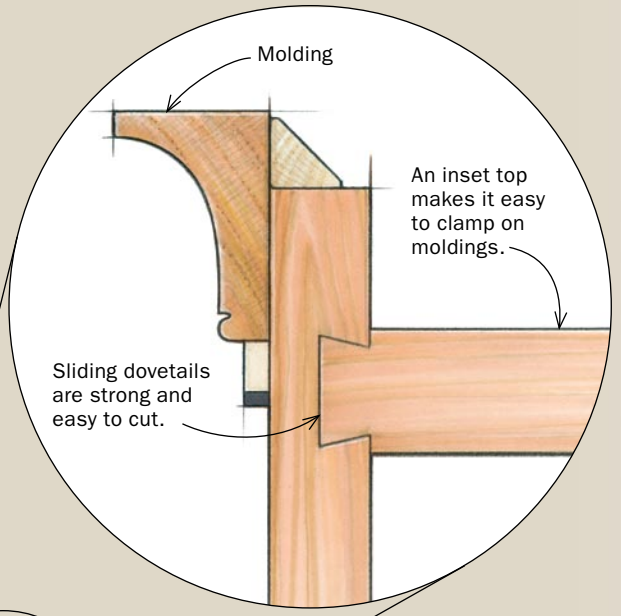
A Better Way

Sliding dovetails and an unorthodox face frame make the case stronger, better looking, and easier to build

