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A Shaker Sewing Stand

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- Step by Step construction instruction.
- A complete bill of materials.
- Exploded view and elevation drawings.
- How-to photos with instructive captions.
- Tips to help you complete the project and become a better woodworker.

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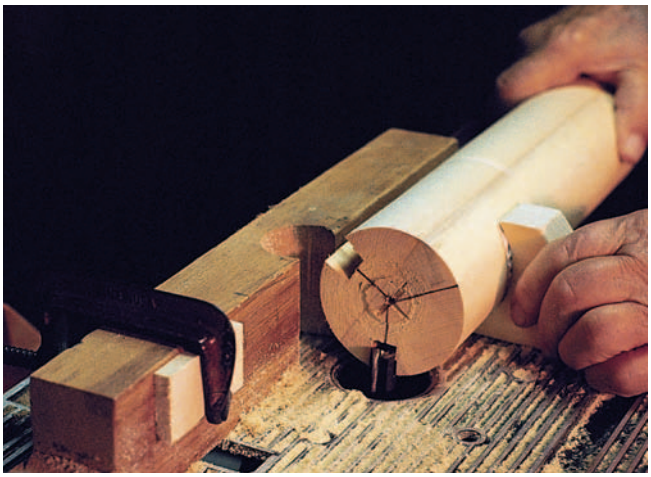
A Shaker Sewing Stand

Hand-sewing may be a skill that's largely forgotten these days, but the Shakers did it on a daily basis; the use of electric sewing machines was against their religious principles. Consequently, furniture intended to make sewing easier came in many forms, including this sewing stand. It provides a good chance to spend some time at the lathe.

This classic sewing stand design was inspired by one made in the Shaker community of Mt. Lebanon, New York, around 1850. Many Shaker furniture items came from that area in the 19th century, the designs often emphasizing that simple things are the most beautiful. Practicality was important in their furniture designs as well, although in later years, Shaker craftspeople relaxed their austere beliefs a little, especially in furniture made for outsiders.

This sewing stand was designed for use by two people at the same time. The drawer is shared and was designed to pull in both directions.



Turn the pedestal to a diameter of 3" and remove it from the lathe. Before completing the turning, form dovetail sockets for the legs, starting out on the router table.

Once the straight bit has done its work, use a sharp chisel to complete the dovetail walls and to flatten the areas that will later be covered by the ends of the legs.

Start with the Pedestal

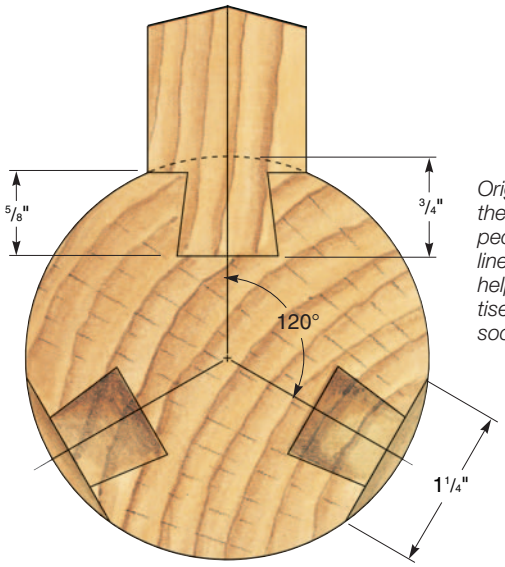
Since the three legs and the entire top assembly attach to the pedestal (piece 1), it is logical to turn this first. If you have to glue together two or more pieces to get the required size, check carefully to match the grain and wood color as closely as possible.

Turn the entire length to 3" in diameter and leave it at that size until after completing the three dovetail sockets at the lower end, which should be the live center end when mounting it on the lathe. This way, the other end, or dead center end, can later be turned to fit the 1½" hole in the upper assembly. It's also a little easier to clamp this piece when it's all the same size.

