Aug. 15, 1961 G. O. RICHMOND 2,995,877

SANDING BLOCK

Filed July 20, 1959

FIG. 1.

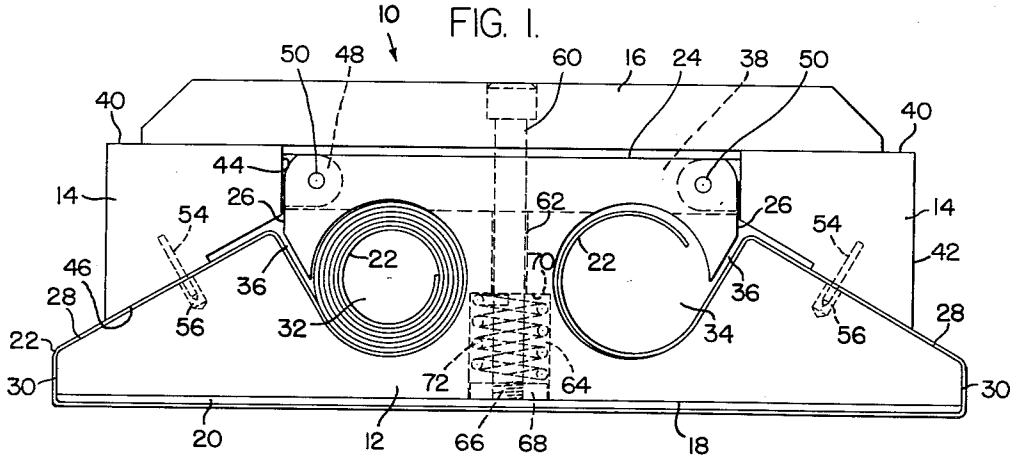
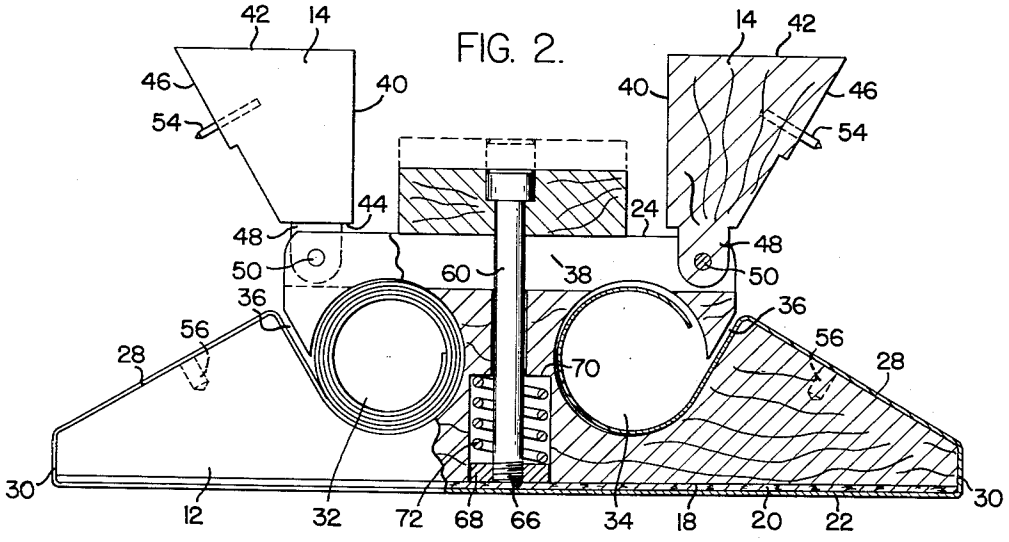


FIG. 2.



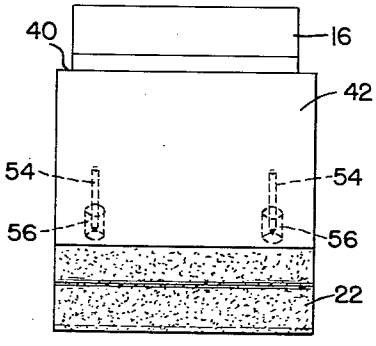


FIG. 3.

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SANDING BLOCK

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The present invention relates to hand polishing tools, and more particularly to tools which are adapted to hold elongated strips of sandpaper, emery cloth, polishing cloth, chamois and similar abrading and polishing materials.

