bands of polishing materials are tensioned upon it as described.

It is also evident from the description that the blocks may be made in any desired size.

My use of the words "sanding block" or "sandpaper" or their equivalent, in my appended claims is to be taken as including the construction set out whether sandpaper, emery cloth, polishing cloth, or any other desired material is used around it.

I therefore claim:

1. A sanding block comprising a pair of half block members adapted to be placed in confronting relation to form the whole block, a loop of sandpaper extending around the assembled members, and means for locking the members when extended relatively to tension said band comprising ratchet means positioned between the confronting members.

2. A sanding block comprising a pair of half block members adapted to be placed in confronting relation to form the whole block, a loop of sandpaper extending around the assembled members, and means for locking the members when extended relatively to tension said band comprising duplicate ratchet bars secured in confronting relation to the confronting sides of the block members.

3. A sanding block comprising a pair of half block members adapted to be placed in confronting relation to form the whole block, a loop of sandpaper extending around the assembled members, and means for locking the members when extended relatively to tension said band comprising cooperating sets of ratchet teeth extending transversely across the confronting surfaces of said members adapted to disengage upon the members being laterally spread apart.

4. A sanding block comprising an endless loop of sandpaper, a pair of duplicate block members arranged in confronting relation to form the whole block within said loop of sandpaper with one end of each block member engaging one of the opposite ends only of the loop of sandpaper, said blocks formed to slide upon each other in direction towards the ends of said loop of sandpaper so as to directly extend the blocks endwise to stretch the loop, and means reacting between said duplicate block members for locking them at any desired point of such extension.

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