

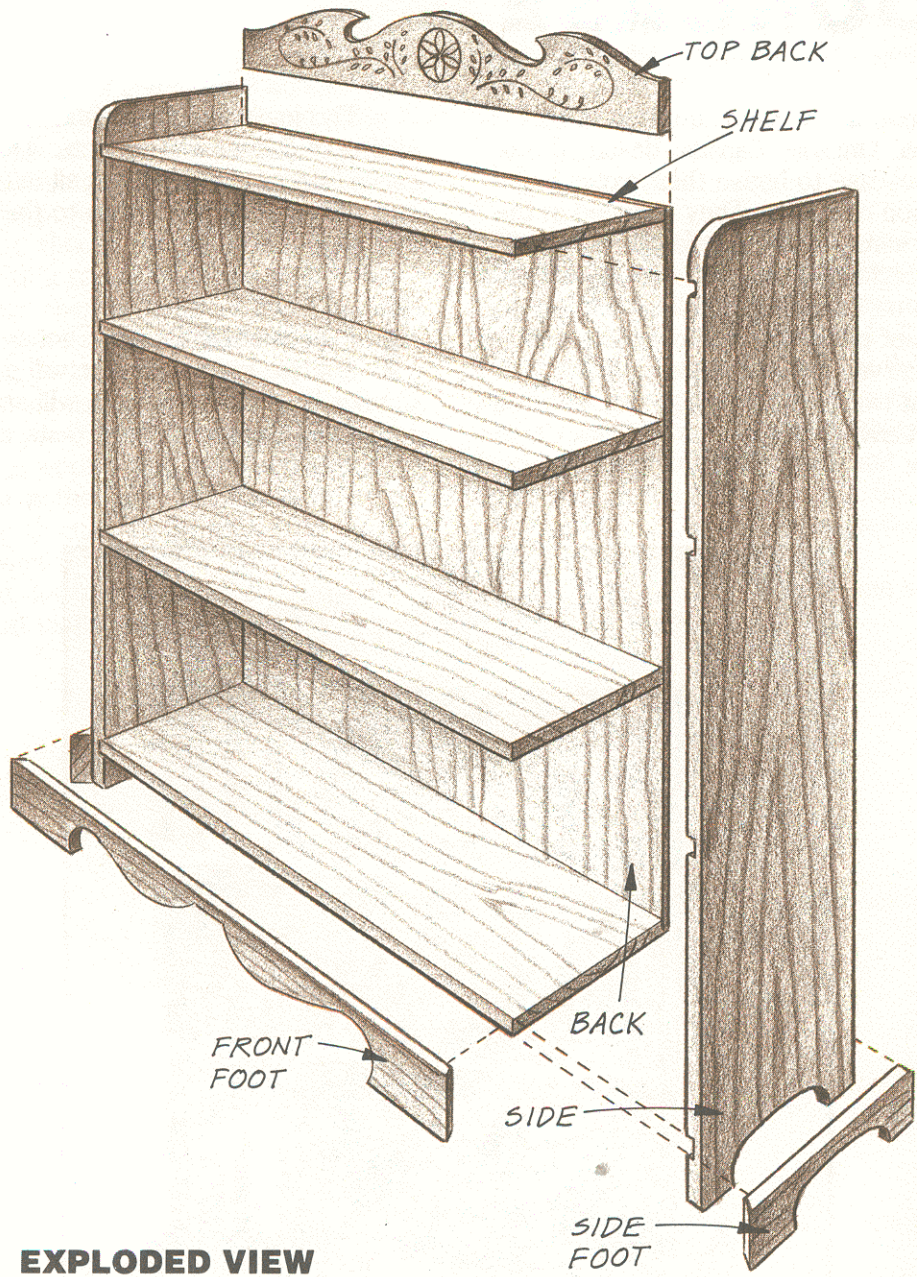
BOOKCASE

Brian and Faith Thompson of St. Thomas, Ontario, Canada, designed this oak bookcase to house their expanding collection of books. They included in the design some of the classic country decorative techniques such as wave-form shapes on the top of the back and on the front foot piece, carved foliar shapes, and a carved rosette made from a contrasting wood. It's a design that will fit a great many homes.

The joinery is uncomplicated, consisting of dadoes and rabbets. The carved decoration is not at all difficult and adds a very nice touch to the project.

1 Cut out the parts. Choose an attractive hardwood that will go well in your home. The rosette will show off to best advantage if it contrasts with the





EXPLODED VIEW

primary wood of the bookcase so choose a species for each while keeping the other in mind. The Thompsons used oak as the primary wood and walnut for the rosette. The back panel is 1/4-inch plywood with oak surface veneer. Saw and plane the parts to the sizes specified by the Cutting List.

