

PROJECT NUMBER 17



# NEAT, PETITE NESTED TABLES

BY RALPH BAGNALL

With a slide-in design adapted from an antique set, these small tables can be stored together to give your home three new movable surfaces without hogging floor space.

A small table is the type of project that every home needs, and nested tables are most useful while not taking up extra space. At a recent antique auction with my wife, I took note of a pretty little table set. What caught my eye was that the smaller tables were captured inside the larger ones using a series of dados that allows the entire set to be moved around as a unit. Although we weren't able to buy it, I took notes on the construction and decided that our home needed such a set. My rendition is designed in a Sheraton style, but could easily be adapted to other styles to fit your décor.

The project is mahogany with a wenge gallery rail molding, and sturdy mortise-and-tenon joinery throughout. There is also a drawer in the smallest table, which will have hand-cut dovetails.

## Getting started

While many furniture articles mention the importance of stock selection, not many discuss strategies for obtaining the best results. The process begins at your wood source. I was able to find a board with outstanding grain that immediately made me think of tables. The large flowing grain pattern looks great on the larger top parts, but on the narrow aprons and legs, the pattern is lost and can even detract from the overall appearance.

I looked for rich coffee-colored wood with straight, even grain for the aprons and legs, and selected boards that would yield blanks long enough to cut matching parts from a single piece. For example, the apron sides and back for the larger table are cut in sequence so that the grain wraps around in a

pleasing manner.

The building process of any project hinges on proper stock preparation. When working with solid stock, I prefer to buy it a bit oversized, mill it slightly larger than the final dimensions, then let it sit for a week or so to reveal and relieve any internal stresses (Fig. 1). Once the cut stock has acclimated, I can then mill it again to final size, worrying far less about movement after assembly.

I've also found that larger parts should be cut first, working to the smallest. Many of the smaller parts can be made from the offcuts of larger parts, and if you make a mistake cutting a larger part, it can usually be salvaged as a smaller one.

Because this project is actually three similar subassemblies, it's very easy to



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get parts mixed up and make an incorrect cut. To avoid this, I designated the tables "A," "B," and "C" from largest to smallest, and marked all of the parts accordingly. I also kept them stacked separately during each milling phase.

### Start at the top

The tabletops can be made from a single wide board if you have the stock, but gluing up a couple of narrower boards helps to ensure flatness. The "A" tabletop should be your best-look-

ing piece, as it will be the most visible part of the set (Fig. 2). I cut one section of the board I wanted to use, then checked it against the remaining stock until I found a nice grain match. I tried for a bookmatched look at first, but settled for a nice diagonal flow of grain from one corner to the other. This process can result in wasting a little bit of stock, but the results are well worth it.

After the tops are selected, I looked over my stock for the drawer front. This is an exception to cutting parts from largest to smallest, but the drawer front is also a focal point for the set, so stock selection here is important too. The end of one of my boards had some very nice tiger-stripe grain, so I set it aside for the drawer front (Fig. 3). You could also use a contrasting wood for the drawer front to make it stand out, but I was going for a more subtle look with this set. I resawed the piece

and bookmatched it, then laminated it to a piece of poplar to form a drawer front that is  $\frac{5}{8}$ " thick.

Now is the time to get the tops glued up. Whenever possible, it's better to glue the workpiece up a bit thicker than the final dimension then plane it down as a unit. If needed, though, I'll plane the parts to thickness first and use biscuits or a glue joint bit to keep the joint as even as possible. After the glue has dried, the upper surfaces can be scraped or sanded smooth and even.

### Legs and aprons

While the tops are drying, begin milling the legs. Joint one side, and then joint an adjacent side square to the first. Then finish the leg dimension on the planer. Crosscut to length, keeping the legs as sets, then stack each set together foursquare, flipping and turning them until you have the best-looking faces on the outsides of the stack. Now mark the tops of the legs across the ends where the aprons will be (Fig. 4) to indicate which faces will be mortised and beaded later on.

With the legs square and straight, the apron parts can be milled and cut. Joint and plane the boards square, then crosscut the final lengths, marking the parts as they are cut. The cut list lengths include the tongues, but I prefer to mill the mortises first, then trim the tongues to fit, so I don't cut them just yet.

