Corner Cupboard

This space-saving piece enhances any room

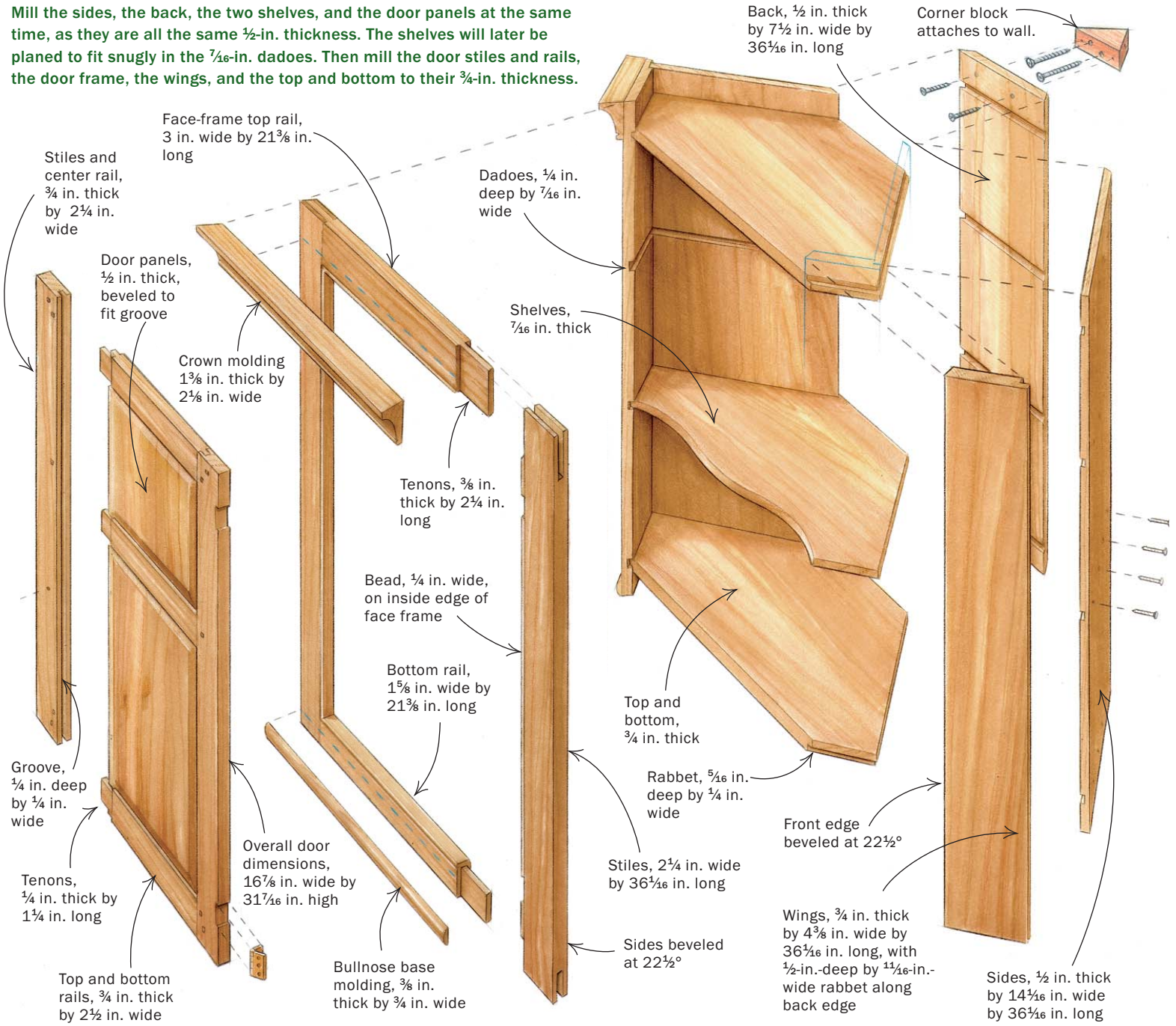
BY GARRETT HACK

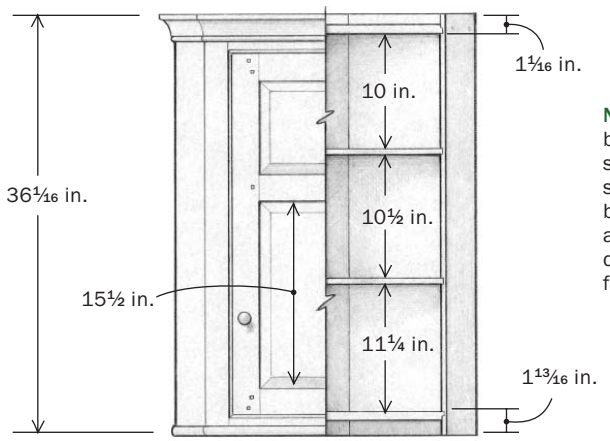
On every trip to the Shelburne Museum near Burlington, Vt., I visit a favorite object—a small hanging corner cabinet. With a single curved door, nicely shaped cornice, and molded base, the cabinet beams from its corner. Shelburne's cabinet was on my mind as I set about designing one for my house. The result is a country-style piece with delicate details.

Because so much of the carcase is hidden, a possibility is to build most of it from a less-expensive secondary wood, and the cabinet's facade from some special