Heretofore, hand sanding blocks were complicated in their construction and required considerable time for securing the sandpaper or abrasive material thereon. Some such devices had to be taken apart and then put together again when attaching sandpaper to the block or taking it off. These devices were difficult to use; in some instances, tended to tear the abrasive material, or tended to loosen their grip on the abrasive material during use, and in some instances a tool such as a screw driver was required to put on and remove the paper therefrom.

One of the objects of this invention is to provide an improved sanding device having a clamping means which is easily and quickly operable for securely gripping an abrasive material thereto.

Another object of this invention is to provide an improved sanding block wherein the sandpaper is put on and removed without taking apart any portion of the device.

A further object of this invention is to provide an improved sanding device which resiliently clamps the abrasive material to the sanding block so as to hold it taut during use.

A further object of this invention is to provide an improved sanding block having means for securing the sandpaper thereon from slipping transversely off the block.

A still further object of this invention is to provide an improved sanding block of the character described which will hold a roll of abrasive material so that new abrading surfaces may from time to time be positioned for use when the old surface becomes worn.

A still further object of this invention is to provide an improved sanding block having clamping means which will not rub across the working surface of the abrasive material when putting it on or taking it off the block.

A still further object of this invention is to provide an improved sanding block which is economical to manufacture, simple to use, and versatile in its operation.

Other objects of this invention will become apparent from the drawing, the specification, and the appended claims.

In the drawings:

FIG. 1 is a side elevation of a sanding block made according to one embodiment of this invention and showing a strip of sandpaper in operative position thereon;

FIG. 2 is a view partly in section and partly in side elevation, showing the block in its open and unclamped position; and

FIG. 3 is an end view of this block in the position shown in FIG. 1 and with a strip of sandpaper secured thereto.

Referring to the drawing, **10** denotes the sanding device. It comprises a body member **12**, a pair of gripping members **14**, and a clamping member **16**.

The body member **12**, which is preferably made of wood, has a plane rectangular lower surface **18** which is covered with a resilient material **20** such as cork to provide a resilient backing for a sheet of abrasive material, such as **22**, when it is secured in position.

The body member **12** has an upper surface **24** which is parallel to the lower surface **18**. The surface **24** terminates at shoulders **26** which extend normal to the plane of surface **24**. Extending outwardly and sloping downwardly from each shoulder **26** is an inclined surface **28**. The body member **12** has opposite end surfaces **30** which extend normal to the plane of the bottom surface **18**. Parallel openings **32** and **34** are provided in body member **12** and extend transversely through the body member **12**. These openings constitute storage spaces and are adapted to retain respective rolled end portions of a strip of sandpaper. A slot **36** is formed in the body member **12** adjacent the junction of each shoulder **26** and the adjoining inclined surface and each intersects the adjacent opening **32** or **34**, in a substantially tangential direction.

The upper surface **24** of the body member **12** has a longitudinal slot **38** which extends for the full length of the surface **24**. The gripping members **14** are pivotally mounted on body member **12**. They are provided with ears or tabs **48** which engage in the ends of the slot **38**; and they are pivotally attached to the body **12** by pins **50** which extend transversely through the slot and body member. FIG. 1 shows the gripping members in operative position holding a sheet of sandpaper against movement relative to body member **12**; and FIG. 2 shows the gripping members swung up to inoperative, disengaged position.

Each gripping member **14** has an upper plane surface **40**, an outer end surface **42** and an inner end surface **44**. The surfaces **42** and **44** are normal to the upper surface **40**. Each of the gripping members **14** has a lower surface **46** which extends at an angle to the upper surface **40** corresponding to the angle of inclination of surface **28** of the body member **12**. Each gripping member is provided with a pair of pins **54** which project beyond its lower surface **46** to enter holes or recesses **56** in the body member **12** when the gripping member is in operative position.