### Beading

Because this set of tables is done in a Sheraton style, I've incorporated a lot of bead detail. For consistency, I prefer to set up the beading bit in the router table and complete the milling on all appropriate parts at the same time (Fig. 5). The apron parts are beaded on both the top and bottom edges. The smaller tops of tables "B" and "C" are beaded along the top and bottom of each edge (remember that the largest table will receive a rail molding, so don't bead it).

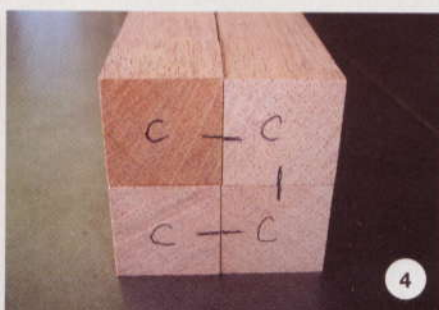
Process the legs carefully, putting a bead on each edge of the outside



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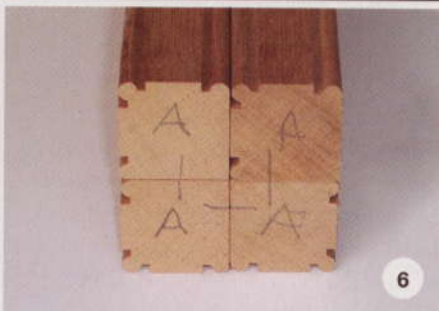
3



4



5



6

faces. This creates one full bead at the outside corner of each leg. Do this step prior to cutting the mortises; otherwise it's very easy to confuse which faces get beads, as I did in **Fig. 6**.

## Edging

The "A" top gets a tall molding wrapped around the edge that dresses the top and provides a gallery rail to keep objects from rolling off the table. I used wenge to give a classic dark detail to the top. Thin molding like this is best made from wider stock for safety.

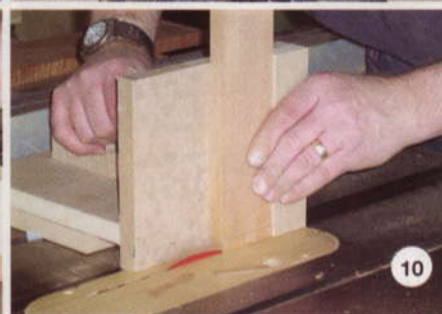
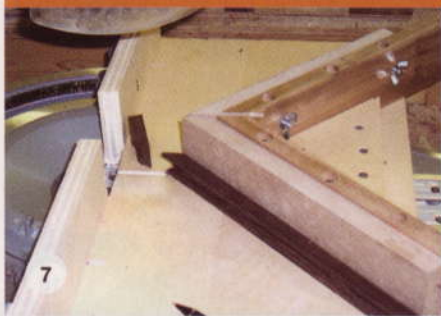
I milled up a 2" blank, then set up a cove-and-bead bit in my router table. The size and style of the molding can be whatever profile bit you happen to have on hand. I chose the cove-and-bead to reflect the bead detail used throughout the table set. This bit makes a 1" high profile, but I really just wanted the profile to rise above the top surface. I milled both edges of the blank, then ripped the molding off on the table saw so that the thin molding is the offcut. This profile is fairly shallow, so I ripped it  $\frac{7}{16}$ " thick. You may need to adjust the thickness for a different profile.

Then reposition the rip fence and cut the other molding free the same way. Be sure to cut plenty of stock as getting the miters tight can be fussy work (**Fig. 7**). The molding has a sharp 90-degree corner on the top, but a few strokes with a block plane will round it over nicely once it's in place.

I've found wenge to be difficult to glue with traditional carpenter's glues, so I used polyurethane glue to attach the edging. Normally, I'd be worried about the cross-grain use of glue, but the poly tends to remain elastic, so I wasn't concerned for such a small top. I used a pin nailer to tack the edging to the top until the glue dried, but purists may want to use only clamps.

## Joinery

Now let's cut the mortises into the legs, orienting them using the marks made earlier (**Fig. 8**). Note that the mortises in the legs aren't centered. Work



carefully to ensure that all the parts fit together properly. I used a hollow-chisel mortiser, but using a drill press followed by cleaning the mortises with a bench chisel works fine too.

