Build a Dutch Tool Chest

Improve your hand skills with a chest suited for travel, and for the shop

BY MEGAN FITZPATRICK

I'm a die-hard fan of my full-size English tool chest for working in the shop—but it isn't easily loaded into my car. Because I travel to teach, I need something smaller and more portable, and this Dutch tool chest is just right. Built out of pine (or another lightweight wood) and conveniently sized, it's no problem lugging this thing around. And because it holds enough hand tools for most furniture work, I always feel well prepared. Indeed, because this style of chest does store so much, there are plenty of people who enjoy using one while staying put.

Perhaps the chest's most distinctive characteristic is its sloped lid. Historically, the slope allowed rain to slide off when the chest was in transit instead of collecting on the top. But it's also a great surface for working on shop drawings. And it keeps you from piling stuff on top.

With dovetails at the bottom only, this chest is simple to make and a great project for those new to hand-cut joinery. (It's also a nice chest for those with years of experience under their tool belts). The hand-tool skills that you hone in this build—dovetails, dadoes, rabbets, cut-nail joinery, moldings—will serve you well for all your projects to come.

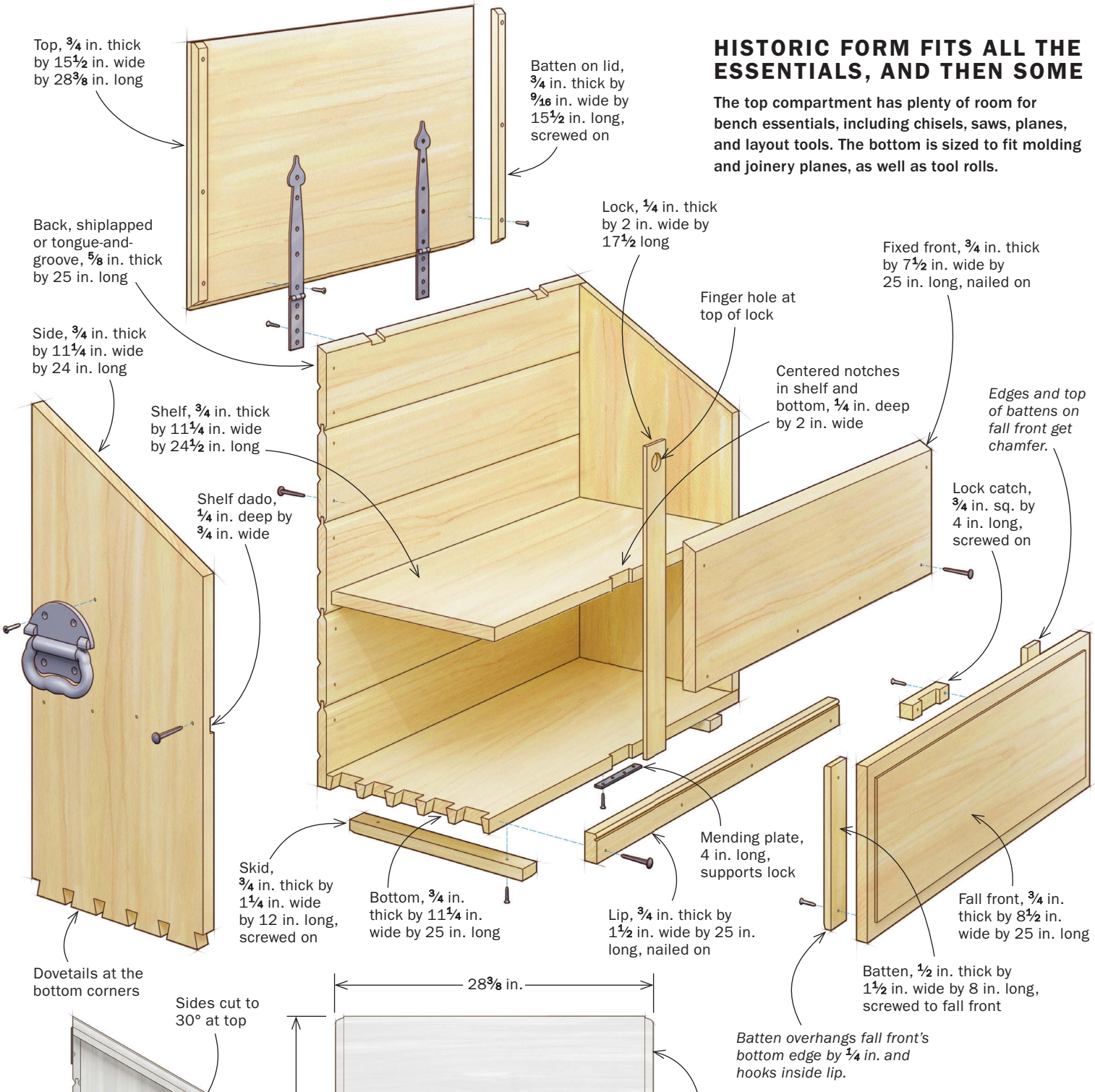
Low-stress stock prep

The interior depth of the chest is 11¼ in.—the same width as a 1x12—so you don't need a jointer and planer to prep the wood. Just pick the straightest, flattest 1x12 you can find. The chest's width is based on

Photos: Barry NM Dima

HISTORIC FORM FITS ALL THE ESSENTIALS, AND THEN SOME

The top compartment has plenty of room for bench essentials, including chisels, saws, planes, and layout tools. The bottom is sized to fit molding and joinery planes, as well as tool rolls.



SOURCES OF SUPPLY

HINGES

Lee Valley Unequal Strap Hinges, no. 01H2133
leevalley.com

HANDLES

Lee Valley Cast-Iron Chest Handle, no. 06W0301
leevalley.com

Drawings: Dan Thornton

Dovetails at the bottom. *By orienting the tails on the sides and pins on the bottom, Fitzpatrick ensures the bottom won't fall out under the weight of the tools.*

holding a No. 8 jointer plane, plus a little room to spare.

