Surfacing Thin Slats

Surface sanding thin material can be difficult to do, especially if you want the slats to have a uniform thickness. As long as the slats are not wider than 2-1/2", the work can be done accurately and efficiently by using the setup shown in Figure 18-9. Position the fence so the drum will bear lightly against the slat. The slats are fed in at the rear and pulled out at the front of the machine. Be sure to keep them moving. Any hesitation will cause the drum to form an indentation.

Making a Drum for Thickness Sanding

A drum sander you can make, and which is used with the Mark V in the lathe mode, is shown in Figure 18-10. The drum affords several advantages: It can surface sand material more than 12" wide; the large table surface provides excellent support for the workpiece; and if the drum is accurately made and the table's alignment is correct, the material will be sanded to a uniform thickness.

Use a hardwood like maple or birch. Construction details of the drum sander are shown in Figure 18-11.

Don't use excessive speeds, feed too fast, or try to take too deep a bite. Light passes will do a much better job than a single heavy one. **Warning: If you try to remove more than 1/64" of material at once, you might cause the drum to be thrown from its mounting or the stock to be pulled from your hand and thrown.**

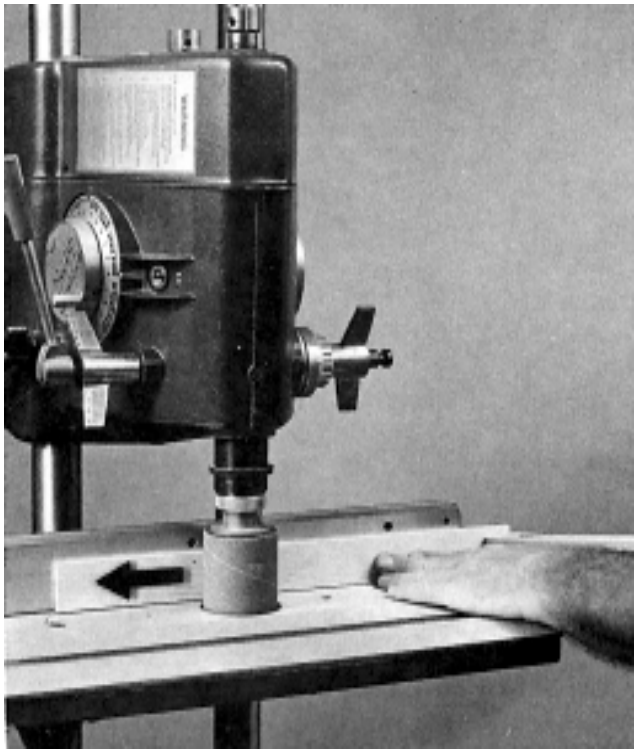

Figure 18-9. This is about the only way you can surface sand thin slats so all will be of equal thickness throughout their lengths.

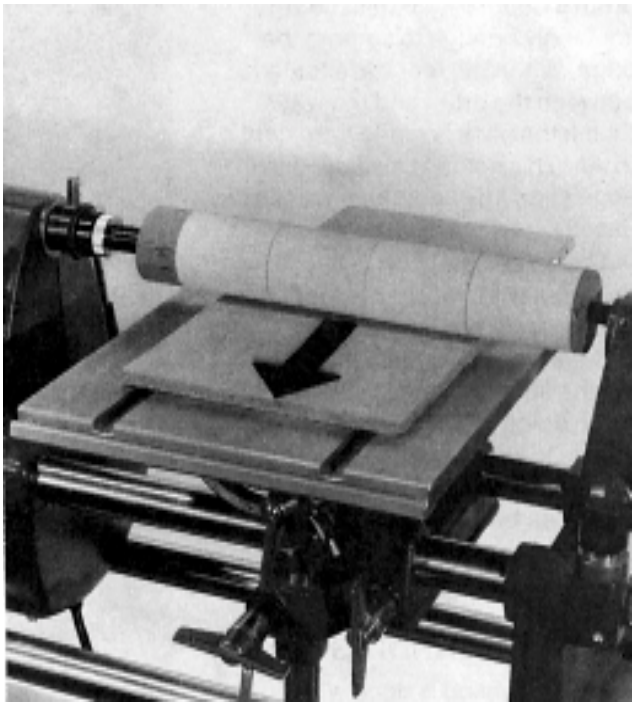

Figure 18-10. You can make a drum sander that can be mounted between the lathe centers and used, as shown here, for thickness sanding. Here, even more than on other operations, the pressure against the drum must be very light.