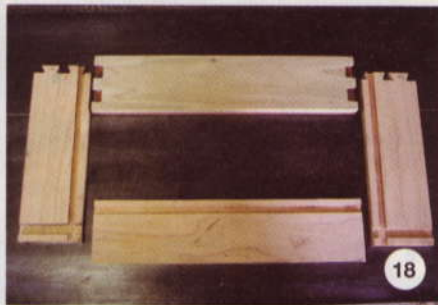
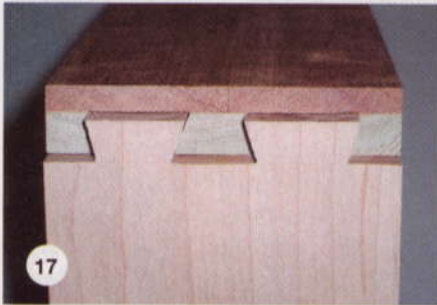
With the mortises complete, cut the apron tenons to the dimensions in the drawings on page 33. I cut the shoulders first (**Fig. 9**), then switched to my tenon jig to remove the waste (**Fig. 10**).

All of the tenon faces are made with the same cut, removing  $\frac{1}{8}$ " from each side. The tenon ends aren't all the same, so take care to cut them all

correctly. The tenons are offset, not centered top-to-bottom, so that they won't interfere with the dado we'll cut later to hang the smaller table on.

The "C" table needs no dado inside the apron, so the tenon faces on the backs and sides are cut to the same  $\frac{1}{8}$ ", and the top and bottom have a  $\frac{1}{4}$ " reveal. The two thin stretchers for the drawer opening have a  $\frac{1}{4}$ " reveal on the outside face and  $\frac{1}{8}$ " on the remaining three.

Because of the delicate legs, the tenons in the back legs need to be



mitered where they'll meet inside the mortises. I used a sacrificial fence and miter gauge to trim them.

## Assembly

Now that the mortises and tenons are cut, a dry fit is in order before starting final assembly and glueup (Fig. 11). Use a sharp chisel or rasp to adjust the fit of the tenons so they're snug, but not too tight (Fig. 12).

Fastening the aprons to the top presents a problem. Typically, I'd use wooden clips, pocket holes or even "figure 8" fasteners, but in the "A" and "B" aprons the grooves that hold the smaller tables don't allow for standard methods. I carefully counterbored a  $\frac{5}{16}$ " hole through the side and back aprons of the two larger tables as in Fig. 13. Since I was using #6 x  $1\frac{1}{4}$ " screws, I drilled the counterbores  $1\frac{1}{2}$ " deep to ensure that the screws would

not come out the top of the table. Finally, I drilled the rest of the way through with a clearance hole at  $\frac{7}{32}$ " to allow for some wood movement.

Since the smallest table has no groove, simple pocket holes drilled through the inside of the aprons secure the top (Fig. 14). I drilled these manually instead of using a pocket hole jig. The thin aprons and top don't leave much room for error, and I prefer the handmade look even though the holes are hidden.

## Apron assembly and dados

Once all of the parts are scraped or sanded smooth, the legs can be attached to the aprons. Only glue up the side assemblies at this time. Gluing up on a flat, smooth surface helps to ensure that the parts are square and straight (Fig. 15).

Once the side assemblies dry, you can cut the  $\frac{5}{16}$ " dados to hold the smaller tables. Because of the delicate beads, I opted to use a stacked dado head in the table saw to cut them. This must be a stopped groove or it will show in the back of the table. I made a test cut to set the height, then marked the fence where the blade makes first contact to show where to stop the cut (Fig. 16). Unfortunately, this setup only works for the left-side assemblies, so move the table saw's fence to the opposite side of the blade to cut the dados in the right-hand sides. This is safer and more accurate than trying to drop the assembly down onto the spinning blades.