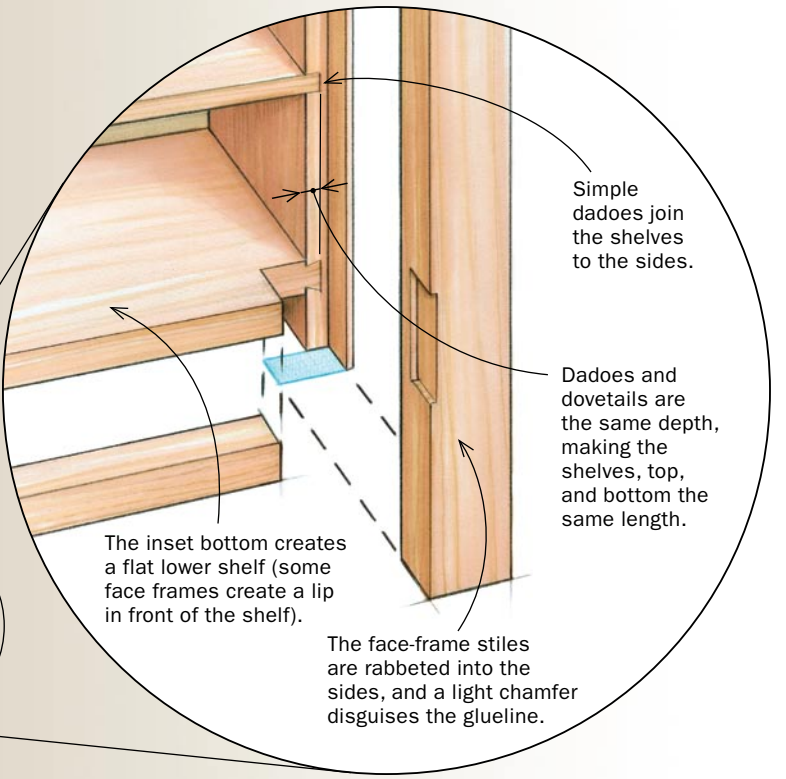
BY GARRETT HACK



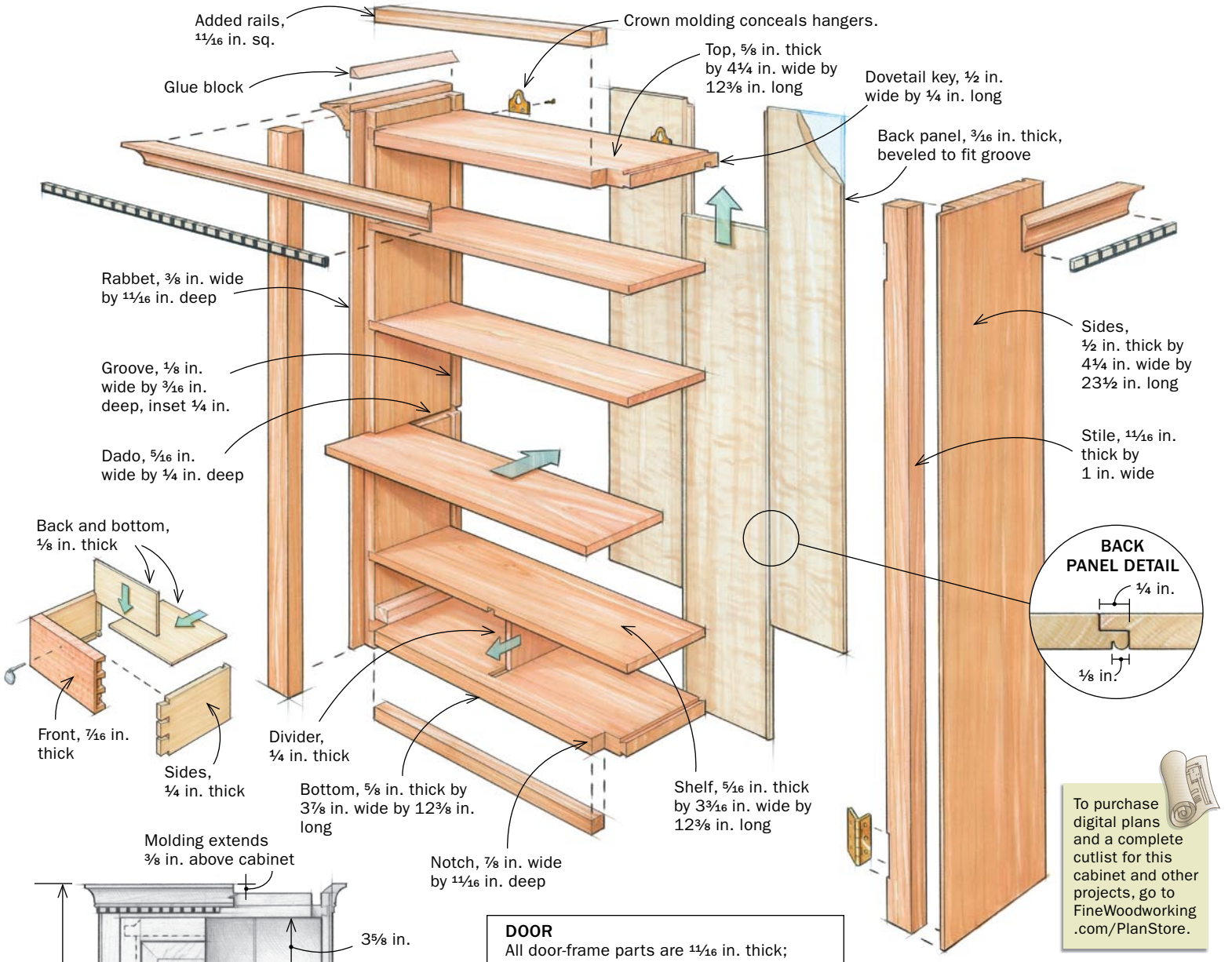
I made this nice little wall-hung cabinet to hold tools, but it could easily find a spot inside a home and hold small knickknacks. What's interesting about this project is the uncommon way I build the case. The process is efficient, and it yields a strong and very attractive piece with a lot of room for design variations.