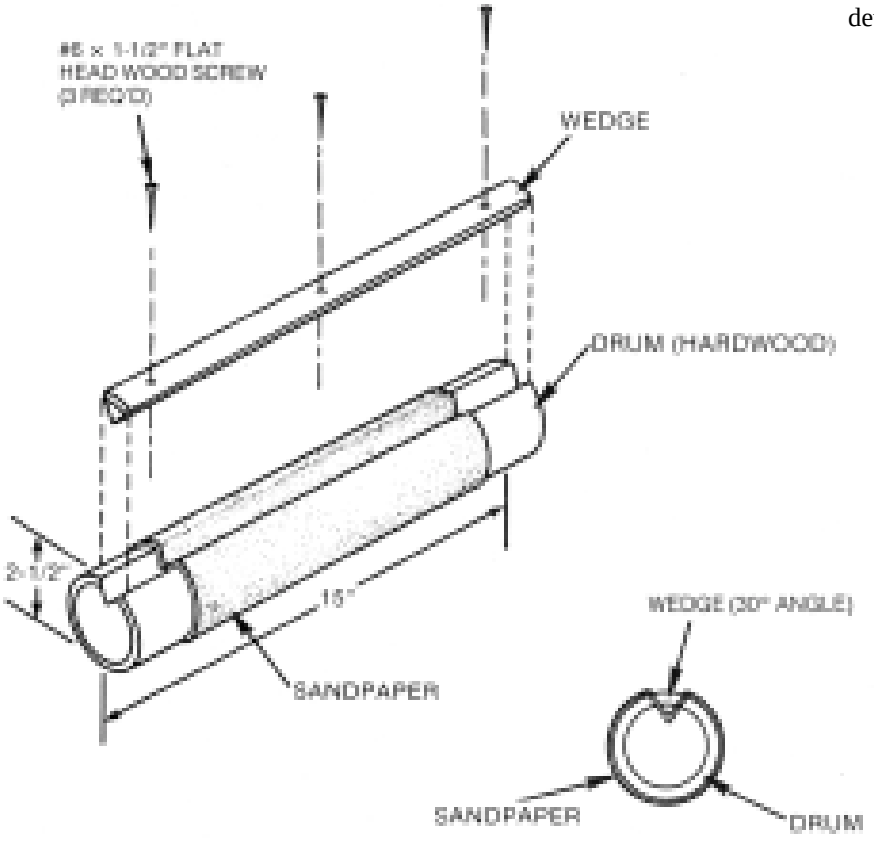

Figure 18-11. Construction details of a special drum sander.

PATTERN DRUM SANDING

Pattern sanding is done by making a special insert with a guide disk having a diameter equal to the drum's diameter (Figure 18-12). It is important that the disk be centered exactly under the drum; therefore, when making the insert, be sure to follow the instructions shown in Figure 18-13.

Figure 18-14 shows how the sanding is done. The pattern, which is the shape of the work you need, rides against the guide disk. The rough-cut work is held to the pattern with small brads or is impaled on brad points that project from the pattern. As you make the pass, keep the pattern in constant contact with the guide disk so that the work will be sanded to match the pattern.

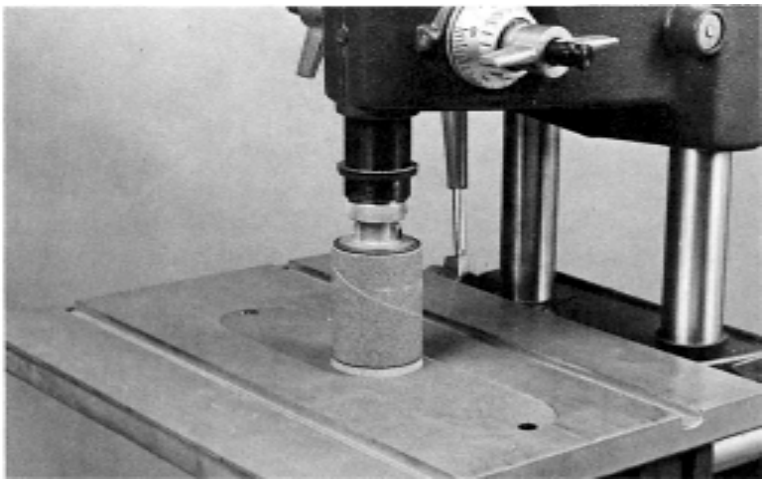

Figure 18-12. A special insert, with a disk that is entered perfectly under the drum, is needed when the drum sander is used for pattern sanding.