Making the Dovetail Sockets

As shown in the *Pedestal Drawing* on page 124, lay out the live center end for the dovetail sockets using a protractor to keep them 120° apart. Draw a line to the center point to aid in "eyeballing" the location of each of the router cuts. Using a 1/2" straight bit in a table-mounted router, make your first passes 1/4" deep by 3" long. Use a stop block clamped to the fence of the router table, as shown in the top *photo*, to establish the length of cut.

To ensure that the dovetail sockets stay straight while you rout them, take a few moments to make a cradling jig by cutting an arc into some scrap that perfectly fits the 3" diameter of the pedestal. Face this with some double-sided tape. By pressing this jig against one side of the pedestal, you can easily hold the other side tight against the fence, preventing the pedestal from turning. After your first pass for each socket, successively increase the depth to 1/2", and finally to 3/4"



To join the legs to the pedestal seamlessly, flatten the curvature of the pedestal and the dovetail sockets with a sharp chisel.

Originating at the center of the pedestal, draw three lines 120° apart to help locate the mortises for the dovetail sockets.

for your final passes.

Once you've reached the right depth, you'll need to complete the dovetail cuts with a sharp wood chisel, as shown in the bottom *photo* on page 123. But first, you'll need to flatten the curvature of the pedestal around each dovetail socket. Do this by centering a 1¼" x 3½" piece of cardboard over the socket (representing one of the legs) and tracing around it with a pencil. By flattening this area, you ensure a tight fit of the leg against the pedestal. Use a sharp wood chisel, first making the cut across the top end 3½" from the bottom. Sandpaper, backed by a flat block, may be used for final flattening. When you're done with this task, the grooves should measure 5/8" deep.

Lay out the guideline markings for the dovetails on the bottom end of the pedestal (see *Elevation Drawing*, above) and chisel to the dimensions shown. In any chiseling job, keep the blade edge sharp by honing frequently and, for your own safety, keep the hand that is not doing the work well away from the business end of the chisel.

Shaping the Legs

Use 1¼"-thick stock for the legs (pieces 2), choosing wood that is free of knots or blemishes. Use the *Scaled Drawing* at right to create a pattern and transfer it to your stock, paying careful attention to the grain direction. For the neatest and quickest sawing job, use your band saw, although it can also be done with a scroll saw or jigsaw if you don't have a bandsaw. Sand the upper and lower edges until smooth, using the end of a belt sander or a drum sander, as shown in the *photo* on page 127. Follow up with a 1/4" roundover bit, as shown in the inset *photo* on page 127.

Creating the Leg's Dovetails

If you plan to make the dovetail depth cuts by hand, start by marking the guidelines and clamping a straight piece of scrap wood across the leg to guide the saw and protect the blade. Make the cuts 5/16" deep, preferably with a back saw.

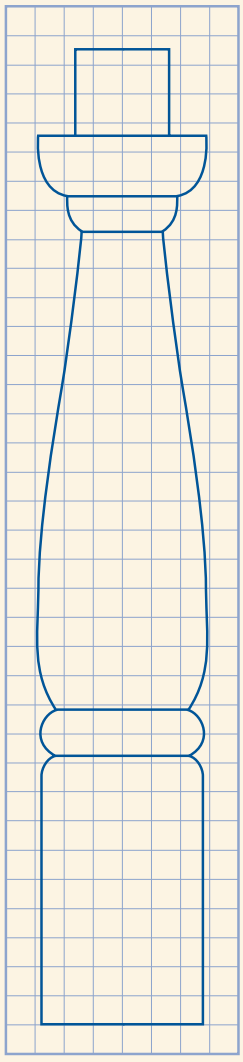
We found that we could do a neater and more accurate job on the table saw. Trace out two jigs, one for each side of the leg, to hold it in position during the cut, as shown in the *photo* series on page 128. Using 3/4" scrap stock, hold the scrap and one leg (the end you will be dovetailing) squarely against your table saw's rip fence and accurately transfer the leg's curves with a pencil.

On the table saw (for legs that are 1¼" thick), set the blade to a depth of 5/16", then make the shoulder cuts on each side of each leg to define the back of the tail. If you are short on experience with this type of joint, try shaping a complete dovetail on a piece of scrap stock first.