2 Saw out the scroll work. Lay out the shapes of the top back, front foot, and side feet as shown in the *Shape Details*. Saw out the top back with a coping saw but leave the feet until later. Lay out and saw the rounded top front corners of the sides. Smooth the sawn edges with rasps and sandpaper.

3 Rout the dadoes. The shelves join the side panels in dado joints. The dadoes for the upper three shelves stop 3/8 inch from the front edge. The bottom shelf dadoes go all the way across the sides. All of the dadoes are 3/8 inch deep.

As you lay out the dadoes, make sure you mark where they stop and make sure you lay out a right side and a left side.

To cut the dadoes, chuck a 3/4-inch straight bit into your router and set the depth of cut to 1/8 of an inch. Clamp a straightedge to a side of the bookcase to guide the router and cut the first 1/8 inch of depth. Remember the stop marks at the front edge. Repeat the cut twice, lowering the bit 1/8 inch each time for a total depth of 3/8 inch. Then move the straightedge for the next dado and repeat until all eight dadoes are cut. Square the stopped ends with a chisel.

4 Rabbet the back edges of the sides. The back and top back fit into rabbets in the back edges of the sides. The rabbet for the plywood back is 1/4 inch wide while the rabbet for the top back is 3/4 inch wide. Both rabbets are the same depth as the shelf rabbets, 3/8 inch. Rout the back rabbet first, then

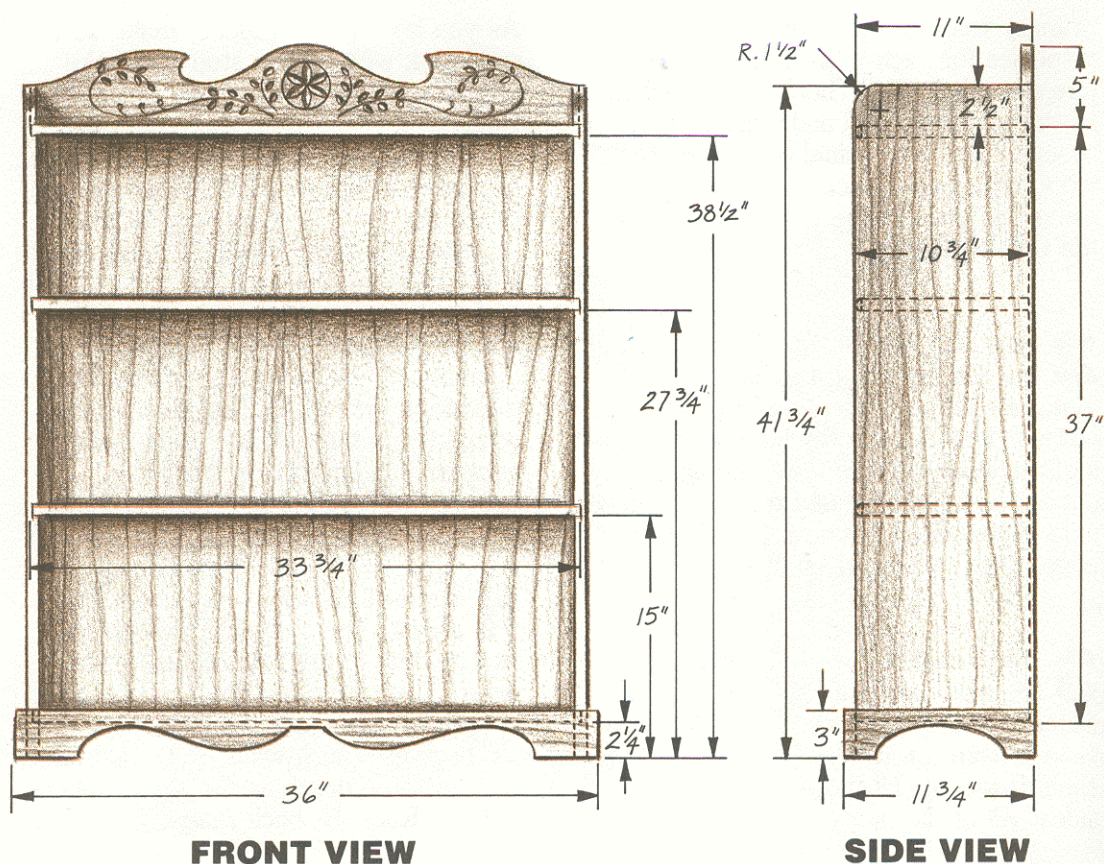
CUTTING LIST

Part	Dimensions
Top back	3/4" × 5" × 33 3/4"
Sides (2)	3/4" × 11" × 41 3/4"
Shelves (4)	3/4" × 10 3/4" × 33 3/4"
Back*	1/4" × 33 3/4" × 37"
Front foot	3/4" × 3" × 36"
Side feet (2)	3/4" × 3" × 11 3/4"

Hardware

3/4" wire nails

*Make from plywood to match solid wood.



widen it from the top shelf rabbet to the end of the side for the top back.