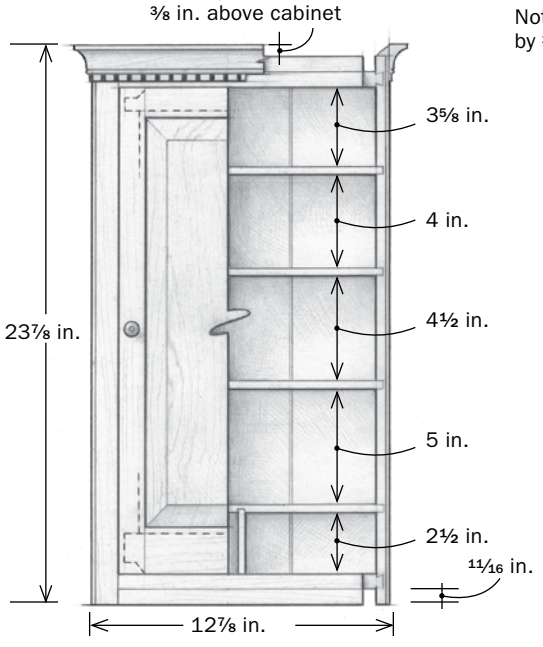
The main joints are sliding dovetails, which are rock-solid and easily made with a tablesaw and router. Using sliding dovetails forces me to inset the top and bottom of the cabinet, but that works to my advantage, as you'll see.

Also, I use an unusual face-frame variation, which blends more seamlessly with the case. Basically, I cut a deep rabbet in the front edges of the case and glue the stiles into that rabbet. That leaves the glueline very close to the corner, where I can disguise it easily with a chamfer, a bead, or a bit of banding, for a variety of looks. Note that the rails are added later, simply glued to the top and bottom of the



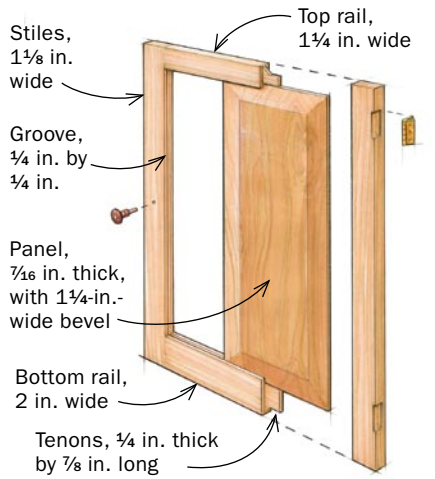
to Build Wall Cabinets





DOOR

All door-frame parts are 11/16 in. thick; overall dimensions are 10 5/8 in. by 20 5/8 in.



To purchase digital plans and a complete cutlist for this cabinet and other projects, go to FineWoodworking.com/PlanStore.

TIP

SIZE THE CASE TO THE BANDING

To ensure that the banding ends with black stripes on each end, mill the banding stock first and tick off the exact case width on a story stick.

Photos: Michael Pekovich; drawings: Bob La Pointe

Cut all the joinery at the same time

Perfect alignment, guaranteed. *To be sure all the dadoes and dovetail slots align perfectly, tape the sides together (above) when you cut the joints. Start by cutting the sides to length on the tablesaw, then install a dado blade to cut the shelf dadoes (right). Cut the same 5⁄16-in.-wide dadoes at the sliding-dovetail locations. This will clear a path for the dovetail bit (below).*

Rout the dovetail slots and keys. *With the case sides still taped together, set a dovetail bit at the same height as the dadoes and rout the slots (above). Without moving the bit, adjust the fence to cut the keys in the case top and bottom (right).*

A few more steps. *After grooving the sides and top for the back panel, rabbet the sides for the face frame (right).*

VIDEO WORKSHOP

Watch Hack build this tool cabinet from start to finish in a members-only video at FineWoodworking.com/extras.

case. These also act as blocking for any moldings you want to add.

You might ask, why have a face frame at all? The first reason is that the sides are thin and a face frame allows you to create whatever thickness looks best at the front edges. Also, it lets you run through-dadoes for the shelves. Without a face frame, you would have to cut stopped dadoes to create a clean look at the front. Finally, it is easier to cut hinge mortises in the face-frame stiles while they are loose than it is to cut them in the sides themselves.

