

# Hudson Valley Chest of Drawers

Tasteful moldings and turned feet add quiet style  
to a sturdy dovetailed case

**BY MARIO RODRIGUEZ**



A couple of summers ago while visiting Hyde Park, Franklin and Eleanor Roosevelt's estate along the Hudson River north of New York City, I toured Eleanor's getaway cottage two miles from the main house. In one of the bedrooms I came across a simple, handsome, and well-proportioned chest of drawers and instantly decided I'd like to make one for myself.

Like most of the furniture in the cottage, this Dutch-colonial style chest was the product of Val-Kill Industries, a program Eleanor Roosevelt and three friends set up in 1926 to create skilled jobs for local people and to revive craftsmanship in woodworking, pewter casting, metalwork, and weaving. The cottage I was standing in, which Eleanor called home for the last decades of her life, originally served as Val-Kill's workshop. The chest I admired, made of pine, was closely based on pieces produced by Dutch craftsmen of the Hudson Valley in the 17th century. The originals would have been made of local woods of varying quality—these were country pieces. Their joinery was strong and straightforward, solid without undue elaboration. And this Colonial-period directness was also reflected in the modest molding details of the piece, which are elegant but not overly complex. I chose to copy everything about the piece except the primary wood—I made mine in walnut, with pine as the secondary wood.

### The long and short of sliding dovetails

The chest's case has two sets of sliding dovetails—long ones joining the sides to the top, short ones where the drawer dividers meet the case sides. I began with the drawer divider dovetails, which are simpler. I made an MDF template with three slots and used it to cut the stopped sockets with a router and guide bushing. I roughed out the sockets with a 1/2-in.-dia. straight bit, then followed up with a 5/8-in.-dia. dovetail bit. To cut the tails to fit these sockets, I put a dovetail bit in the router table and ran the drawer dividers vertically against a high fence.

The long sliding dovetails that join the sides to the top take a little more finesse. Getting a long sliding dovetail to seat well along its entire length can be a challenge. Even if the dry assembly goes well, after you've applied glue and the wood has begun to swell, a long sliding dovetail will often hang up during assembly, prompting unprintable responses from the woodworker. The best way to ensure a tight fit and an easy assembly is to slightly taper the dovetail. You can taper both the socket and the key, but I find that tapering just the key works fine; this makes for a fit that is slightly loose most of the way in but tightens up nicely as you reach the last third of the joint.

I cut the long sockets in the underside of the top using the router with a guide bushing again and another slotted MDF template. I roughed out the slots with a straight bit as before and followed up with a 3/4-in.-dia. dovetail bit.

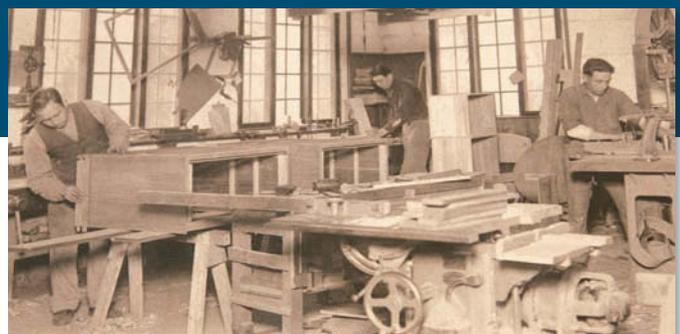
To create the tapered dovetail keys, I went back to the router table with the high fence in place and cut them



## Eleanor Roosevelt's workshop

Enter the unimposing stucco structure where Eleanor Roosevelt lived toward the end of her life, and you'll find the walls paneled in knotty pine and adorned with framed photos. The furnishings, carpets, and light fixtures have a familiar feeling, and the house lacks any sign of wealth or privilege. Instead an air of casual warmth, plain comfort, and modesty pervades the place. I instantly felt at home and wished I could take off my shoes, pull up an armchair, and read a book—or take a nap.

But there is a remarkable story behind this unremarkable house. Eleanor and three of her friends, Nancy Cook, Marion Dickerman, and Caroline O'Day, had it built in 1926 in a remote corner of the Roosevelt estate as a furniture workshop, home to Val-Kill Industries. For the 10 years that Val-Kill was in operation, its handful of craftsmen produced a steady stream of soundly built reproductions of American Colonial-era furniture. Eleanor's impetus for launching the enterprise was severalfold. First and foremost, she hoped to provide skilled jobs for local men at a time when farming, long the backbone of the local economy, was in rapid decline. She also wanted to provide skilled training for boys in the area. In addition, she hoped that the furniture makers at Val-Kill could help spark a revival of hand craftsmanship in an era of increasing industrialization. Finally, by choosing excellent examples of Colonial-era furniture to reproduce, she and her partners hoped to encourage a more general appreciation for finely crafted furniture. —M.R.