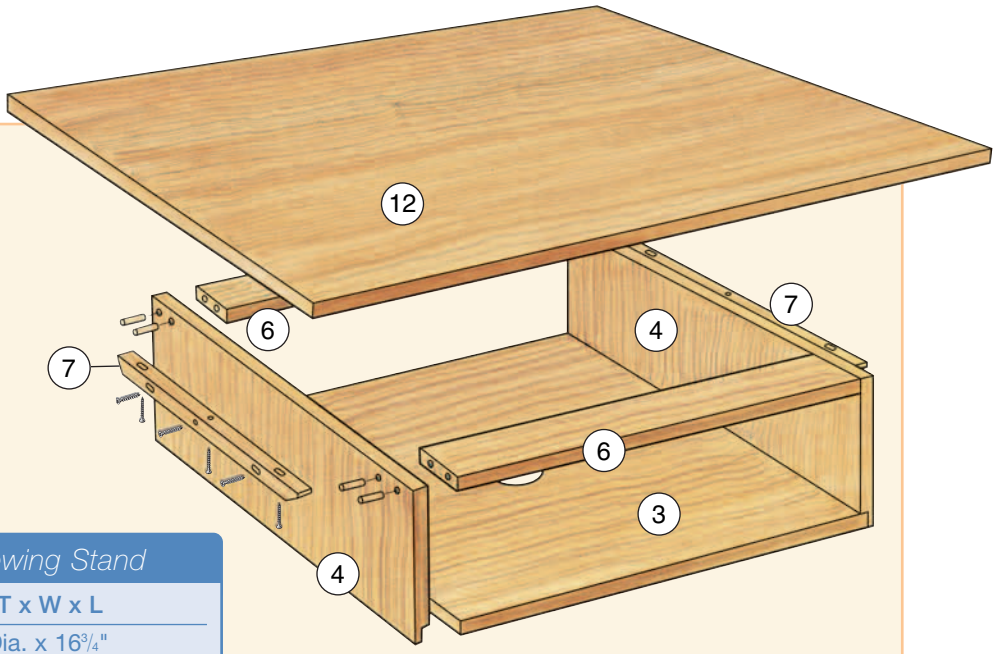
Consult the dimensions in the

Sewing Stand Exploded View

Pedestal
(Front View)



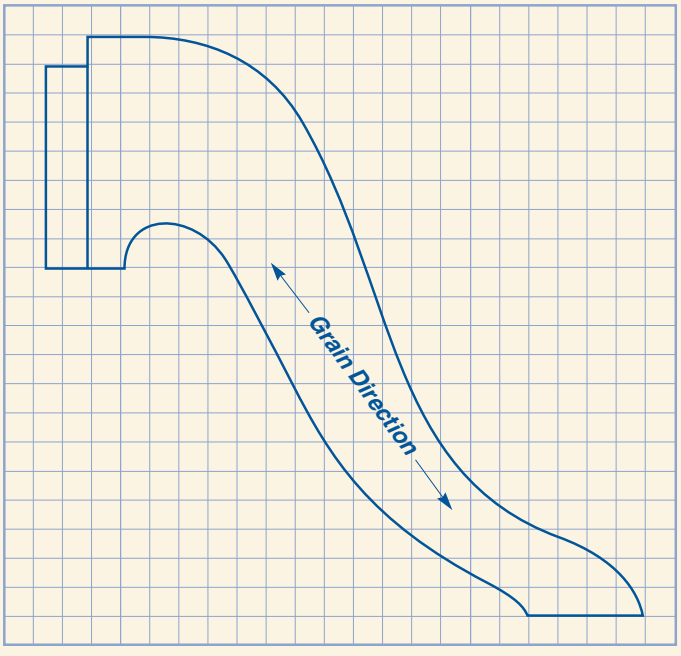
One square equals 1/2"



