KITCHEN SHELVES

Keeping stuff handy becomes more and more of a problem as the years go by simply because we have more stuff to keep handy. If you find yourself tempted to throw out half of the family heirlooms, don't. Instead, make a new one to house the old ones.

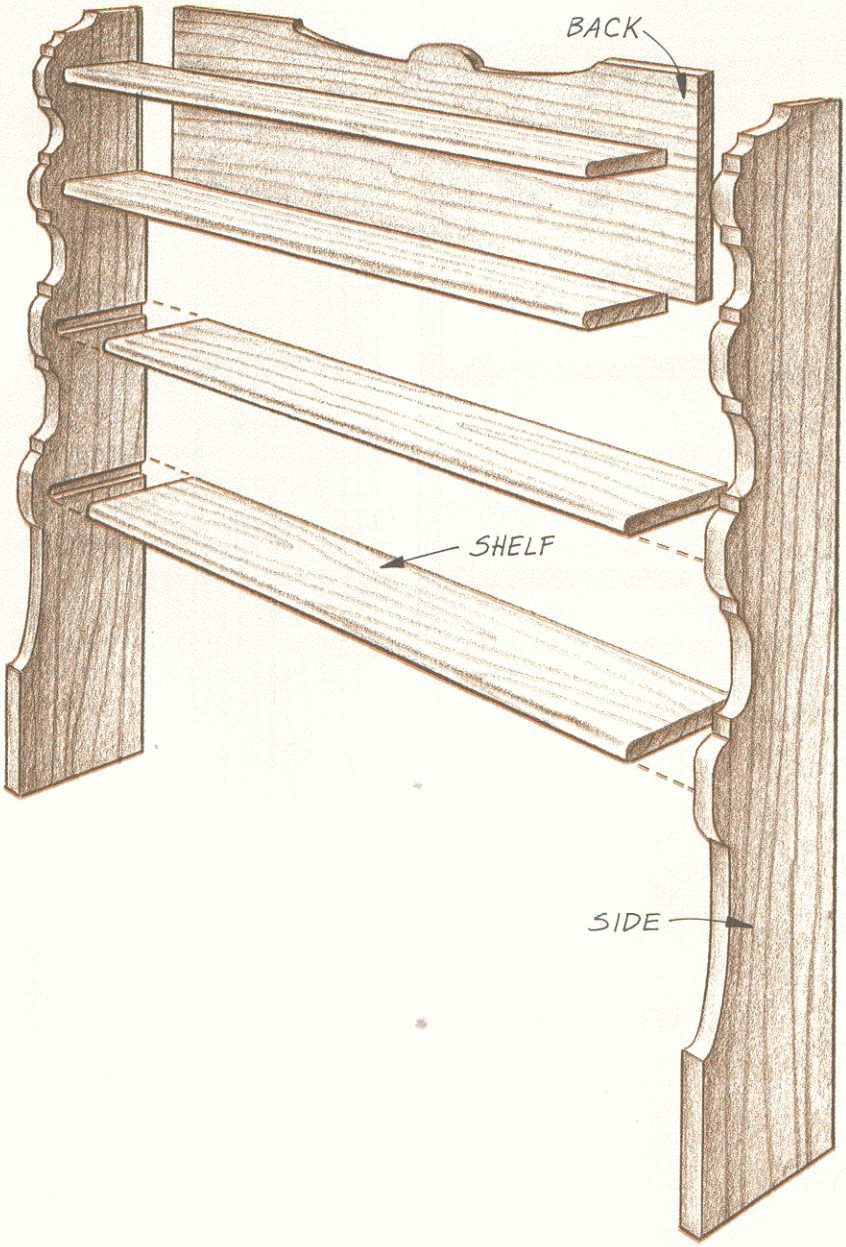
This simple shelf unit was designed to stand on a counter or a table against a wall, to fit comfortably in a traditional environment, and to be quick and easy to make. If you stand the shelves on a 36-inch-high counter, the top shelf will be just within reach.