# DRESSER ANATOMY

Traditional construction makes for a strong, light case. Sliding dovetails secure the sides to the top, allowing for an overhang without a sub-top.

Top,  $\frac{3}{4}$  in. thick by 18 $\frac{1}{2}$  in. wide by 37 $\frac{3}{8}$  in. long

Side,  $\frac{3}{4}$  in. thick by 17 $\frac{3}{4}$  in. wide by 28 $\frac{3}{16}$  in. tall

Drawer stop

Elongated screw holes for seasonal movement

Drawer divider,  $\frac{5}{8}$  in. thick by 2 $\frac{3}{8}$  in. wide

Shiplapped back boards,  $\frac{3}{8}$  in. thick, have rabbets  $\frac{3}{16}$  in. deep by  $\frac{1}{2}$  in. wide

Back boards slide in from below after assembly and are left unglued.

Foot block,  $\frac{5}{8}$  in. thick by 3 in. wide by 3 in. long

Bottom drawer runner,  $\frac{5}{8}$  in. thick by 1 $\frac{1}{4}$  in. wide

Face molding,  $\frac{5}{16}$  in. thick by  $\frac{5}{8}$  in. wide

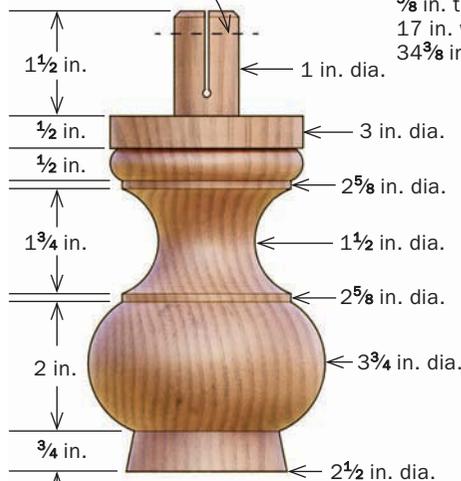
Base molding,  $\frac{3}{4}$  in. thick by 1 $\frac{1}{4}$  in. wide

Trim to final length after installation.

Bottom, pine with walnut edging,  $\frac{5}{8}$  in. thick by 17 in. wide by 34 $\frac{3}{8}$  in. long

Blocking rail, pine with walnut edging,  $\frac{5}{8}$  in. thick by 4 $\frac{1}{4}$  in. wide

Foot, 6 $\frac{3}{4}$  in. tall after trimming



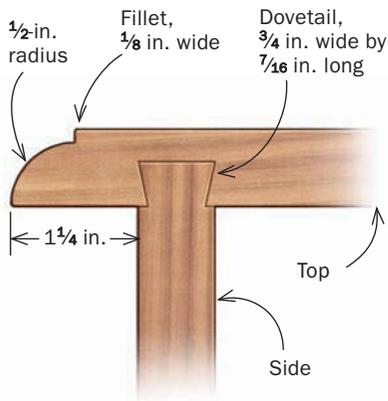
**FOOT**

Drawer bottom,  $\frac{7}{16}$ -in.-thick pine

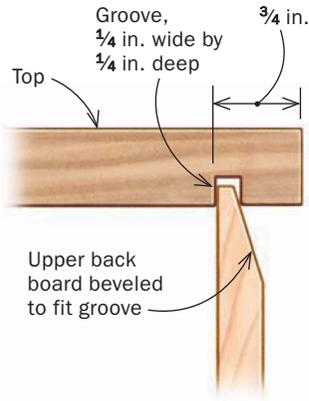
Drawer sides and back,  $\frac{3}{8}$ -in.-thick pine

Drawer front,  $\frac{3}{4}$ -in.-thick walnut

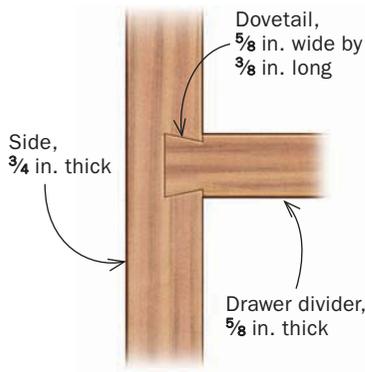
Teardrop pull, 1 $\frac{1}{2}$  in., Lee Valley #00A48.01