figured wood. However, I decided on butternut, walnut's country cousin, for the entire piece because of its warm brown color,

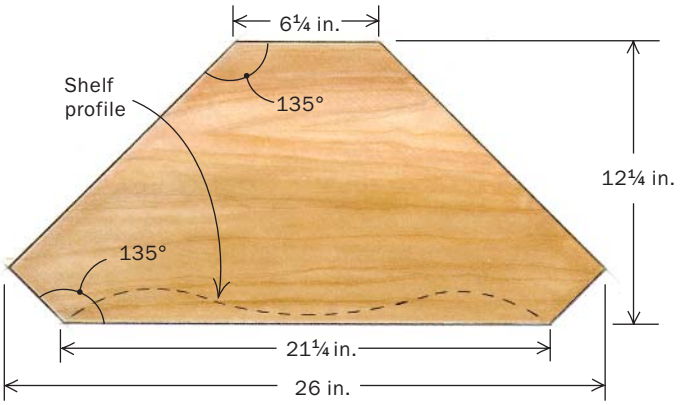
CORNER-CABINET CONSTRUCTION

Mill the sides, the back, the two shelves, and the door panels at the same time, as they are all the same ½-in. thickness. The shelves will later be planed to fit snugly in the 7⁄16-in. dadoes. Then mill the door stiles and rails, the door frame, the wings, and the top and bottom to their ¾-in. thickness.





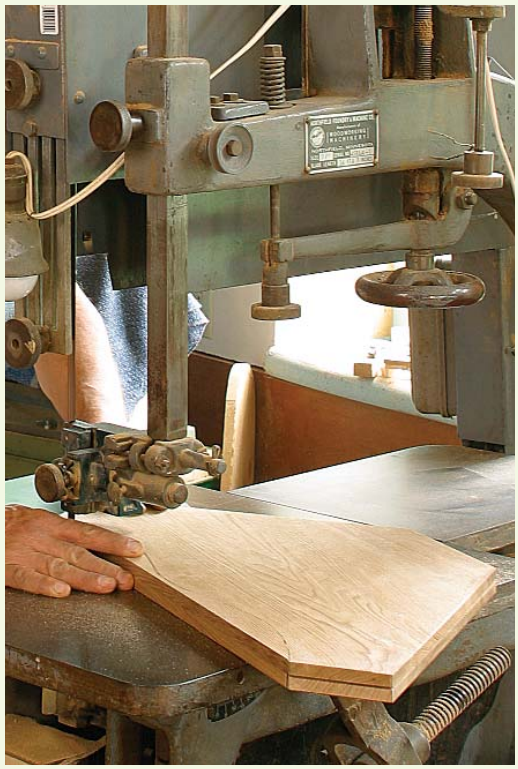
NOTE: The top, bottom, and shelves have the same dimensions, but the shelves are cut with a decorative curved front.