Pattern sanding on the drum will work only if you accept it as a smoothing operation. When you rough-cut the workpieces, be sure they are not more than 1/16" or so oversize.

SANDING ODD SHAPES

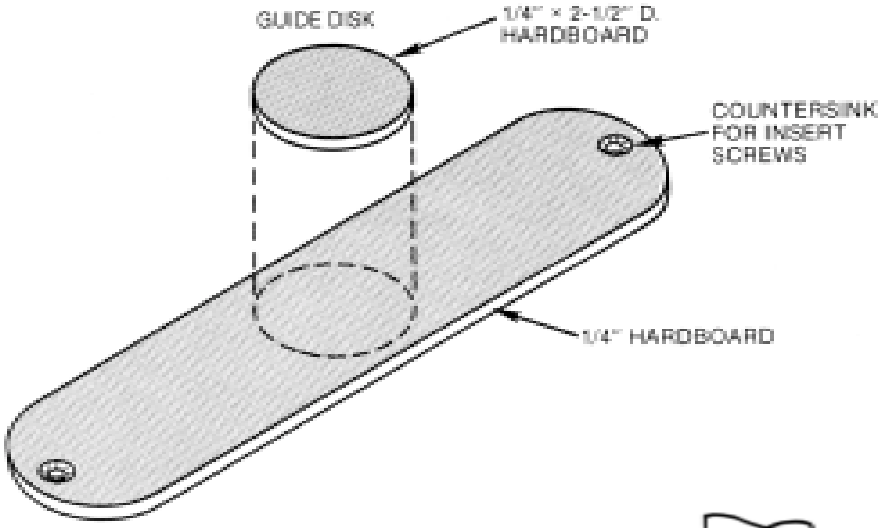

Figure 18-13. To make a special insert for pattern sanding, use a drum sander insert as a pattern. Locate the position of the guide disk with the drum sander mounted on the spindle. Attach the disk with glue and 1/2” brads.

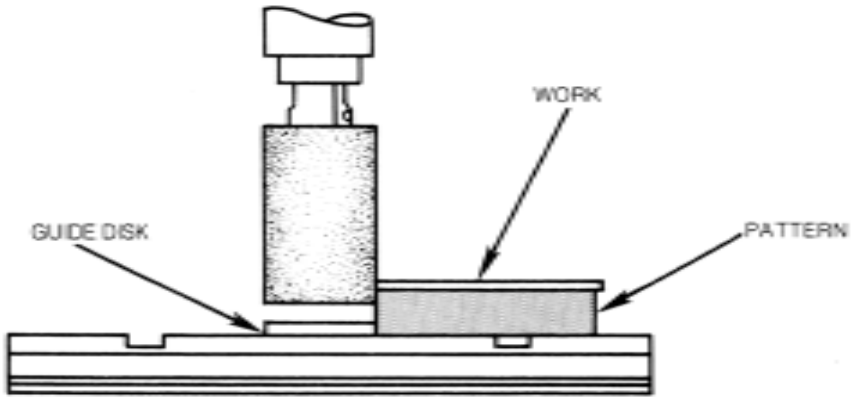

Figure 18-14. The pattern, with work attached, rides against the guide disk so the work is sanded to duplicate the shape of the pattern.

Smoothing the surfaces of workpieces like the cabriole leg is typical of sanding operations best handled on a drum sander. Because of the project's elaborate contours, it is difficult to provide a support surface for the workpiece; so the operation is done freehand with the operator moving and guiding the workpiece (Figure 18-15).