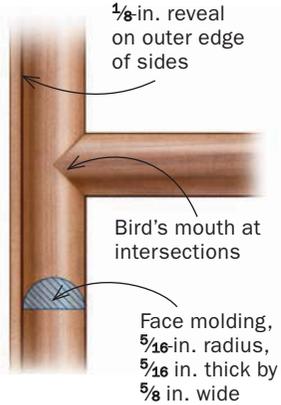
**TOP DOVETAIL**



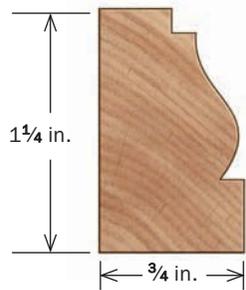
**BACK BOARD GROOVE**



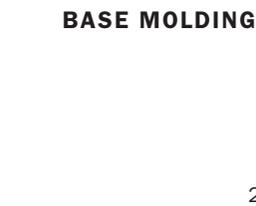
**DIVIDER DOVETAIL**



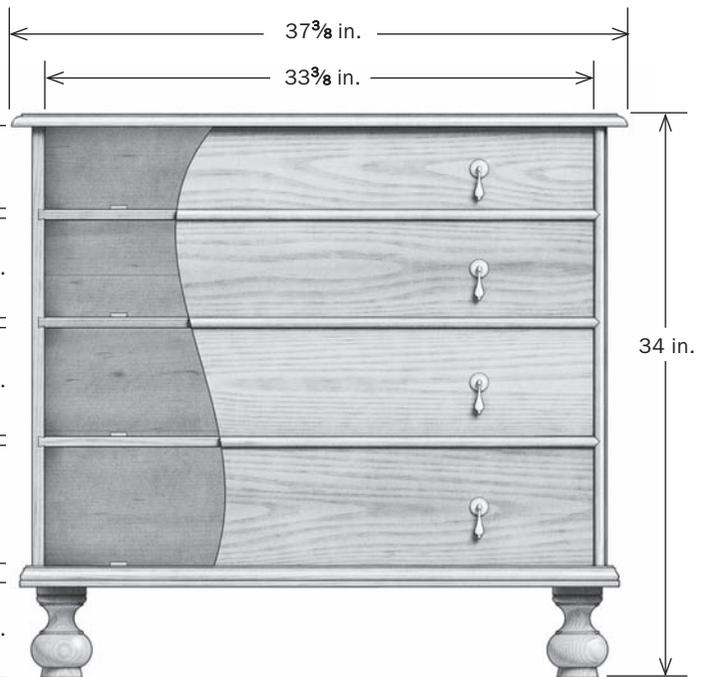
**FACE MOLDING**



**BASE MOLDING**



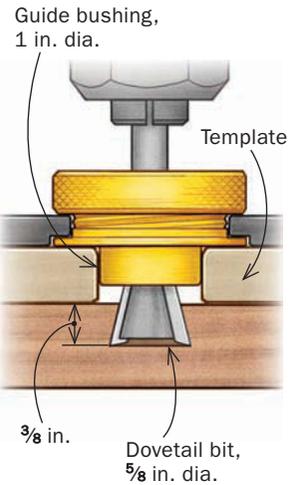
**SIDE VIEW**



**FRONT VIEW**



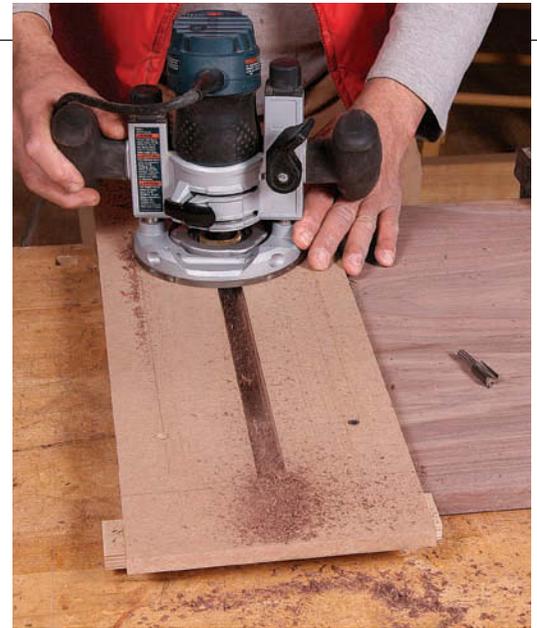
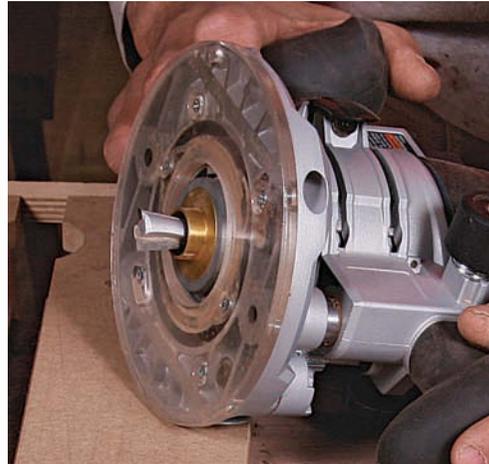
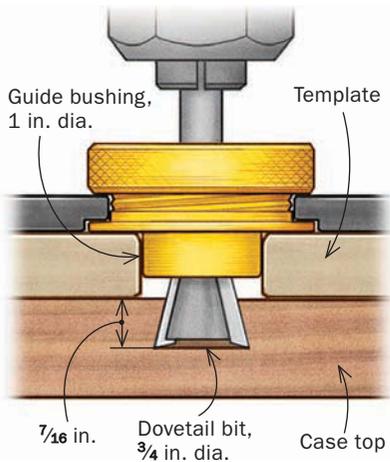
**DOVETAILS FOR THE DRAWER DIVIDERS**