Drawings: Bob La Pointe

CONSTRUCT THE CASE AROUND THE SHELVES

Lay out the pieces. *Use a combination gauge to lay out the lines on the top, bottom, and shelves where the wings will meet the sides (left).*



Profile the shelves. *Stick the two shelves together with double-faced tape and then use a bandsaw to cut the profile on both pieces.*

pleasing grain, and delightful workability with plane and chisel.

Use a full-size plan to help cut parts with odd angles

A full-size plan helps me visualize the parts, their angles, and the way they join together. It also allows me to lift dimensions and joinery details directly from the drawing, which results in fewer errors.

Mill the sides, the back, the two shelves, and the door panels at the same time, as they are all the same ½-in. thickness. The most economical and efficient way to do this is to resaw an 8/4 plank, grain-match the pieces, and glue up the parts. If you have some wide boards, so much the better. Then mill the door stiles and rails, the face frame, the wings, and the top and bottom to their ¾-in. thickness. Leave every part square edged for now.

Now cut the shelves, top, and bottom to shape, measuring from the plan. A useful way to get all of these parts the same size is to clamp them together and plane each set of four edges at once. Check with a large square that the two sides are angled at 90°.

The top and bottom are rabbeted on all edges but the front, to produce a tongue to be fitted into the dadoes in the back, sides, and wings. When rabbeting the bottom of the top, note that it's a visible surface. Finish planing the inside surface of the bottom (the first shelf) before creating the tongue, so as not to change its size. I used a rabbet plane to fit each tongue in a dado cut in scrap to avoid damaging the actual piece. Chamfer the edges of the tongue so that it will enter the dado easily when gluing up.

Cut to length the sides, wings, and back, and lay out the four dado cuts on one of the parts. I cut the dadoes on a tablesaw, but they also could be cut using a router. Reference each dado cut from the bottom of each part, and run the same dado on the back, wings, and sides with each setup. The dadoes are ¼ in. deep by 7⁄16 in. wide; the shelves are planed to a snug fit. Be sure to run the same dado on a scrap or two to aid fitting the top and bottom later.

Photos: Mark Schofield

Join the wings and sides. *Check that the wings and sides meet at 90°, then glue the joint, reinforcing it with brads.*

Dry-fit the carcase before final assembly. *To check how the parts fit, lay one side and wing on the bench, insert the top, bottom, and shelves in their dadoes, then lower the other side into place (above). For the final assembly, secure the sides with glue and screws. Angle the holes forward so that the screws securing the top, bottom, and shelves bite into side grain. Attach the back using only screws to allow for seasonal movement (left).*

On each of the wings, first rabbet one edge at least 3⁄16 in. wider than the thickness of the sides to create a small extension for fitting the cabinet to the wall later. Referencing from the rabbeted side, cut each wing to width and at the bevel angle it will meet the face frame—22½°. Plane this edge for a tight-fitting miter. Cut the cabinet sides to width and their back edges at 45°. Plane and sand the insides of the sides and the wings and glue them together. Make sure the dadoes are aligned and the parts are square to one another. Clamp them and add a few small screws or brads.