When determining the arrangement of the boards for the carcase sides and bottom, consider having their heart side face out; that way, if they eventually cup, they will cup inward and be restrained in the middle by the dovetails and shelf dado, and the joints will stay closed. If the bark side faces out, the boards will cup outward, which could open the joints. But also consider appearance, particularly if using a clear finish; good joinery should hold the boards flat in either orientation.

Dovetails and dadoes

The case joinery is fundamental cabinetmaking—dovetails and dadoes. The

Batten and block keep saw on track when sawing the dado wall. *If you need an assist sawing straight and plumb, clamp a batten so the edge of the penciled layout line is visible on the waste side. To help keep the saw against the batten, press against it with another block.*

Batten provides a layout reference. *Before unclamping the batten, butt the shelf against it and pencil its width, accurately marking the dado's other wall. Move the batten to that line and saw on the waste side.*

Chisel out much of the waste. *Use the widest chisel that will fit between your kerfs. Hold it flat to the board and work bevel up as much as you can. Come in from both edges. If you can't reach the middle, flip the chisel bevel down but use a little more caution.*

Finish with a router plane. *When there's about 1/16 in. to go before you reach final depth, switch from a chisel to a router plane for more control. Set the plane to final depth. As with the chisel, work in from both edges to avoid blowout.*

Trace the angled side. *After cutting the top angle on one side, use it—and not your bevel gauge—to mark the second side, to ensure the two sides match. Keep the bottom ends flush during this layout.*

dadoes get nailed for extra holding power.

After cutting the joints, fit the shelf. It should be 24½ in. long, but if your dadoes are a little deep or shallow, that length will change. You want the shelf to be a dead-on fit to help keep the carcase square, so mark the length off the dado bottoms with the carcase dry-fitted. Even then, I prefer to trim the shelf to just a hair long, then shoot the end to sneak up on a perfect fit.

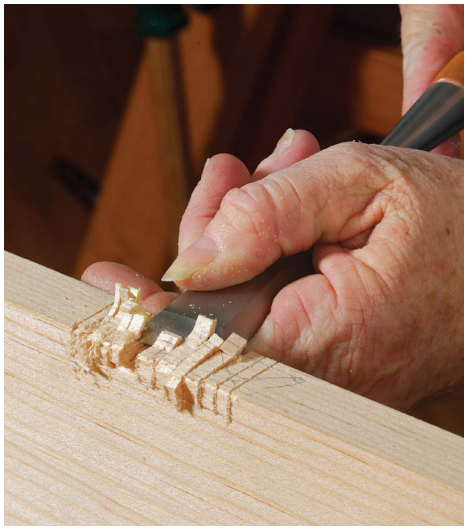
The shelf should be a press fit in the dado. If it starts to go in and stops, the dado walls may taper in toward the dado floor. Check them with a square, using a chisel to square up the walls where needed. If the shelf won't go in at all, trim the shelf, taking cross-grain shavings at the ends.