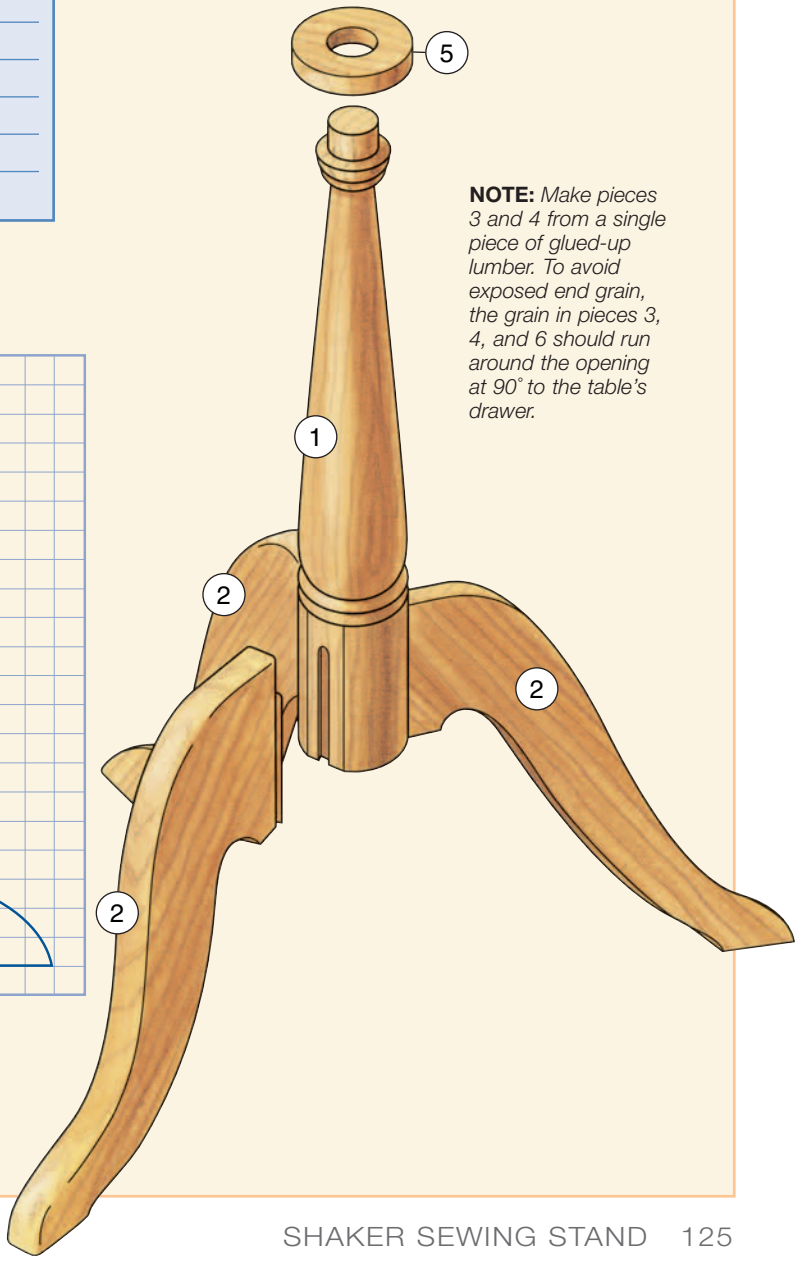
MATERIAL LIST – *Sewing Stand*

		T x W x L
1	Pedestal (1)	3" Dia. x 16¾"
2	Legs (3)	1¼" x 5" x 14"
3	Drawer Box Bottom (1)	3/4" x 17" x 13"
4	Drawer Box Sides (2)	3/4" x 17" x 5"
5	Stabilizer (1)	3/4" x 4" Dia.
6	Drawer Box Rails (2)	3/4" x 2½" x 12"
7	Cleats (2)	3/4" x 3/4" x 15"