The design is best for hanging cabinets, but it works for floor-standing cabinets as well. The "ears" (the part of the sides that extends above the sliding dovetails) can be as short as ¾ in. and hid behind a molding. Or an overhanging top can be added.

Banding determines the cabinet width

I often add a banding under the crown molding to serve as a transition between the molding and the case. It might seem like an unusual place to start, but to get the cabinet width and the length of the top and bottom pieces, I need to know this banding length. The idea is to end up with a uniform black square on each end of the banding.

So after I ripped up the black and white pieces (ebony and holly) on the tablesaw, I laid out the sandwich and then used it to tick off the full banding length on a story stick. Then, to get the width of the cabinet,

Assemble in an orderly fashion

Shelves first. *Start by gluing the shelves into their dadoes and clamping them in place (above). Slide the case top and bottom into place from the rear (right).*

TIP

CUT HINGE MORTISES BEFORE ASSEMBLY

It's easier to cut the mortises for the hinges in the stile before gluing it into the case.

Face frame comes next. *Check the fit of the face-frame stiles, and then glue them into their rabbets (left). Complete the face frame simply by gluing rails to the case top and bottom (right).*

I had to subtract the slight overhang of the banding. Last, I marked the length of the crosspieces on the story stick. Because the dadoes and dovetails are the same depth, you can cut the shelves, top, and bottom to the same length with the same setup—another bonus.

Cut the joinery

Start with the sides of the case. Leave them a bit long and tape them together as shown (facing page). Mark the finished length of the sides and lay out the dadoes for all the crosspieces (even the sliding dovetails start out as dadoes). After cutting those dadoes, move to the router table to turn the dadoes for the top and bottom of the case into sliding dovetails. The next step is to cut the dovetail keys on the top and bottom of the case. Run both sides of the dovetail past the bit, and creep up on a nice fit. The dovetail key should slide partway in with only a small amount of pressure.

Now you can rabbet the sides and notch the top and bottom of the case for the face-frame stiles. Plane the stiles to fit perfectly later.

A raised back in three pieces

You can put any type of back into a cabinet like this, but I use a three-piece solid-wood back, shiplapped together. This lets me distribute the wood movement over four gaps instead of two. It also allows me to add a bead to the joints that looks great inside the cabinet. I beveled the edges to fit into a small groove in the sides and top, making the back look like a raised panel.

Finish off the shelves

Now you can complete the shelves. They've been cut to final length, but should still be a little thick. Take time now to plane them by hand or power to fit their dadoes.

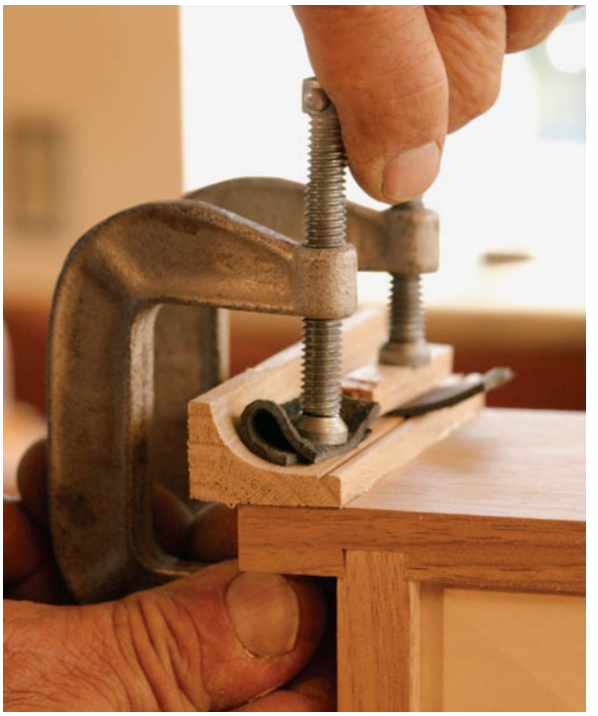
I add a vertical divider under the bottom shelf. That allows for two small drawers, or one drawer and an open shelf. Note that the bottom dado for the divider doesn't extend all the way to the front, so it must be a stopped cut, made with a router.