With a guide bushing in his router, Rodríguez follows slots in an MDF template to cut the dovetail sockets for the drawer dividers (1). He makes one pass with a straight bit and a second one with a dovetail bit. Two quick passes on the router table shape the dovetail key on the end of the drawer divider (2). After cutting back one end of the dovetail key and rounding it with a file, Rodríguez dry-fits the drawer divider (3).

# CASE CONSTRUCTION

## Sliding dovetails at the top



**The long socket.** Rodríguez made another MDF template to guide the router as he cut the sliding dovetail sockets in the underside of the case top. Wooden strips keep the template in register and a temporary screw into the underside of the top keeps it from slipping side to side.



**Rout a tapered key.** Working with a dovetail bit and a high fence at the router table, Rodríguez cuts one side of the dovetail key as normal. When he ran the other face of the board against the fence, having the 1/16-in.-thick shim taped to the workpiece produced a slight taper.



much as I had the keys on the ends of the drawer dividers. One side of each key was cut as normal. But before I cut the other side, I taped a 1/16-in.-thick shim to one end of the workpiece. As I pushed the part along the high fence, the shim held that end of the part slightly away from the fence, producing the desired taper. When I had a fit I liked, I tested it by spraying both the key and the socket with water and doing a “wet” assembly. This approximates the swelling of the wood fibers that glue causes, so a good fit here should foretell a curse-free glue-up.

### Half-blind dovetails by hand and motor

I used a combination of hand and power tools to cut the half-blind dovetails that join the case sides to the bottom. After laying out the tails on the case bottom, I made the angled cuts with a back-saw, then removed the waste between them with a coping saw. I chopped to the baseline and pared to the cheeks with chisels.

Next I clamped a case side vertically in the face vise with one



**Tails then pins.** Having cut the tails on the bottom board with handsaws and chisels, Rodríguez uses a knife to transfer their layout to the ends of a cabinet side (top). He then roughs out the pins with a handheld router, and chops and pares to the lines with chisels (above).



**Mortises for the feet.** After blocking up the case bottom with a rail across the front and squares at the back corners to allow deeper mortises for the foot tenons, Rodríguez cuts them at the drill press.



**TIP**

### GIVE IT A WET TEST

To be sure the sliding dovetail key will still fit the slot when it's been swelled by glue, Rodríguez sprays the key and slot with water and tests the fit.

# ASSEMBLY

## Glue up the case



**Top first, then the bottom.** With the dovetail key and socket lightly coated with glue, slide the case side into place. Rodríguez uses water and a rag to clean up the squeeze-out right away. He engages the half-blind dovetails by hand (right), then knocks them home with a rubber mallet.



**Check for square and add the dividers.** Compare the distances from corner to corner to see that the case is square (left). Shift the clamps as necessary to address any discrepancy. Dry-fit the drawer dividers to be sure the case sides aren't bowing (above), and leave them there while the glue cures.

## Make and add the feet



**Turning ins and outs.** After establishing his major diameters with a parting tool and a pair of calipers, Rodríguez shaped the foot primarily with a gouge. He uses a medium-cut half-round file (shown) to clean up the tool marks and smooth out the surfaces.



**Size and test the tenon.** After sizing the foot's tenon, Rodríguez used a parting tool to slightly dish the wide shoulder. To be sure the tenon will fit the round mortise, he tests the fit in a hole drilled with the same bit.

end just above bench level. I laid the bottom in place and used a knife to transfer the tails onto the end of the side. I removed the waste between the pins with a straight bit in a router, using a clear baseplate and cutting freehand. Then I swapped the straight bit for a dovetail bit and used that freehand as well, coming within  $\frac{1}{32}$  in. or so of the knife lines. Finally, I cleaned up with chisels.