The clamping member **16**, which is a generally rectangular shaped bar, is resiliently attached to the body member **12** above the upper surface **24** of the body member. The bar **16** is pivoted on the body member **12** by a bolt **60** which extends through a bore in the member **16** and through an aligned bore **62** in the body member **12**. The bore **62** has a counterbore **64** at its bottom. The end of the bolt **60** is threaded at **66** to receive a nut **68**. Interposed between the nut **68** and the confronting end surface **70** of the counterbore **64** is a coil spring **72** which constantly urges the bolt **60** downwardly. The upper surfaces **40** of the gripping blocks **14**, when in operative, gripping position extend above the upper surface **24** of the body member so that the spring **72** will be put under tension and through the intermediary bar **16** holds the gripping members **14** in gripping position when the bar is in the position shown in FIG. 1, longitudinally of body member **12**. To release the gripping members the bar is pivoted on bolt **60** to extend transversely of the block **12** to the position shown in FIG. 2. In this position the bottom of bar **16** rests on the upper face **24** of the body member.

To use the sanding device, the clamping member **16** is rotated to extend transversely of the body member **12** thus permitting each gripping member **15** to be pivoted upwardly away from the confronting sloping surface **28** of the body member. A roll of sandpaper **22** is then inserted in one or other opening **32** or **34**; and the end of the sandpaper **22** is threaded through the respective slot **36** over the adjacent surfaces **28** and **30** under the cork covered lower surface **18**, over the other end surface **30**, the other sloping surface **28**, into the other slot **36** and into the hole **34**. The gripping members **14** are then pivoted downwardly against those portions of the sandpaper which overlie the surfaces **28**. The pins **54** pierce

the sandpaper and enter the associated holes **56** of the body member **12**. The clamping member **16** is then pulled outwardly slightly against the pressure of the spring **72** and rotated approximately ninety degrees so that it engages the upper surfaces **40** of both gripping members **14**. The clamping member **16** is then released which causes the spring **72** to clamp the member **16** against both gripping members **14** thus holding the sandpaper in operative position on the device.

The pins **54** hold the sandpaper securely to the block when sanding in a transverse or sideways direction. The cork material **20**, which is attached to the working surface **18** of the body member, provides for smoother sanding as it compensates for any unevenness in the heighth of the particular strip of abrading material.

The end surfaces **30** of the body member **12** may be of varied shapes. For example, one end **30** may be square so that a corner may be effectively sanded, and the other end **30** may be rounded to sand fillets.

It is apparent that instead of a roll of sandpaper a short strip of sandpaper may be used with this device if it is of sufficient length so that it can be gripped between the confronting surfaces **46** and **28** of the gripping members and the body member respectively.

Thus, I have provided an improved sanding device having clamping means for an abrasive sheet which does not rub over the abrasive side of the sheet when securing the sheet in position. Furthermore, I have provided a sanding block which does not require that the device be taken apart when putting on or taking off the sandpaper, and one in which the pressure on the paper may be varied by merely threading the bolt **60** inwardly or outwardly relative to nut **68** to vary the compression of the spring **72**.

While the invention has been described in connection with a specific embodiment thereof, it will be understood that it is capable of further modification, and this application is intended to cover any variations, uses, or adaptations of the invention following, in general, the principles of the invention and including such departures from the present disclosure as come within known or customary practice in the art to which the invention pertains and as may be applied to the essential features hereinbefore set forth, and as fall within the scope of the invention or the limits of the appended claims.

Having thus described my invention, what I claim is:

1. An abrading device, comprising a body member having a bottom surface and upper surfaces which are inclined downwardly toward the ends of said body member, a sheet of abrasive material positioned on said bottom surface with opposite ends of said sheet overlying the inclined upper surfaces, a pair of gripping members pivotally attached to said body member to engage said sheet material on said inclined surfaces, a single clamping member rotatable on an axis perpendicular to the pivotal axis of said gripping members to bear upon the top surfaces of both of said gripping members simultaneously, and spring means constantly urging said clamping member against said gripping members to clamp said abrasive material between said gripping members and said upper surfaces.

2. An abrading device, comprising a body member having a bottom surface, an upper surface substantially parallel to said bottom surface, and supporting surfaces at opposite ends of said upper surface which are inclined downwardly and outwardly towards said bottom surface, a sheet of abrasive material positioned over said bottom surface with mutually spaced portions of said sheet overlying said supporting surfaces, a pair of gripping members pivotally attached to said body member at opposite ends of said upper surface for pivotal movement about parallel axes to move them to and from gripping positions, said gripping members when in gripping positions having their gripping surfaces opposed to said inclined supporting surfaces, said gripping members having top surfaces which lie above and are parallel to said upper surface of said body member when said gripping members are in clamping position, a clamping member rotatably mounted on said upper surface on an axis perpendicular to the axes of said gripping members, a spring constantly urging said clamping member in one direction axially of its rotational axis to bear upon said top surfaces, said clamping member being manually movable on and about its axis to swing it to a position to overlie and bear upon said top surfaces of said gripping members to simultaneously force said gripping members into engagement with said abrasive material, said clamping member axially movable in a direction opposite said one direction, and said clamping member manually rotatable to provide for releasing said gripping members to allow the same to pivot about said parallel axes.