5 Notch the shelves. Lay out $\frac{3}{8}$ -inch \times $\frac{3}{8}$ -inch notches at both ends of the front edges of the top three shelves. These notches allow the shelves to fit into the blind dados. Saw them out with a fine-tooth backsaw.

6 Carve the leaf pattern. Sand the top back ready for finishing, then lay

out the foliar decoration. Well-marked lines will make the carving job easier. Clamp the top back to your workbench.

Carve the stem lines first. Where the stem goes in the same direction as the grain, you can use a small V-shaped carving chisel. Cut these parts of the pattern in stages, a shaving at a time until you reach the depth that you want. Apply steady even pressure, without forcing the blade. Keep the chisel sharp.

Where the stem crosses the grain you will find it much better to use a straight chisel, cutting down the sides of

the stem at the same angle as the previously cut stem parts.

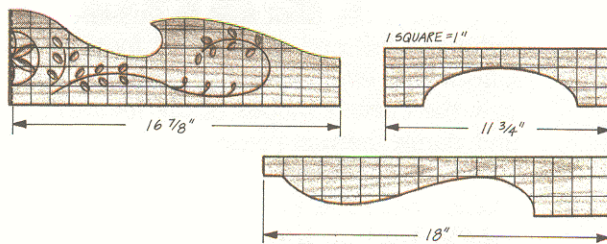
Cut the oval leaves with an 8- to 10-millimeter gouge. Make a leaf in two cuts, one from each end of the leaf.

7 Carve and fit the rosette. The rosette is a contrasting decorative element $\frac{1}{4}$ inch proud of the surface of the top back. The rosette itself is carved in $\frac{3}{4}$ -inch-thick stock and then recessed $\frac{1}{2}$ inch into the top back.

Cut the recess first by sawing the circle with a hole saw mounted in the drill press, then routing out the waste. The Thompsons then beveled the edges of the recess at 45 degrees, a nice touch that you can follow if you like.

Lay out the rosette pattern on a piece of stock larger than the finished plug. Unlike the leaf pattern where the design elements are carved out, the rosette background is carved out leaving the design elements in relief. Each line shown in the *Shape Details* must therefore be drawn as two parallel lines indicating the outside edges of the parts that will be in relief. These parallel lines can be about $\frac{1}{16}$ to $\frac{3}{32}$ inch apart. Clamp the stock with the layout to your workbench.

Begin the carving by cutting down along the lines with a chisel or carving knife. These outline cuts should angle slightly toward the waste areas. Remove the waste in the background with gouges. Deepen the outline cuts and remove more background waste until the rosette pleases you. The Thompsons even hollowed out the interior of the flower petals. When the carving is complete, saw out the circle, sand the edges, and glue it to the top back.



SHAPE DETAILS

8 Assemble the case. Sand all of the parts, easing the edges that will be exposed as you go. Assemble the bookcase without glue to make sure everything will fit properly.

Apply glue to the shelf dados and the rabbet for the top back. Assemble the shelves and top back to the sides. Make sure the shelves are flush with the sides at the front. Clamp the assembly and check that it is square by checking that the diagonals of the case are equal. When the glue is dry, remove the clamps and apply glue sparingly to the rabbet for the plywood back and the back edges of the shelves. Put the back in place and nail it with $\frac{3}{4}$ -inch wire nails. You may find it helpful to drill pilot holes for the nails.

9 Install the feet. The front and side feet are mitered together at the front corners. Hold the left side foot in position on the case and mark where the front edge of the side falls. Miter the left foot at the line, then miter the left end of the front foot. Hold these two parts in position with the miter joint closed tightly and mark where the front edge of the right side falls on the front

foot. Miter the front foot to this line and miter the left end of the right foot. Check that everything fits properly, then saw the curved shapes of the feet. Glue and clamp them in place.

10 **Apply a finish.** You can apply a stain but, if you do, make sure the rosette will still contrast nicely with

the rest of the bookcase. Choose your final finish carefully. A film finish like polyurethane is very tough, a desirable characteristic for shelving, but will show the scratches that do occur more than an oil finish will. An oil finish, on the other hand, has a tendency to bleed out of some woods like oak and if not thoroughly cured can stain your valuable books.