

Jan. 23, 1934.

C. BLOMSTROM

1,944,727

HAND SANDING TOOL

Filed March 14, 1932

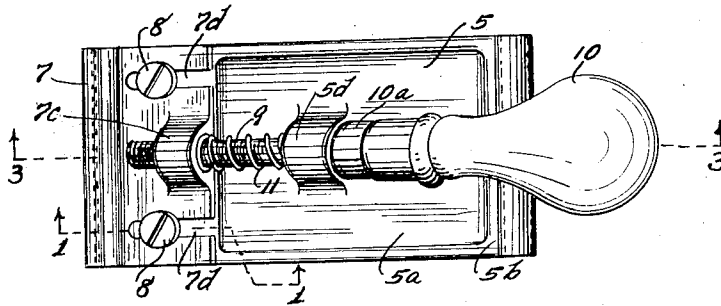


Fig. 2.

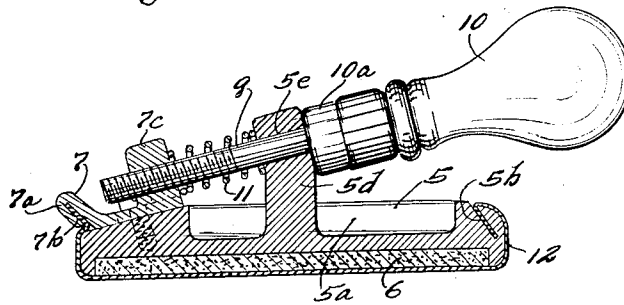


Fig. 3.

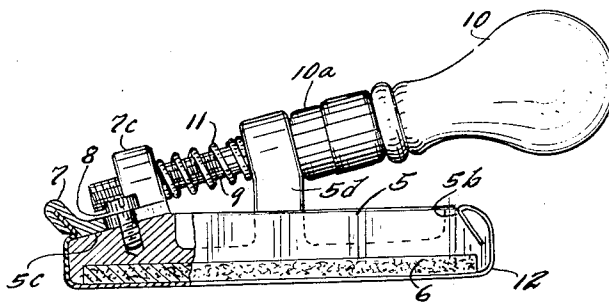


Fig. 1.

INVENTOR
CHARLES BLOMSTROM

BY

Reif & Bradolink
ATTORNEY

UNITED STATES PATENT OFFICE

1,944,727

HAND SANDING TOOL

Charles Blomstrom, Minneapolis, Minn.

Application March 14, 1932. Serial No. 598,701

7 Claims. (Cl. 51-187)

This invention relates to a tool constructed and arranged for an abrading operation such as a sanding tool or a finishing tool using an abrasive piece of material such as sandpaper or emery cloth.

It is a common operation to use a small hand tool for finishing floors, patterns, and various articles, the tool being equipped with a sheet of sandpaper or very abrasive sheet material.

It is an object of this invention, therefore, to provide a very simple and efficient tool using a sheet of abrasive material and having a simple and easily operated means for drawing said sheet to a taut, operative position.

It is a further object of the invention to provide a hand sanding tool or similar tool having a body, a handle by means of which it can be manipulated, and means at its front and rear end for receiving a sheet of abrasive material, one of said means being movable by said handle for tightening said sheet across the bottom of said body.

It is more specifically an object of the invention to provide a tool having a body portion with a narrow slot extending transversely thereof at its rear end, a sheet of abrasive material having one end disposed in said slot and extending along the bottom of said body, a member slidable on top of said body at its front end having a downwardly opening slot in which the other end of said sheet is disposed, a handle carried by said body, and means operated by said handle for moving said member to draw said sheet of material taut across the bottom of said body.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawing, in which like reference characters refer to similar parts throughout the several views, and in which:—

Fig. 1 is a view for the most part in side elevation of said tool, a portion of said tool being shown in vertical section taken along line 1—1 of Fig. 2, as indicated by the arrows;

Fig. 2 is a top plan view of the tool; and

Fig. 3 is a vertical section taken on line 3—3 of Fig. 2, as indicated by the arrows.

Referring to the drawing, a tool is shown having a body portion 5. While this body portion may be of various forms, in the embodiment of the invention it is shown as rectangular in plan and somewhat elongated. Said body has the greater portion of its top surface depressed to form a recess 5a in the top of said tool, and said body has a narrow slot 5b extending trans-

versely thereof at its rear end, said slot opening upwardly and being directed forwardly as illustrated at an angle of substantially 45°. Said body 5 has a flat top surface 5c at its forward end and this surface is illustrated as sloping downwardly toward the front end at a small angle to the horizontal. A lug 5d rises from the top surface of body 5 substantially centrally thereof, the top portion of said lug inclining somewhat forwardly and having a bore 5e there- through inclining downwardly and forwardly, the axis thereof being substantially parallel with the surface 5c. The body 5 also has a rectangular recess formed in its bottom surface throughout the greater portion of said surface and extending from side to side thereof, a pad 6 of felt or similar material being disposed in said recess with its bottom flush with the bottom of the end portions of said body. A member 7 is provided having a flat bottom surface, which member is seated on the surface 5c of body 5 and slidable thereon. Member 7 has a transversely extending rib 7a at its front end which extends upwardly, and has formed therein a narrow slot 7b open at its lower end and illustrated as extending upwardly and forwardly in member 7. Member 7 has a central lug 7c upstanding therefrom at its rear end which is bored and threaded to form a nut. The member 7 has a pair of slots 7d extending therethrough from adjacent rib 7a and opening at its rear end. A pair of headed screws 8 are provided and extend through slots 7d, said screws being threaded into the top of body 5, the heads of screws being disposed so that member 7 can slide freely thereunder. A rod 9 is provided, journaled adjacent one end in the bore 5e and threaded at its other end to engage and be threaded in the threaded bore of lug 7c. A handle 10 of cylindrical knob-like form is secured to the upper end of rod 9, said handle having the usual ferrule 10a secured thereto which engages the rear end of lug 5d. A compression coil spring 11 is disposed between lug 5d and lug 7c and surrounds the rod 9. A sheet of abrasive material 12 such as sandpaper or emery cloth is provided, having a width substantially the same as the width of body 5. One end of this sheet 12 is disposed in the slot 5b. Said sheet extends from said slot around the rear end of body 5 along the bottom thereof, and the bottom of pad 6, and upwardly across the front end of body 5. The other end of sheet 12 is disposed in the slot 7b.