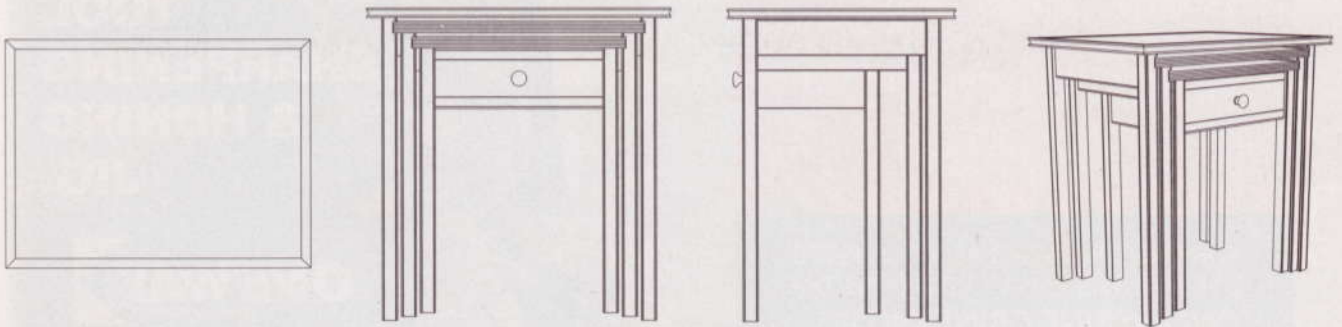
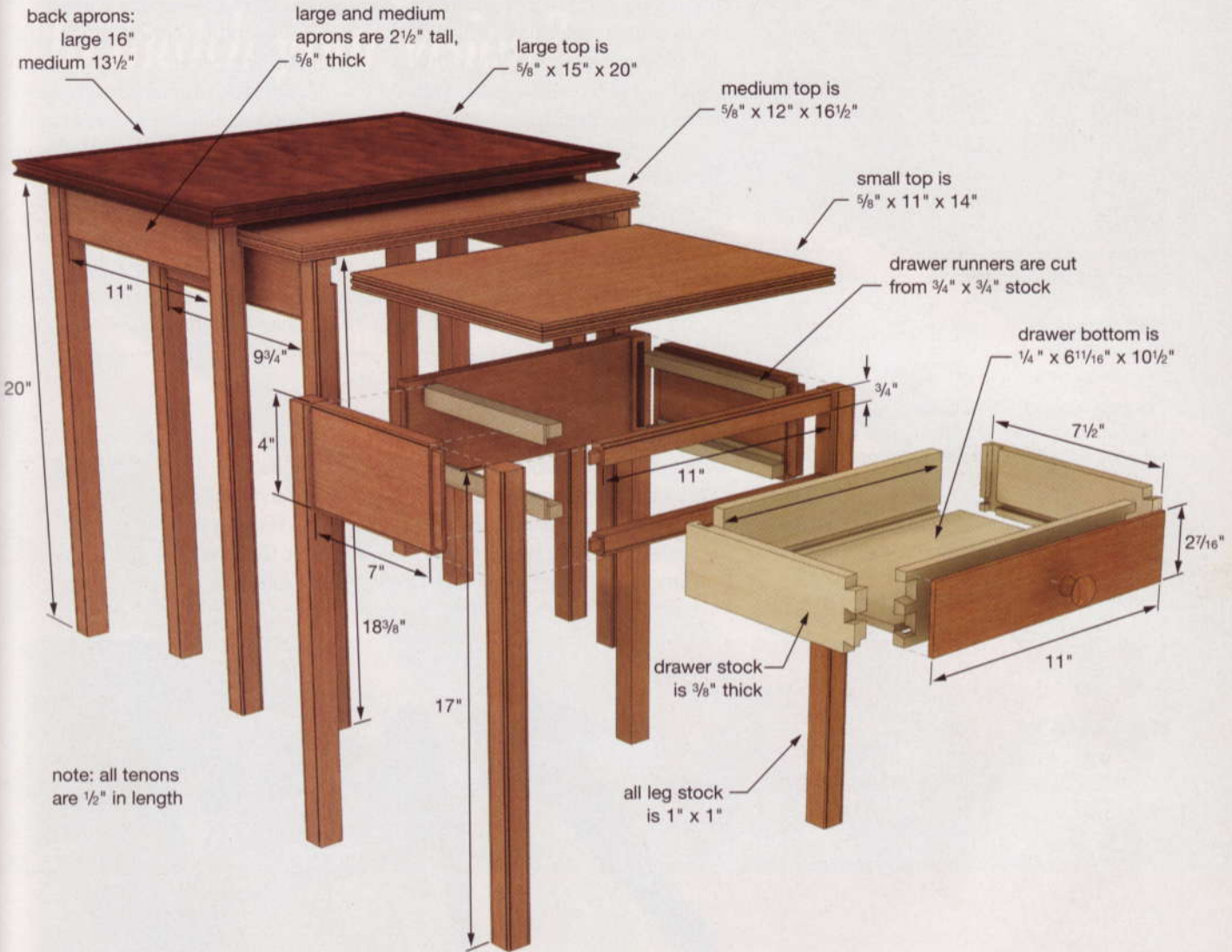
Because the aprons are inset  $\frac{1}{8}$ " inside the legs, the actual dado in the apron is only  $\frac{3}{16}$ " deep. Reset the depth of the dado stack to  $\frac{3}{16}$ " and cut the dados into the back aprons.

