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A. G. DECKER

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SANDING PAD

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Fig. 1

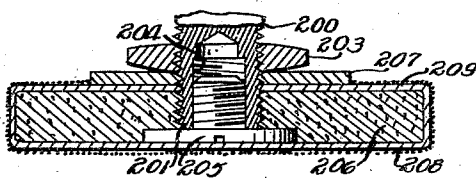
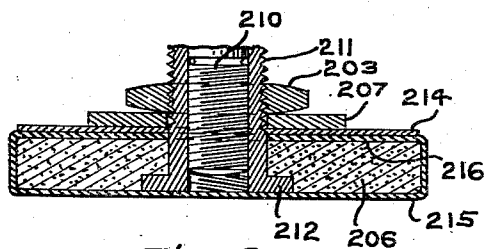


Fig. 2

Inventor

ALONZO G. DECKER.

WITNESS
R. F. H. H.

By Edwin F. Samuels.
Attorney

UNITED STATES PATENT OFFICE

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SANDING PAD

Alonzo G. Decker, Baltimore County, Md., assignor to The Black and Decker Manufacturing Company, a corporation of Maryland

Original application December 31, 1941, Serial No. 425,181, now Patent No. 2,350,098, dated May 30, 1944. Divided and this application April 28, 1944, Serial No. 533,158

4 Claims. (Cl. 51-189)

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This application is a division of copending application 425,181, filed December 31, 1941, which has since matured into Patent No. 2,350,098, May 30, 1944. The invention relates to sanding pads for use with a reciprocating sander head which is part of a manually supported and directed power driven tool, more particularly, an electric tool though other power sources may be employed.

The pad of the invention supports a small piece of sand paper or emery cloth or other abrasive surface, giving the effect of an abrasive sheet pressed by two fingers against the parts which are being sanded and moved back and forth by oscillation of the fingers. To this extent the operation simulates the hand-sanding operation.

Figures 1 and 2 are vertical sectional views of sanding pads of this invention and of their mountings.

As already pointed out the sander heads of the invention are particularly adapted to the performance of sanding operations where rotary sanders cannot be used, as in grooves and corners and other confined areas and elsewhere under circumstances in which sheets of abrasive material have previously been applied by the pressure of one or more fingers of the hand which fingers are moved with a reciprocating or rubbing motion.

Referring to Figs. 1 and 2, the pad in the form here shown is of the rectangular shape, elongated transversely to the length of the arm of the sander and to the corresponding radius of the sander shaft though this precise form and size are unimportant except that all the pads used with the machines disclosed in the parent application are preferably of the small size indicated, providing for the use of a small motor to drive them, which motor is suitable to the one hand-control unit disclosed, the pads likewise being suitable to the operation described. These modifications are like those shown in Figs. 18 and 19 of the parent application.

Figs. 1 and 2 show forms of pad and pad-supports particularly adapted for use with the construction, Figs. 1, 9 and 12, of the parent application, being preferably rectangular. Fig. 1, for example, shows the shank 200 depending from the follower member as per Fig. 1 of the parent application. This shank is threaded at 201 to engage a lock nut 203 and internally threaded at 204 to receive a flat headed screw 205. The pad proper 206 is apertured at the center to pass over the screw-threaded shank 200.

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In assembling the pad on the shank 200, the nut 203 is first turned up slightly above the position shown in the drawing, plate or washer 207 is then passed up over the shank into contact with the nut, the pad 206 is then engaged with the shank and passed upwardly against the washer and the screw 205 is inserted and turned upwardly to a position shown to support the pad, the head of the same engaging the bottom of the pad. An abrasive sheet 208 is then placed in position to cover the bottom of the pad and the ends of the sheet at 209 are turned upwardly over the ends of the pad and over the top of the pad, after which the washer 207 having been previously raised to admit the ends 209 of the abrasive sheet is forced downwardly whereby said ends 209 are clamped and the abrasive sheet is secured in position and is thus made ready for any of the sanding operations mentioned, the pad likewise being suitably clamped.

In the construction, Fig. 2, the depending shank 210 of the follower is made of reduced cross-section and preferably solid, being externally threaded as shown. In this construction the pad 206 is mounted on a sleeve 211 which is part of the pad member and is externally and also internally threaded and preferably flanged at its lower end at 212 to support the pad. This sleeve carries threaded thereon above the pad, a lock nut or pressure nut 203 and a washer 207, as described above in connection with Fig. 1, and beneath the washer there may be a flexible backing 214. The pads, in all instances, may be of felt or rubber sponge, or the like.