3. An abrading device according to claim 2 wherein said body member has an opening which extends through said body member from side to side parallel to the pivotal axes of said gripping members, and said body member has a slit therein connecting one of said supporting surfaces to said opening through which said sheet is fed, said opening being adapted to store a portion of said sheet in roll form.

4. An abrading device according to claim 2 wherein said gripping members have pins disposed outwardly from said gripping surfaces which, when said gripping members are in gripping positions, pierce the portions of said sheet of abrasive material which overlie said supporting surfaces at said mutually spaced points, and said supporting surfaces have recesses to register with the repective pins to receive said pins when said gripping members are in gripping positions.

5. An abrading device, comprising the body member having a bottom surface, a sheet of abrasive material disposed to extend over said bottom surface, means for securing said sheet to said body member at one end, and a pivotal member for clamping said sheet to said body member at the opposite end, and a clamping member rotatable and axially movable on said body member to force said pivotal member through bearing contact therewith into clamping engagement with said abrasive material, said clamping member being manually rotatable about its rotational axis and movable axially thereof into and out of bearing contact with said pivotal member.

6. An abrading device, comprising a body member, a strip of abrasive material positioned on said body member, a pair of gripping members pixotally attached to said body member for engaging said strip of abrasive material at opposite ends thereof, and a single manually rotatable clamping member rotatably attached to and axially movable on said body member for movement into and out of bearing contact with said gripping members to cause said gripping members simultaneously to clamp said abrasive material to said body member.

7. An abrading device, comprising a body member having upper and lower faces, a strip of abrasive material positioned over said lower face with the opposite end portions of said strip positioned on said upper faces, a pair of spaced gripping members pivotally attached to said body member and disposable so that their gripping surfaces are opposed to said upper faces, a single clamping member rotatably attached to said body member and positioned to overlie and bear upon said gripping members, said clamping member being resiliently biased in one direction into bearing contact with said gripping members to cause said gripping members simultaneously to clamp said abrasive material between said gripping surfaces and said opposed upper faces of said body member, said clamping member being movable axially in a direction opposite said one direction and being manually rotatable about its rotational axis to release said gripping members.

8. An abrading device for adjustably holding a strip of abrasive material comprising a body member, a strip of abrasive material positioned on said body member, a

pair of gripping members for engaging said strip of abrasive material at mutually spaced points, a clamping member rotatably attached to said body member and positioned to overlie and bear upon the top surfaces of said gripping members when said gripping members are in engagement with said strip, said clamping member being resiliently biased in one direction into bearing contact with said top surfaces to cause said gripping members to clamp said abrasive material to said body member to force and hold said gripping members in engagement with said strip, said clamping member being manually rotatable about its rotational axis and being movable axially in a direction opposite said one direction to release said gripping members.

9. An abrading device comprising a body member having a generally flat bottom surface and an upper surface substantially parallel to said bottom surface, a strip of abrasive material disposed to extend over said bottom surface, two gripping members for frictionally holding said strip in engagement with said body member, said gripping members being pivotally attached to said body member adjacent said upper surface and pivotable between an open position at which said gripping members extend generally normal to said upper surface and a closed position at which said gripping members present top surfaces parallel with and spaced above said upper

surface of said body member, a clamping member rotatably connected to said body member at the center portion of said upper surface, said clamping member being reciprocable and spring-biased in one direction along its axis of rotation, said clamping member extending longitudinally over a substantial portion of said top surfaces and in resilient bearing contact therewith at said closed position, to cause said gripping members to grip said abrasive material at mutually spaced points, and said clamping member extending transversely and in resilient bearing contact with said upper surface of said body member at said open position, said clamping member being manually rotatable between said closed position and said open position.

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