Keep a firm grip on the workpiece and move it along steadily so the drum can't dig in at any point. Avoid excessive feed pressure. If necessary, go over an area several times. **Warning: Always move the workpiece so you are feeding against the drum's rotation.**

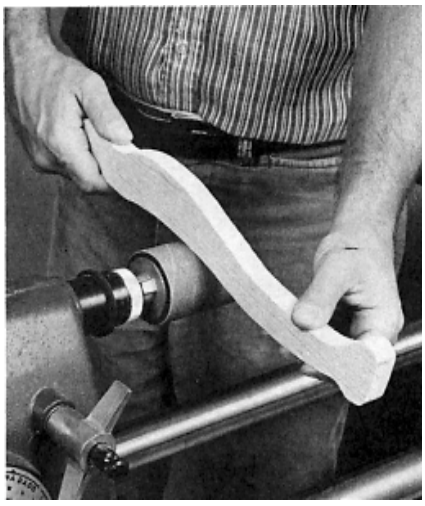

Figure 18-15. The drum sander is used to smooth surfaces of elaborately contoured projects like the cabriole leg.

Fitting a Leg to a Round Column

A furniture leg that must fit against a round column must have a radius formed on the edge that mates with the column. This can be accomplished by setting up the Mark V as shown in Figure 18-16. The table's height is set so the centerline of the workpiece is on the horizontal centerline of the drum. It may not be necessary, but the rip fence or a fixture can be used to keep the work square to the drum.

Move the workpiece forward so the edge to be sanded will be parallel to the surface of the drum. Don't force; let the abrasive work at its own speed. The cove that is formed in the workpiece will be determined by the diameter of the drum. If it isn't suitable for the connection you must make, you can modify it by hand with sandpaper or a file.

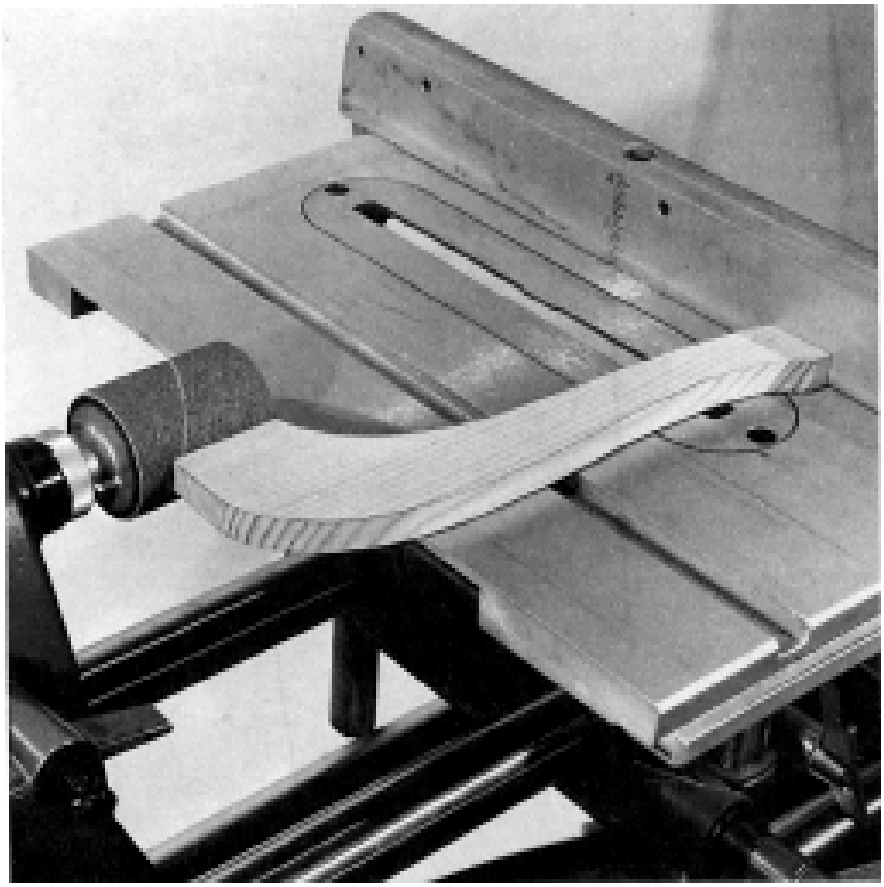

Figure 18-16. How to form a cove so a leg can fit against a round column. Usually the cove won’t be exactly the correct size, but you can make it right by doing some additional work by hand with sandpaper or a file.