Dry-fit the case and shape the shelves

Dry-fit the two side and wing pieces, the shelves, and the top and bottom, using a screw or two to hold things together, if needed. Now mark where the curve of the

1 MAKE THE FACE FRAME

Bead the inside edge. *The beading on the inside edges of the stiles and rails can be cut using a scratch stock, a router, or a molding plane.*

Cut the bridle joint. *Use a tenoning jig to cut a slot in the end of each stile of the face frame. The rails of the frame are tenoned to fit the slots in the stiles, completing the bridle joint.*

Mitered bead. *Using a guide block that straddles the stock (top), cut the face-frame beading at a 45° angle. Done correctly, the joint is seamless.*

shelves starts, on the inside of the cabinet where the bevels of the wing and face frame meet. The front edges of the top, bottom, and shelves should be flush with the inside edge of the wings' bevel. The back edges of the top, bottom, and shelves should extend nearly ¼ in. to enter the dadoes in the back piece.

Disassemble the case and mark out the shape of the front edge of the shelves. Cut close to the line on the bandsaw and use a spokeshave to plane it to a smooth and fair curve. If you wish to display plates, cut a plate groove in the shelves and/or bottom with a tablesaw or router. The groove should be ¼ in. deep by ⅜ in. wide, and stop 2¼ in. from the sides.

Bead and build the face frame

The face frame consists of two rails and two stiles. The frame strengthens the cabinet, adds rigidity to the door opening, and provides a place to attach the cornice and base moldings. The stiles of the frame have beveled edges that mate with the cabinet's wings. Leave the stiles at least 5⁄16 in. oversize in width and square edged.

Before cutting any joints, bead the inside edges of the stiles and rails with a scratch stock, a router, or a molding plane. Use scrapwood to set up the tablesaw to cut the slots and tenons for bridle joints that connect the rails and stiles. To produce the neat appearance of a mitered bead at each inside corner of the face frame, cut away a section of wood from the side of the tenon and the slot. The width of this cut is equal to the width of the bead. With a guide block straddling the stiles and rails, use a chisel to pare away the bead and quirk at a 45° angle.

Trial-fit the face frame and beads, sand the beads smooth, and mark out and cut mortises for the hinges. Finally, glue the frame together, leaving it oversize in width.

Assemble the case

Before assembling the case, plane or sand the shelves and the inside surfaces of the top (the bottom was done earlier). Do one last dry-fit of the entire case, less the face frame and back, which will be added later. Drill holes in the sides for the screws, angling them toward the front to grab some of the side grain of the top, bottom, and shelves.

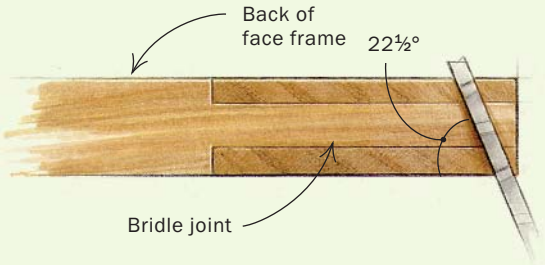
Glue the bottom, shelves, and top to one of the side pieces; then with this assembly lying on its side, add the other side. Very little glue is needed.

Be careful not to damage the exposed miters on the wings. Check that the shelves, top, and bottom are in their proper position, and screw the case together. Cut the back to size, plane or sand the inside surface, and attach it to the sides using screws but no glue because it is cross-grain to the shelves.

The last and trickiest part of the assembly is to fit the face frame. To gauge the location of the miters, lay the frame on the carcase, centered in the opening. Mark the miters with a pencil, and then go to the tablesaw and rip both at 22½°, leaving the lines visible.

2 FIT THE FRAME TO THE CASE

Bevel the face frame. *Rip a 22½° bevel on the stiles of the face frame. Make sure to leave a little margin that can be planed away when fitting the frame.*