In operation when a piece of the abrading material 12 is to be placed in the device, handle 10 will be rotated in a counter-clockwise direction

and spring 11 will force the member 7 forwardly of body 5. The rib 7a and the open end of slot 7b then come into position beyond the front edge of body 5. The operator now takes the sheet of material and disposes one end in the slot 5b, then disposes the material as shown along the rear end and bottom of the device and places the front edge in slot 7b. The material will then be in loose condition along the bottom of the tool. The operator now rotates handle 10 in a clockwise direction and rod 9 is rotated so that its threaded portion moves lug 7c and member 7 rearwardly. The sheet 12 is now drawn rearwardly with member 7 as shown, and since its other end is held tightly in the slot 5b, the sheet is drawn taut along the bottom of the tool as well as across the ends thereof. When the sheet is properly tightened, the device is ready for use and the same can be conveniently held by the handle 10 and rubbed over the surface to be worked upon. The semi-spherical end of handle 10 can be held in the ball of the hand and the tool conveniently propelled over the floor or other surface. When the sheet of paper 12 becomes sufficiently worn, it is an easy matter to replace the same by again turning handle 10 in a clockwise direction so that the end of the sheet can be removed from member 7 and the other end then removed from the slot 5b. A new piece can be inserted as already described.

From the above description it is seen that applicant has provided a very simple and efficient sanding or abrading tool and one which can be easily operated. The abrading material used can be very readily replaced when desired and the sheet of abrading material can easily be kept in proper taut position. While various materials may be used, in the construction, the body 5 is preferably made of aluminum, as is also the member 7, so that the tool is quite light in weight. The device has been amply demonstrated in actual practice and found to be very successful and efficient.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the parts, without departing from the scope of applicant's invention, which generally stated, consists in a device capable of carrying out the objects above set forth, in the parts and combinations of parts disclosed and defined in the appended claims.

What is claimed is:—

1. A hand abrading tool having in combination, a body having a narrow upwardly opening slot in its rear end, a thin sheet of abrasive material having its edge disposed in said slot and extending downwardly at the rear end of the body and along the bottom thereof, a member movable on top of said body at the forward end thereof and having a downwardly opening narrow slot in its bottom in which the other end edge of said sheet is disposed, said last mentioned slot being movable over the front edge of said body, and means for moving said member rearwardly on said body to tighten said sheet across the bottom and ends of said body.

2. The structure set forth in claim 1, said first mentioned slot inclining forwardly of said body.

3. A hand abrading tool having in combination, a body having a narrow upwardly opening slot in its rear end, a thin sheet of abrasive material having its edge disposed in said slot and extending downwardly at the rear end of the body and along the bottom thereof, a member movable on top of said body and at the forward end thereof and having a downwardly opening narrow slot in its bottom in which the other end edge of said sheet is disposed, said last mentioned slot being movable over the front edge of said body, a handle carried by said body, and means operated by said handle for moving said member rearwardly to tighten said sheet along the bottom and across the ends of said body.

4. A hand abrading tool having in combination, a body having a narrow upwardly opening slot in its rear end, a thin sheet of abrasive material having its edge disposed in said slot and extending downwardly at the rear end of the body and along the bottom thereof, a member movable on top of said body at the forward end thereof and having a downwardly opening narrow slot in its bottom in which the other end edge of said sheet is disposed, said last mentioned slot being movable over the front edge of said body, means acting to move said member forwardly, and means for moving said member rearwardly to tighten said sheet along the bottom of said body.

5. A hand abrading tool having in combination, a body, a thin sheet of abrasive material, said body having means at its rear end for holding one end of said sheet, a member disposed on said body at its front end having means for holding the other end of said sheet, said member having a portion acting as a nut, a screw engaging said nut and rotatable to move said member rearwardly, and a rearwardly projecting handle carried on said body secured to said screw to rotate the same and for manipulating said tool, said sheet being tightened along the bottom of said body when said member is moved rearwardly.

6. The structure set forth in claim 5, a lug upstanding from said body in which said screw is journaled, and a compression coil spring between said lug and said nut portion acting to move said member forwardly.

7. A hand abrading tool having in combination, a body having a flat under surface, a thin sheet of abrasive material, said body having means at its rear end for holding one end of said sheet, a member disposed on said body at its front end having means for holding the other end of said sheet, said member being movable longitudinally on the top of said body for tightening said sheet, a screw journaled in said body at its upper side and connected to said member for moving the same, and a handle secured to said screw extending upwardly and rearwardly longitudinally of said body for turning said screw and also forming a handle for holding and manipulating said device.

CHARLES BLOMSTROM.