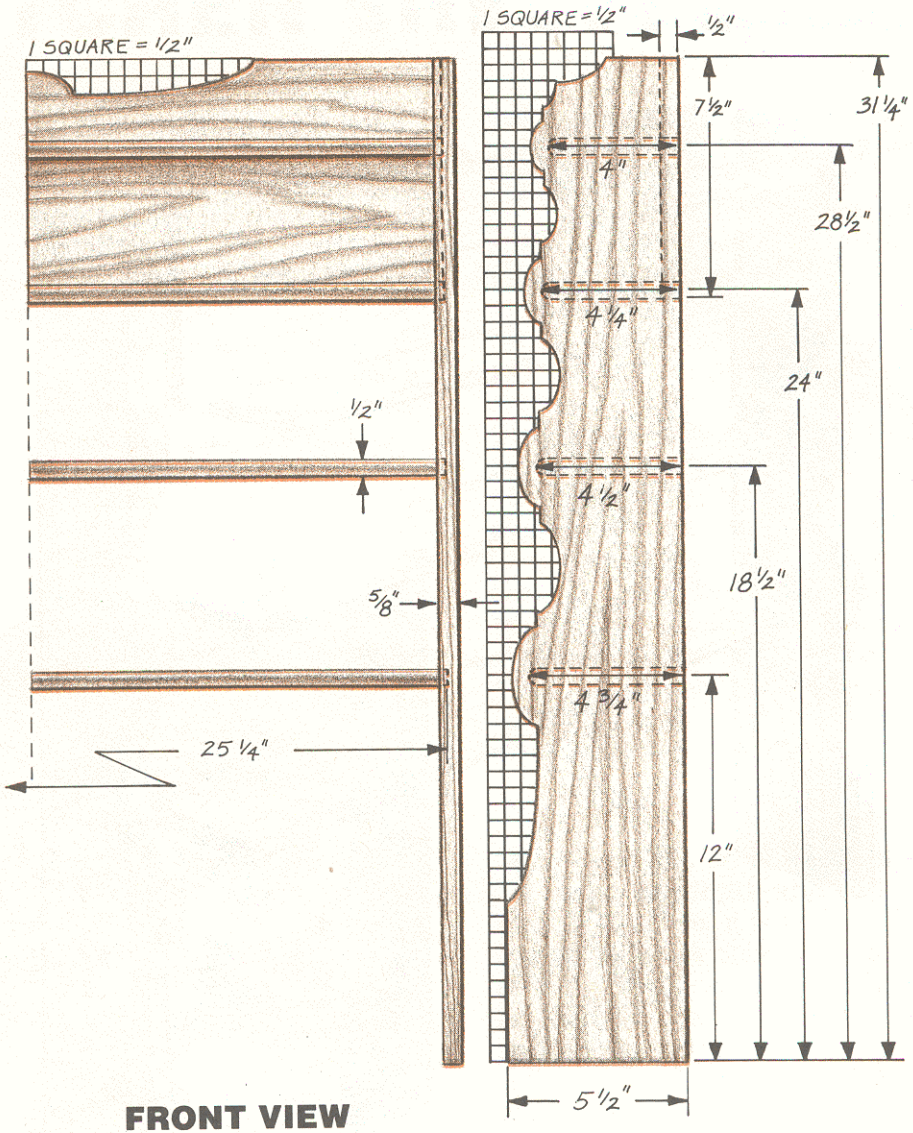
Since a great many woodworkers modify published plans to suit their individual needs, this project was designed to be easy to modify. To change the overall width, simply go through the Cutting List and change the length of the shelves and back; they're all the same. Changing the thickness of the stock couldn't be easier; just change the diameter of the router bit used to cut the shelf dadoes and adjust the width of the back slightly. Since the drawings dimension the dadoes to their centerlines, a thicker shelf will still be in the right spot in relation to the curves on the sides. You could even add a shelf at the bottom and hang the unit on a wall instead of standing it on a counter.

1 Select the stock and cut the parts to length and width. As mentioned above, it is very easy to change the stock thicknesses for the project. The thicknesses shown are appropriate for use with a strong hardwood such as maple or oak and give a more delicate, refined look. If you are building with pine or poplar, ¾-inch stock would be more suitable and would give a more robust, rural look. Do use stock that is free of knots and straight-grained; you don't want the unbraced shelves to look like potato chips after a year or two.

Cut all of the parts to the length and width specified by the Cutting List. The shelves and back should be exactly the

EXPLODED VIEW





FRONT VIEW

SIDE VIEW

same length so use a stop block clamped to a miter-gauge extension fence when cutting them to length.