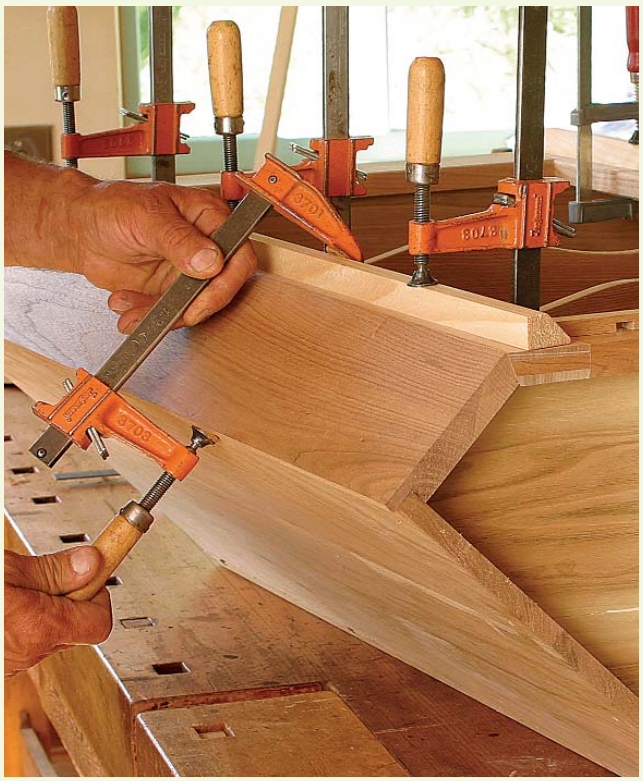
Fit the face frame. *Check that the wings and frame form a tight miter joint when the frame is in contact with the top and bottom of the cabinet.*

What's tricky about the final fitting is maintaining the miter angles where the face frame and wings mate, and fitting the frame tightly against the top and bottom. With a handplane, take a shaving at a time from the frame and/or the top of the wings, checking the fit as you proceed.

Both long-edge miters are glued as well as the front edges of the top and bottom. Apply glue sparingly so as not to have much squeeze-out on the inside surfaces, where it will be difficult to clean up. To achieve clamping pressure at the correct angle for the miter joint, rip a 22½° bevel on one corner of two strips of scrapwood. Clamp a strip to each stile and then use clamps pulling on the strip and the back of the case to pull the miter together.

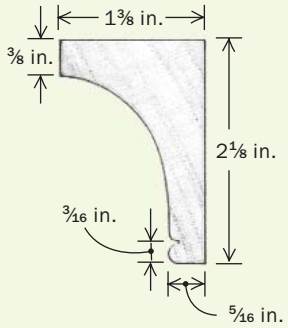
Add moldings to the top and bottom

The style of the case moldings can dramatically alter how this cabinet looks (see the bottom drawing on p. 52). I chose a cove for the crown that can be cut on a tablesaw



A tricky clamping angle. *Clamp a strip of wood with one corner beveled at 22½° to the face frame. Use this as a caul to draw the face frame and the wing together at the correct angle.*

ATTACH THE CROWN MOLDING



A perfect fit. *When mitering the molding, fit the center section first, and then cut the side sections to fit. Use the quirk between the bead and the cove to hide the brads that help secure the crown molding to the face frame.*

or shaper, with a scratched bead at the base. The bullnose base molding is formed on a router table.

Starting with the center section, mark and miter the molding around the front of the cabinet. Each piece can be glued in place and secured with brads from the front or with small screws from behind. The side pieces of the molding should extend right to the outside edge of the wings so that they can be fitted to the wall with a block plane when the cabinet is hung.

Build and hang the door

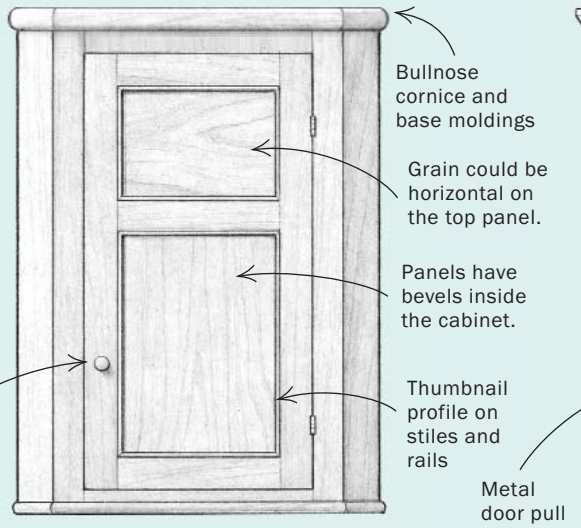
When building the frame-and-panel door, size it ever so slightly large to allow some planing for a final fit. Lay out and cut the haunched mortise-and-tenons. Cut grooves for the panels all relative to the front face of the door.