Leg *(Face View)*

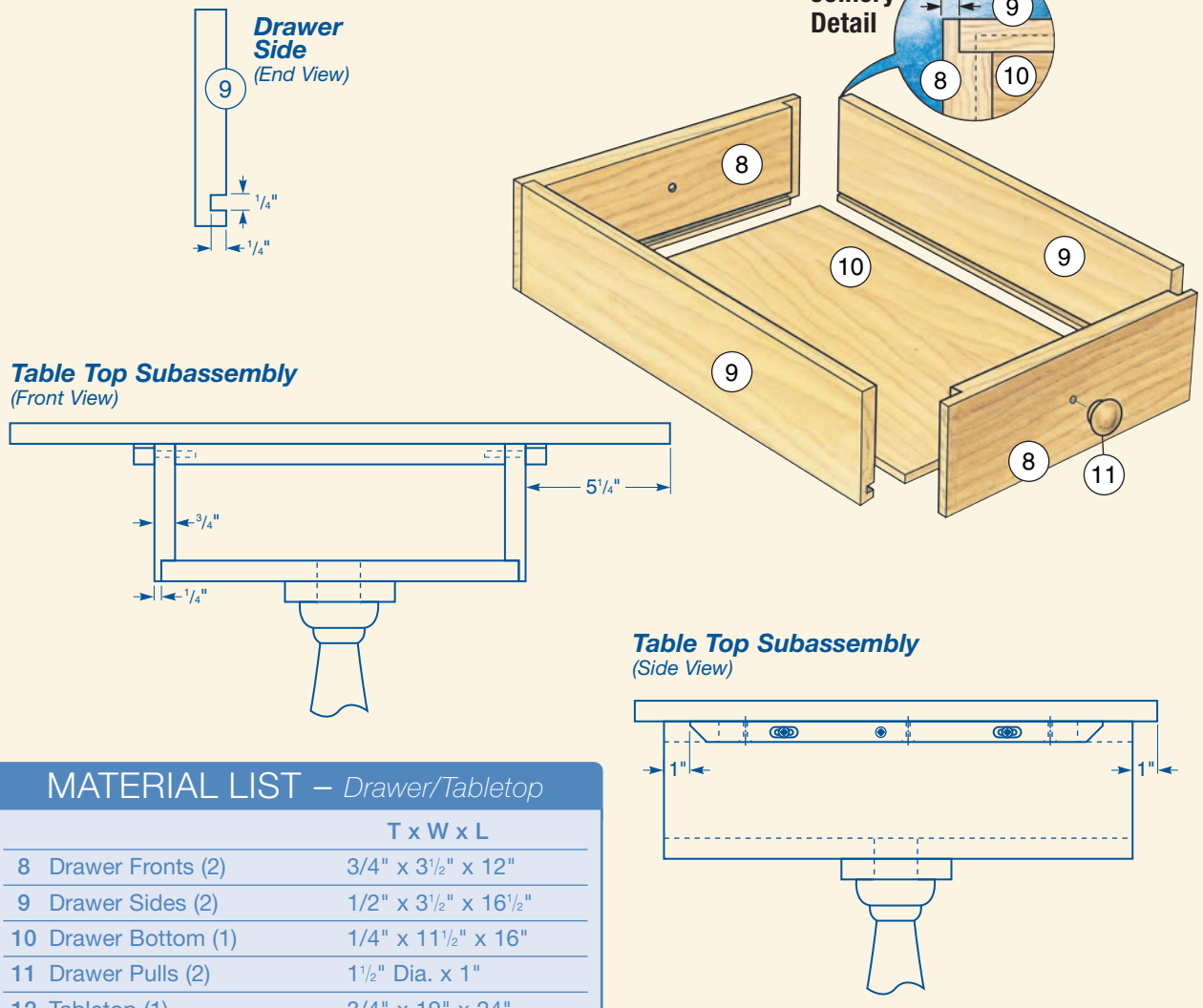


One square equals 1/2"



NOTE: *Make pieces 3 and 4 from a single piece of glued-up lumber. To avoid exposed end grain, the grain in pieces 3, 4, and 6 should run around the opening at 90° to the table's drawer.*