With all the milling finally done, it is time to attach the side assemblies to the back aprons. To ensure that the front ends of the aprons dry in the right position, I cut a scrap to keep them in the correct orientation, and clamped it in place during the glueup.

## Drawer and runners

The "C" table receives a small dovetailed drawer. Since there's only one drawer, rather than setting up a jig I hand-cut the blind dovetails by laying out the drawer front with a marking gauge, then chopped the pins with a sharp chisel. After lining up the sides with the front, transfer the tail locations to the sides. A few minutes' work with a handsaw and chisel complete the dovetail joinery (Fig. 17). Cut grooves on the inside bottom edges of the drawer components to accept the  $\frac{1}{4}$ " plywood bottom, while the drawer sides receive dados to mount the back (Fig. 18).

On antiques, the hidden parts were often made of cheaper secondary woods, so the drawer runners can be made from pine, poplar or any other scraps you have around the shop. You'll likely have plenty of mahogany scraps left over, so you might just want



## CUT LIST

A			
Top	5/8"	x 15"	x 20"
Back	5/8"	x 2 1/2"	x 17"
Sides	5/8"	x 2 1/2"	x 12"
Legs (4)	1"	x 1"	x 20"
B			
Top	5/8"	x 12"	x 16 1/2"
Back	5/8"	x 2 1/2"	x 14 1/2"
Sides	5/8"	x 2 1/2"	x 10 3/4"
Legs (4)	1"	x 1"	x 18 3/8"
C			
Top	5/8"	x 11"	x 14"
Back	5/8"	x 4"	x 12"
Sides	5/8"	x 4"	x 8"
Legs (4)	1"	x 1"	x 17"
Drawer front	5/8"	x 27/16"	x 11"
Front stretchers (2)	5/8"	x 3/4"	x 12"
Drawer sides (2)	3/8"	x 27/16"	x 7 1/2"
Drawer back	3/8"	x 27/16"	x 10 1/2"
Drawer bottom	1/4"	x 6 5/8"	x 10 3/8"
Drawer runners	3/4"	x 3/4"	x 7 1/4"

Molding stock: 2" x 2" in sufficient length to accommodate the 15" x 20" top. The author used about 84" to create his moldings.

Note: All main components are mahogany; however, any secondary wood may be used for the interior drawer parts and runners. The edgeband molding is of wenge, or a similar contrasting wood of your choice. All measurements are before cutting tenons.

to make the runners of that.

The runners are cut to wrap around the top and bottom edges of the drawer sides, and notched to fit inside the legs (**Fig. 19**). These are pretty thin parts so I prefer to mill them from a wider piece of stock, as I did for the edging. The runners should be glued at the front, and tacked along their lengths (**Fig. 20**).

## Finishing

With the completed apron assemblies dry, I applied the finish. The finish is easier to handle and less likely to run or drip at this stage.

I prefer to use either an oil-based

finish or a wipe-on polyurethane because they're simple to apply, make it easy to get good results, and don't alter the fine character of the wood I spent so much time selecting. I applied three coats of the wipe-on poly, wet-sanding between each coat with 600-grit paper.

If your style runs more to country or even mission, different species of wood and a few alterations in the details can result in a whole new look. Eliminate most of the beading and use painted poplar for a country look. Switch to quartersawn red oak, taper the legs and add some scroll detail to the aprons for a charming mission look. 🌻

## Ralph Bagnall

A professional woodworker for 20 years, Ralph Bagnall builds reproduction furniture in his home shop, and has been teaching and writing for the past several years. He recently moved from New Hampshire to the island of St. Croix, Virgin Islands, to pursue his woodworking in tropical sunshine.