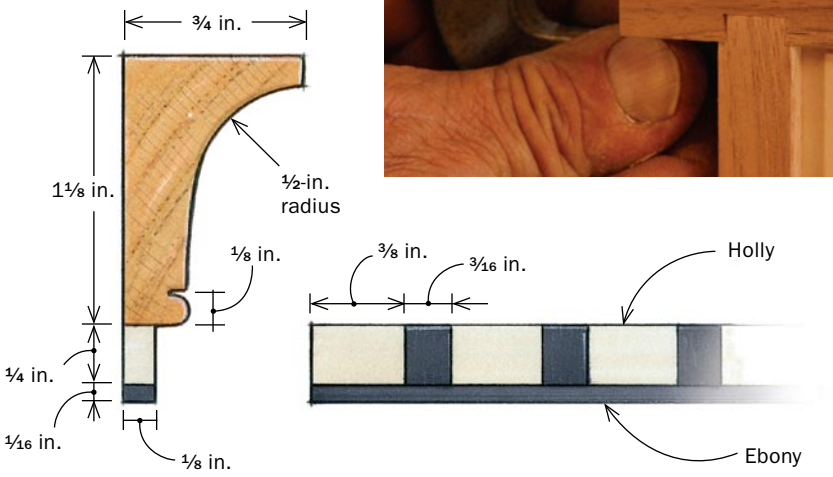
Glue up in stages

Make sure all the parts are marked clearly so you know where they go and which

Install the divider and back. *Press the divider into place (above) and plane it flush after the glue has dried. The back consists of three shiplapped boards that are beveled to fit the grooves in the case sides and top. Slide them in from the bottom (right) and nail them to the shelves.*

Add the molding. *The "ears" that extend beyond the dovetailed case top provide a convenient clamping surface for the molding. A bead, cut with a scratch stock (above), is a nice transition for the banding.*





end is which. Follow the stages shown in the photos. Use only a small amount of glue on the beginning of the dovetail slot and key. Too much will cause the joint to swell and bind. Check the case with a square as you assemble it.

Finishing touches make the difference

There are lots of ways to finish off the top of a wall cabinet. It needs something; otherwise, it looks too much like a box. I used a cove molding, with that little banding just below it. One advantage of this case construction is the extra pieces (I call them "ears") that stick up beyond the sliding dovetail to give it strength. They are the perfect place to clamp those moldings. They were so short that I wasn't worried about cross-grain movement. With a deeper cabinet, I might screw them on from the inside, running the back screws through slotted holes. Of course, the front molding can always be glued on with no issues.

You can use any method you like for the door, drawer, and even the back of the cabinet. This approach to construction is very versatile, and works for cabinets of all sizes with all kinds of molding and decoration. That's why I love it. □

Garrett Hack is a contributing editor.

How to make decorative banding

Just a bundle of sticks. *Glue up alternating strips of dark and light wood into a sandwich. Surface one side and crosscut the sandwich into ¼-in.-thick strips.*

Rip the other edge. *Rip the crosscuts into 3⁄16-in.-thick strips on the bandsaw. Clean up the saw marks with a block plane.*

Start at a corner. *Glue the banding in place one segment at a time. Rub a block of wood over the banding (right) to seat it in place. No clamping is necessary.*

Finish off the bottom. *Hack added a thin strip of ebony to the bottom edge of the banding to create a pleasing border. Again, simply rub it on to attach it.*

A chamfer hides the glue joint

Begin the chamfer below the molding. *Hack begins a stopped chamfer ½ in. below the molding. He starts the chamfer with a chisel, bevel down, and continues it to the bottom of the case with a block plane. Deepen the chamfer until one edge lines up with the glueline.*

ANOTHER CORNER OPTION

Cut a shallower rabbet in the case sides and fill the resulting space with a banding.