Drawer Exploded View



MATERIAL LIST – *Drawer/Tabletop*

		T x W x L
8	Drawer Fronts (2)	3/4" x 3½" x 12"
9	Drawer Sides (2)	1/2" x 3½" x 16½"
10	Drawer Bottom (1)	1/4" x 11½" x 16"
11	Drawer Pulls (2)	1½" Dia. x 1"
12	Tabletop (1)	3/4" x 19" x 24"

drawing on page 128 to complete your dovetails, testing the fit in the sockets as you go. To shape the dovetail to fit the pedestal socket, use a padded clamp to hold the leg firmly in place on a bench and make the chisel cuts in the direction of the grain, not across it. Round the tail's upper corners to match the shape of the socket.

After sanding through the grits on each leg, you can set them aside for now, until after the pedestal turning is completed.

Some Drawer Frame Details

You won't want to see end grain when looking at the sewing stand, so orient the grain of the drawer box bottom and sides (pieces 3 and 4) so it runs crosswise to the direction the drawer will slide. Glue up one 17" x 24" panel to create these three pieces, joining the edges with glue and biscuits and then cut them each to size.

Form the rabbets on the sides (see *drawings* on page 126) and join them to the bottom with glue and #4 finishing nails. Now locate the center of the bottom piece and glue the stabilizer (piece 5) in place. Once the glue dries, drill the pedestal hole with a hole saw or expansion bit. As you can see from the *drawings* on page 126, the box rails (pieces 6) are held in place with two 5/16" diameter x 1½" dowels at each end.

Before moving on to the drawer and pedestal, take a moment to form the two cleats (pieces 7) that attach the tabletop to the drawer box. Drill three holes in each direction on these two

pieces, (see the *Elevation Drawings* on page 126), slotting the outside ones to allow for seasonal movement of the sides and top. Because round-head screws with washers were employed here, use a Forstner bit to set the screw heads below the surface.

Completing the Pedestal

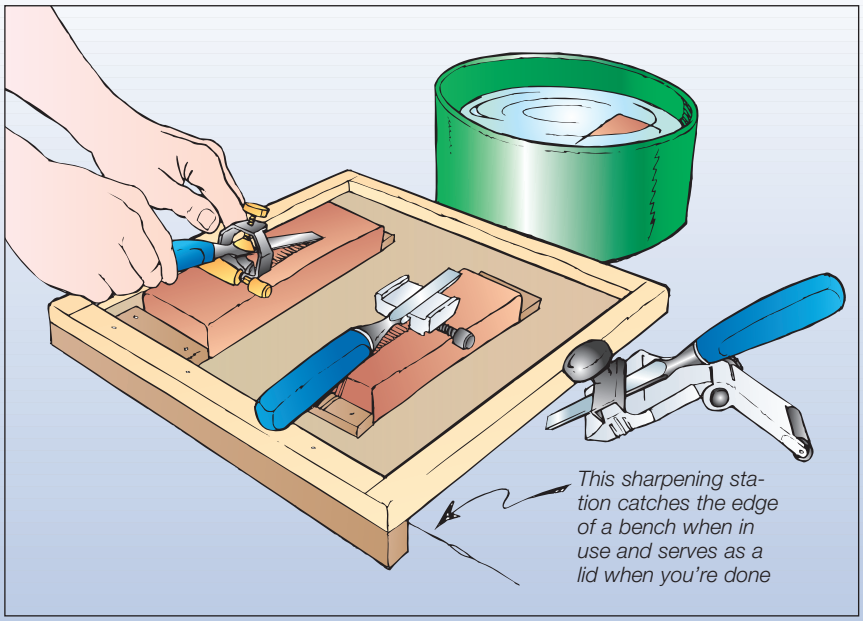
At this point you can return to the pedestal and bring it to final shape. Start by dry-fitting the legs and lightly marking their uppermost locations. Raise the first bead above that point, as shown in the *drawing* on page 124. Then move to the top end and turn it down to fit the hole in the center of the drawer box bottom. With the two ends done, follow the *Scaled Drawing* (see page 124) to turn the pedestal's gently curving shape. Sand the pedestal while it's turning, ending with #220 or finer. When you're just about done, turn off the lathe and sand lengthwise by hand to remove any cross-grain scratches that may still show. Don't sand the upper tenon that fits into the drawer frame.