2 Dado and rabbet the sides. The *Side View* gives the height of the dado centerlines above the bottom and the overall length of the dadoes. Lay out the centerlines and clearly mark the blind ends. Make sure you lay out a left and a right side, not two identical ones.

Chuck a straight bit with a diameter the same as the shelf thickness into your router. Adjust the depth of cut to ¼ inch. Clamp a straightedge to a side half the diameter of your router base away from a centerline and rout the dado. Depending on the style and condition of your bit and the power of your router, you may need to rout the dado in two passes, each removing ⅛ inch of depth.

Install the router's fence and rout the rabbet for the back. It's the same width and depth as the dadoes for the shelves.

3 Round-over the front edges of the shelves. Select a roundover bit with a radius equal to half the thickness of the shelves and chuck it in the router. Adjust the fence and depth of cut to cut a plain roundover with no fillets. Round-over the top and bottom of the front edges of all the shelves creating what is known as a bullnose as shown in the *Side View.* This bullnose should fit the rounded ends of the dadoes perfectly.

4 Cut the curves. Lay out the front edge and top end on the outside of one of the sides. If you happen to have a set of drafting templates for ellipses, you'll be interested to know that all of the curves are elliptical. If you don't, just sketch them out based on the grid in the *Side View.*

Clamp the two sides together and saw them out as one. A band saw with a narrow blade will be the easiest for this but a scroll saw or coping saw will do.

CUTTING LIST

Part	Dimensions
Sides (2)	⅝″ × 5½″ × 31¼″
Shelf	½″ × 4¾″ × 25¼″
Shelf	½″ × 4½″ × 25¼″
Shelf	½″ × 4¼″ × 25¼″
Shelf	½″ × 4″ × 25¼″
Back	½″ × 7½″ × 25¼″
Hardware	
22 dowels, ¼″ dia. × 1¼″	

Clean up the sawn edges with whatever works best for you. A round-bottom spokeshave, scraper, fine rasp, drum sander, or sandpaper on a flat or round block are all appropriate. Preserve the crispness of the outside and inside corners for the best appearance.

Lay out, saw out, and smooth the top edge of the back in like manner.

5 Assemble the shelves. The shelves are best assembled all at once so choose a glue with a long assembly time like liquid hide glue. Assemble the unit without glue first, to check the fit and familiarize yourself with the procedure, then do it all over again with glue.

Begin by adjusting a bar clamp to ⅛-inch-greater opening than the overall width of the shelf unit. Lay it, open jaws up, on a large flat surface. Apply glue to all of the dadoes, then assemble the two sides to the bottom shelf. Holding this unit together by hand, place it front edge down between the open bar-clamp jaws with one of the concave cutouts in the front edges straddling the clamp's bar. Don't tighten the clamp. Now insert the remaining shelves. The loose clamp will allow you to spread the sides enough to insert the shelves without scraping off all of the glue in the dadoes.

Brush glue onto the rabbets for the back and the back edge of the top shelf, then put the back in place. Check that all of the shelves are fully forward in their dadoes and that the back is flush with the bottom edge of the top shelf. Clamp the unit from side to side. Apply clamps only in line with the shelves and back, not between shelves. If you don't have enough bar clamps, use band clamps or stout cord wrapped around the unit and tightened with a tourniquet. Clamp the back to the top two shelves.

Check that the assembly is square by checking that the diagonals are equal; check that it's flat by sighting from one side to the other. The back edges of the sides should appear parallel. Let the glue dry for a day, or at least overnight.

Reinforce the joints by doweling through the sides into the ends of the shelves and back. Use dowels with a diameter equal to half the thickness of the shelves. They should enter the ends of the shelves a distance equal to twice the thickness of the shelves. Applying these rules here, use ¼-inch-diameter dowels 1¼ inches long.

Use two dowels in each end of each shelf positioned one quarter of the shelf width from the edges of the shelf. Dowel the back in the same manner, then add a third dowel in each end of the back midway between the first two dowels. Trim the dowels flush with the sides.

6 Apply a finish. Shelves take a lot of abuse. You can choose a finish to resist wear or one that doesn't show it. Modern clear finishes like polyurethane are durable but show the scratches that do occur. Oil finishes don't show the wear as much but are not as easy to keep clean if you intend the shelves for the kitchen. If you choose paint, a good choice for a project of this character, use a good enamel, or milk paint as described on page 100.