The panels can be made many ways: as a traditional fielded panel, as a flat panel, with beaded edges, or with very fine bevels, as in this design. After dry-fitting the door and panels, disassemble the door parts enough to remove the panels and chamfer the inside edges of the frame with a plane.

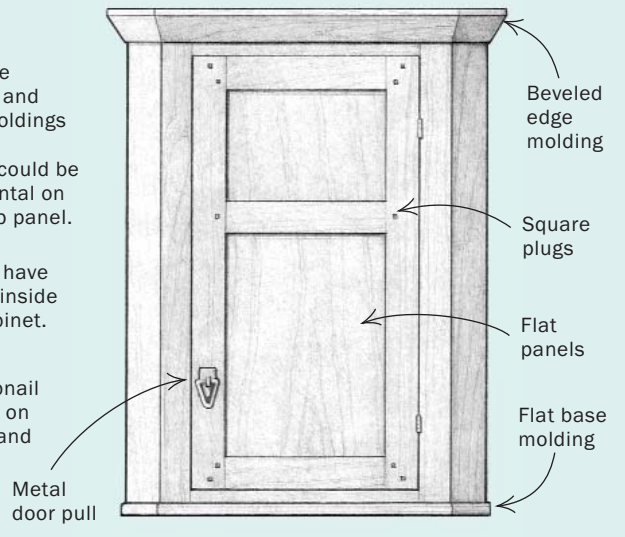
Plane and sand the door parts, then glue them together. Fit the door tightly to its opening by first fitting along the hinge side, the bottom edge, the other stile edge, and the top edge. The final fitting happens after the door has been hung. Secure the hinges to the face frame (in their

DETAILS DEFINE THE STYLE

Changing the style of the moldings and panels can change the appearance of this cabinet dramatically. For instance, the Shaker-style corner cupboard could have bullnose moldings, and the Craftsman-style one could be built with flat panels and flat or angled cornice moldings.



SHAKER STYLE



ARTS AND CRAFTS STYLE

BUILD AND HANG THE DOOR

Raised door panels. *The delicate bevel on the front of the door panels can be cut with handplanes. A block plane works best on the end-grain bevels.*

Assemble the door. *The cabinet door is a frame-and-panel design with mortise-and-tenon joinery. The extra length on the ends of the stiles is sawn away after the door has been glued.*

previously cut mortises), hold the door in place against them, mark out the hinge locations, and cut the mortises on the door stile. Hang the door and adjust the final fit by planing the unhinged stile and the top and bottom rail as needed.

The last step in building the cabinet is to turn a knob on the lathe and wedge it in place on the door.

Apply a finish and hang the cabinet

I finished this cabinet with three coats of a thinned oil/varnish mixture, and buffed out the final coat with 0000 steel wool and my special beeswax finish (see *FWW* #150, pp. 37-38).

The simplest way to hang the cabinet is to find the first two wall studs away from the corner and screw into them through the sides above the top. Then screw through the top of the back into a corner block secured to the wall. Fit the cabinet to the wall by scribing and then planing the small extensions on the wings. □

Garrett Hack is a contributing editor.

Mark the hinge locations. *With the door held in place, transfer the hinge locations from the face frame to the door.*

Chop the mortises. *When cutting the hinge mortises in the stiles, protect the door from the vise with a piece of leather.*