In this instance the abrasive sheet 215 is placed in registration with the bottom surface of the pad, completely covering the same as in the previous instance, i. e. in Fig. 1, and the ends 216 of the sheet are passed upwardly over the ends of the pad, and then folded over the top of the same between the top surface of the pad and said plate 214. To clamp the ends of the pad to hold the latter in operative position, the nut 203 is screwed down against the washer 207 and thus applies pressure to the plate 214 clamping the ends of the abrasive sheet in position and holding the latter in its operative relation to the pad. If desired, the flexible plate or sheet 214 may be omitted, the washer 207, in most instances, being of a diameter approaching or equal to the transverse dimension of the pad so that it is sufficient to hold the ends of the sheet when pressed down by the nut 203.

I have thus described the invention in two dif-

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ferent forms, the description being specific and in detail in order that the manner of constructing, applying, operating and using the invention may be fully understood, however, the specific terms herein are used descriptively rather than in a limiting sense, the scope of the invention being defined in the claims.

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

1. A resilient sanding pad member for a rotary abrading tool comprising a relatively large approximately rectangular resiliently flexing pad having a central aperture, a screw threaded shank extending through said aperture relatively small transversely extending means operative-
15 ly connected to said shank for supporting the pad from beneath, said means being sunk into said aperture to present a plane surface on the underside of the pad, a relatively small centrally apertured plate located on top of said pad with the shank extending through said aperture, a nut threaded on said shank and located above the plate, said relatively small transversely extending means and plate allowing the flexing of the major part of said pad.

2. A resilient sanding pad member for a rotary abrading tool comprising a relatively large approximately rectangular resiliently flexing pad having a central aperture, a screw threaded shank extending through said aperture, relatively small transversely extending means operative-
30 ly connected to said shank for supporting the pad from beneath, said means being sunk into said aperture to present a plane surface on the underside of the pad, a relatively small centrally apertured plate located on top of said pad with the shank extending above the plate, a nut threaded on said shank, and an abrasive sheet covering the bottom of said pad and having opposite end edge portions adapted to be folded over corresponding end edges of the pad and inserted between said plate and the top of the pad, the tightening of the nut against the plate serving to clamp the abrasive sheet in the position described, said relatively small transversely extending means and plate allowing the flexing of the major part of said pad.

3. A resilient sanding pad member for a rotary abrading tool comprising a relatively large approximately rectangular resiliently flexing pad having a central aperture, a screw threaded sectioned shank extending through said aperture and having a relatively small flange for supporting the pad from beneath, on the lower section thereof, said flange being sunk into said aperture to present a plane surface on the underside of the pad, a relatively small centrally apertured plate located on top of said pad with the shank extending through said aperture, a nut threaded on the shank and located above the plate, and

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an abrasive sheet covering the bottom of said pad and said flange and having opposite end edge portions adapted to be folded over corresponding end edges of the pad and inserted between said plate and the top of the pad, the tightening of the nut against the pad serving to clamp the abrasive sheet in the position described, said supporting flange being engaged with the lower end of said shank, which is also adapted for operative engagement with a sanding machine drive, said relatively small flange and plate allowing the flexing of the major part of said pad.

4. A resilient sanding pad member for a rotary abrading tool comprising a relatively large approximately rectangular resiliently flexing pad having a central aperture, a screw threaded shank extending through said aperture and having relatively small means for supporting the pad from beneath, said means being sunk into said aperture to present a plane surface on the underside of the pad, a relatively small centrally apertured plate located on top of said pad with the shank extending through said aperture, a nut threaded on the shank and located above the plate and an abrasive sheet covering the bottom of said pad and said means and having opposite end edge portions adapted to be folded over corresponding end edges of the pad and inserted between said plate and the top of the pad, the tightening of the nut against the plate serving to clamp the abrasive sheet in the position described, said shank being hollow and having a screw threaded upwardly into said hollow, said latter screw having a head which acts as said pad-supporting means, said relatively small pad supporting means and plate allowing the flexing of the major part of said pad.

ALONZO G. DECKER.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
577,860	Keighley	Mar. 2, 1897
736,289	Murray	Aug. 11, 1903
914,378	Barz	Mar. 9, 1909
1,067,280	Smilovetz	July 15, 1913
1,501,192	Severns	July 15, 1924
2,036,107	Thomas	Mar. 31, 1936
1,520,642	Giroux	Dec. 23, 1924
1,562,415	Newman	Nov. 17, 1925

FOREIGN PATENTS

Number	Country	Date
287,642	British	Mar. 26, 1928
582,349	German	Aug. 14, 1933