Sand the upper and lower edges of the three legs on an oscillating or drum sander or, in their absence, try clamping your belt sander upside down. Then use a 1/4" roundover bit (inset photo) to complete the machining.

QuickTip

Sharpening Station

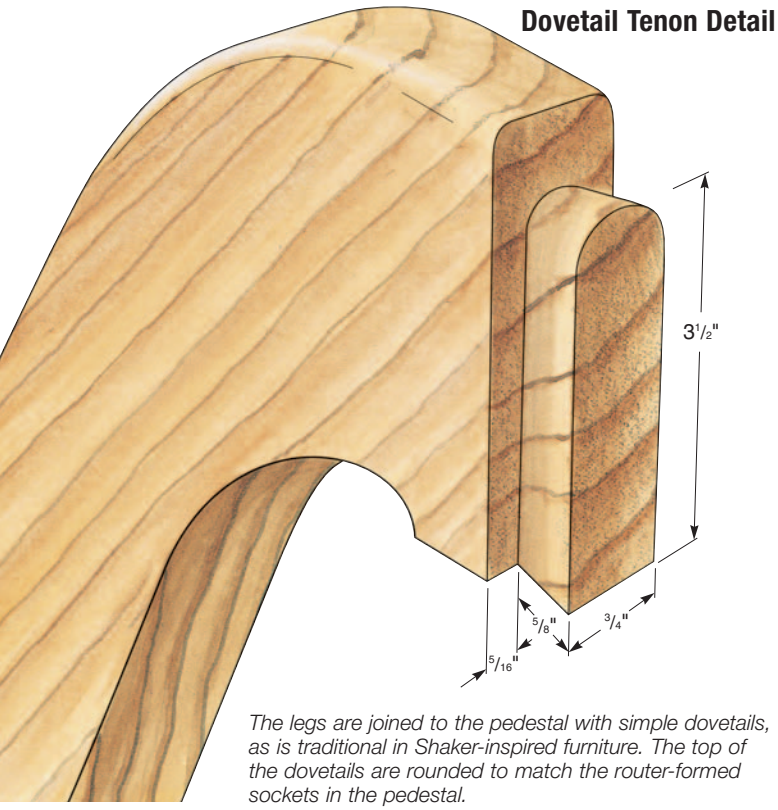
You'll be more likely to sharpen chisels and plane irons when they need it if you have a sharpening station. Begin by cutting 6" off the bottom of a 5-gallon bucket and use this to keep your stones immersed in water or oil. Cut a 20"-square plywood base and rout a circular groove in the bottom to turn it into a lid for the bucket. Nail strips of wood around the top so water or oil won't escape while you work. Nail a small strip at either end of each stone to hold them when they're not immersed and a final strip under the front edge to catch the edge of your bench: this will hold the station steady while you're sharpening.



This sharpening station catches the edge of a bench when in use and serves as a lid when you're done

To ensure straight shoulders on the tails, create two jigs to hold each leg exactly square as you form the shoulder of the dovetail. The curve in the leg is matched by the shape of the jig (inset photo) to hold the legs securely as they are being machined.

Once the shoulder cuts are made, use a chisel to shape the dovetails to fit the sockets in the pedestal perfectly. Chisel in the direction of the wood grain and use a padded clamp.



The legs are joined to the pedestal with simple dovetails, as is traditional in Shaker-inspired furniture. The top of the dovetails are rounded to match the router-formed sockets in the pedestal.

Attaching the Legs

Before gluing the legs permanently in place, fit them into their sockets and set the assembly on a level table. Use a carpenter's square to check that the pedestal rises at exactly 90° from the surface, (see bottom *photo*, next page). Even the slightest error here can give you something akin to the Leaning Tower of Pisa. While a variation might be almost invisible to the eye, mark the exact place where the upper edge of each leg meets the pedestal when it is vertical. If you've worked accurately to this point, each leg should be perfectly in line around the base of the column, with the pedestal rising perfectly plumb.