### Turn the bun feet

The chest has beautiful bun feet. There is something rich and indulgent about their undulating pattern, and they are a pleasure to make. The challenge is to turn a crisp foot, with the details clear and sharp and not degraded by excessive sanding.

The hardest part of the pattern was turning a precise 1-in.-dia. tenon. To achieve a tight fit, I initially sized the tenon on the lathe with a 1-in. open-end wrench. To fine-tune the fit, I used a scrap



**Fit and wedge the feet.** Before the dividers are glued and the back is in place, glue and wedge the feet. To be sure the foot tenon's shoulder is tight to the bottom of the case, Rodríguez will use deep-reach clamps spanning from beneath the foot to the top of the cabinet.

in which I'd drilled a 1-in.-dia. hole. Before glue-up, I sawed a kerf in the tenon for a wedge that would ensure a tight and secure fit.

### Moldings give it style

Crisp, well-joined moldings go a long way toward giving the chest its elegant bearing. There are three different moldings—one integral and two applied. On the case top, the front and side edges get a roundover profile with a fillet. On the front edges of the case, a modest half-round molding is applied. And at the bottom of the case is an applied Roman ogee with a double fillet.

**Half-round molding, plain but important**—Choose the material for the half-round molding carefully. It should be clear, with the grain as straight as possible. I produced the molding on the router table, shaping the edge of a wide blank, then cutting the molding free from the blank at the tablesaw. I ran off extra lengths

# MOLDINGS MAKE THE CASE

## Half-rounds



**Make the half-round.** Use a  $\frac{5}{8}$ -in.-dia. bullnose bit in the router table to shape both edges of a blank, then rip strips of molding free on the tablesaw.



**Bird's-mouth jig.** Rodríguez made a plywood jig with a V-notch and a screwed-on fence to help cut the half-round molding's bird's-mouth detail. He starts with sawcuts, then cleans up with a chisel.

**Attach the case molding.** With the bird's-mouth notches perfectly aligned and the inside edge of the molding flush with the inside face of the case, Rodríguez applies glue and shoots brads to fix the molding.



of the molding as insurance for the exacting joinery. Where the drawer dividers meet the case sides, the strips of half-round molding join in a bird's-mouth detail—beautiful, but fussy to fit. To ensure clean joints, I made two jigs, one for each half of the joint. I rough-cut the joints with a fine-toothed handsaw, then used the jigs to refine the fit, paring the V-notches to final size with a  $1\frac{1}{2}$ -in. chisel and trimming the points of the mating male pieces with a block plane. Once the pieces were fitted, I attached them to the case with glue and pin nails.

**Bolder base molding**—I was unable to match the profile of the chest's base molding with anything in my collection of router bits, but it turned out I had a molding plane I'd made some years ago that enabled me to produce something very close. I milled



**First fit, then fasten.** Another Baltic-birch jig holds the drawer divider molding for sawing and planing to a perfect point. After gluing and nailing the molding to both case sides, Rodríguez fits the drawer divider moldings one at a time (right).



## Decorative base



**Find a way to match the molding.** Rodríguez didn't have router bits that would reproduce the original molding exactly, but he was able to come close by using a molding plane he'd made and then cutting a fillet at the top on the tablesaw.

walnut blanks 4 in. wide and  $\frac{3}{4}$  in. thick and molded one edge with the plane. Then, at the tablesaw, I cut the fillet along the top edge of the profile. Finally, I cut the molding free from the board.

I applied this molding first to one side of the cabinet, then to the front, and finally to the other side. To allow the case side to expand and contract without cracking, the side moldings are glued and pin-nailed for the front 6 in. only. I drove a screw through the very back edge of the side and into the unglued end of the molding. I made an elongated clearance hole so the screw could move with the case side while keeping the molding tight.

### Finishing the chest

After thoroughly sanding the entire chest with 220-grit paper, I ragged on several thin coats of shellac, making sure each coat was dry before rubbing it out and applying the next coat. Three coats provided good protection and a pleasing soft sheen. The last step was a coat of paste wax applied with elbow grease. □

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**Half glued, half screwed.** When attaching the base molding to the case sides, Rodríguez glues and tacks only the front half of the molding. To accommodate the seasonal movement of the case side, he leaves the back half of the molding unglued and screws it to the side through an elongated clearance hole.



**Three-step molding.** After attaching the molding on one side, Rodríguez fits and fastens the front piece (above). Finally, he glues and uses pin nails to secure the last piece (left).