Glue the first leg and use a padded C-clamp and several heavy rubber bands to hold it tightly until dry. The goal is to apply equal pressure along the entire length of the glued joint. Use a wood chisel or knife to scrape away any fresh glue that squeezes out of the joint, then go over the surface with a wet cloth. After each joint dries, proceed to the next.

Making the Drawer

The double-ended drawer (pieces 8 through 10) is made with rabbeted corner joints and a plywood bottom that slides into grooves before attaching the second front (see *drawings* on page 126 for machining details). Do not use glue to secure the drawer bottom. Center the drawer pulls (pieces 11) vertically and horizontally. Drill a hole for each and countersink it on the inside for the screw. Shaker-style drawer pulls may be made on the lathe or purchased locally. Try to find (or make)

some that match the wood species you use for the rest of the project. Traditionally, the Shakers frowned upon contrasting wood species used for the sake of ornamentation.

Time for the Final Assembly

You're now ready to bring all the components together. Start by placing the pedestal on a level surface and applying glue to the top tenon. Press the drawer box in place, using your level to ensure that it dries flat. While the glue dries, select some of your best boards (with matching grain) for the tabletop (piece 12). These pieces are fitted with three biscuits at each joint before edge-gluing and clamping. Trim the ends to size and sand the edges and top. Soften the edges with sandpaper, but just enough to break the sharpness.

Finishing Up

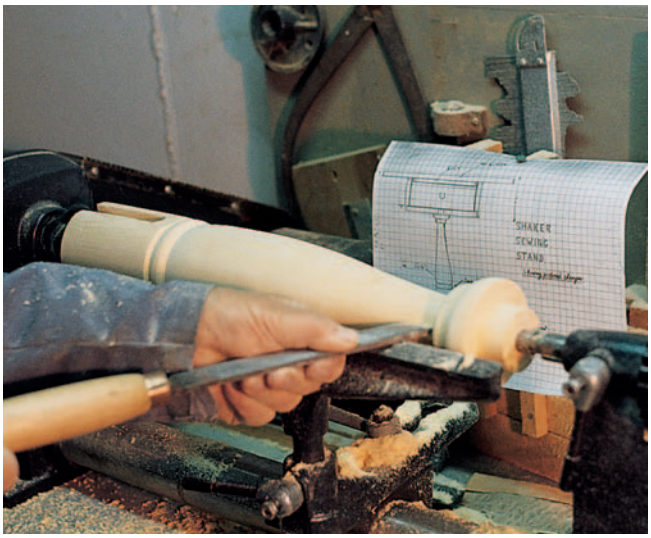
Before attaching the tabletop, apply at least one coat of varnish to the inside of the drawer frame and to the underside of the tabletop to prevent uneven moisture absorption.

Stain your sewing stand, if you wish. After it dries, apply two or three coats of your favorite finish, sanding between coats. A bit of wax applied to the outside of the drawer will help it slide easily. Now you have an elegant, yet simple gift.

QuickTip

Perfect Mates on a Jointed Seam

You can significantly improve the quality of a rubbed glue joint (two boards joined on edge) by putting a pencil mark on the top of each board, then running them through the jointer. Keep one board's mark against the fence, and the other away from it. Then, if the jointer fence is even the tiniest bit out of square with the jointer table, the two cuts will compensate each other because the angles are complementary. Turn one board end-for-end, apply glue to both edges—not just one—and press them together so the ends are about a half inch out of alignment. Then slide the boards so the ends line up to help spread the glue more evenly.



After the dovetail slots are completed, return the pedestal blank to the lathe to wrap up the turning process. Complete all but one sanding step on the lathe as well, saving a final pass to do by hand, sanding with the grain.

During the final glue-up of the legs to the pedestal, check for plumb with a carpenter's square to be sure there will be no tilt to the top.