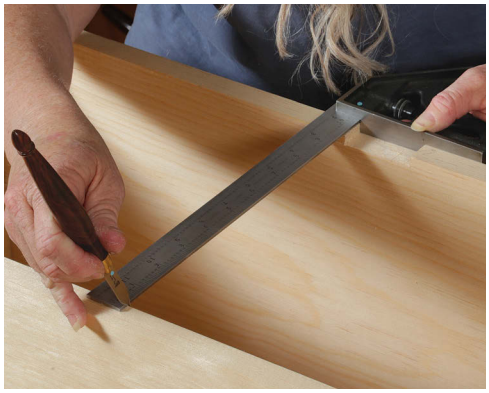
Glue and nails

Before continuing with the rest of the build, glue up the carcase. Paint the dovetails with glue, knock the joints home, and place the carcase on its back. Put a smear of glue in the dadoes before sliding in the

Doing the glue-up. *Once you glue and clamp the dovetails, do the same for the dadoes and slide in the shelf from the front. Check the bottom compartment for square.*

Nails for the shelf need pilot holes. *Fitzpatrick lays out pilot holes with dividers before using the appropriate drill bit to create the pilot holes. Then she hammers in the stout 50mm Rivierre nails.*





Notch the bottom and shelf for the lock. *Start with the bottom notch, sawing several kerfs and chiseling out the waste. Transfer its width to the shelf with a square before repeating the process there.*

Bottom notch needs a mending plate underneath. *A steel plate stops the lock from sliding straight through the case. Why not just cut a stopped notch? It could break out after the lock has been repeatedly dropped in place.*

shelf from the front. Add clamps to pull the dovetail joints home and pull the shelf fully into the dadoes.

Check the glue-up for square, especially at the bottom and below the shelf. Because there's nothing yet securing the width at the top, it's possible the sides bow a little there. Subsequent steps can fix that.

I prefer to wait overnight for the glue to set before nailing the shelf in place. I typically use 50mm Rivierre nails, but cut nails work too. Either's an aesthetic choice; you don't technically need nails here at all.

Lock and notches

One of the chest's niftier features is the low-tech lock for the bottom compartment: just a stick, two notches, and a catch. The stick slides in from the top compartment through the catch and notches to trap the

Nail on the beaded lip. *This piece both covers the lower notch and offers purchase for the fall front's battens. The bead looks nice and also helps to keep the wood from getting damaged like a hard corner would.*

Bevel the fixed front. *To give the top edge of the fixed front the same angle as the sides, Fitzpatrick lays the front in place and extends the sides' angle with a ruler. After cutting the angle, she'll attach the front with nails.*

Add the fall front

Fall front's batten placement comes from the case itself. *The closer the battens are to the sides of the carcase, the better the fall front will work. To mark their location, lay the chest on the fall front. Fitzpatrick places the battens no more than ⅛ in. inside the carcase sides.*

Countersunk screws attach battens and lock catch. *Be sure the catch is in line with the notches in the carcase. The battens are installed with a ¼-in. overhang at the bottom.*

Nail on the back boards. *The unsupported top ends of the sides may bow in or out. If yours do, use a clamp or spreader clamp to get them straight and the carcase square before drilling pilot holes and nailing on the back boards.*

fall front. This way, when the lid is closed, the fall front can't be opened. You can add a lock to the lid for even more security. The lock notches need to be aligned, so after cutting the lower one, I use it to lay out the one above it. The lock should fit with just a hair of wiggle room side to side.

Close up the case

To close the front of the case and cover the notches, add the fixed front to the top compartment and the lip at the bottom of the case. Both get nailed in place. Before nailing on the fixed front, cut its top edge to the same angle as the sides and make sure the carcase is square above the shelf. (You'll check for square again when nailing on the back boards.)

The fall front that covers the bottom compartment is held in place by the lock and a pair of battens. Trim the fall front to fit between the bottom lip and the fixed front with about a ⅛-in. reveal. For looks, I raise a panel on the fall front and mimic it on the lid later on. The battens, which help keep the fall front flat and position it in the case, extend past its bottom edge by ¼ in. and hook over the lip. Locate the battens ⅛ in. or less from the chest sides.

The lock catch is centered on the interior of the fall front and in line with the notches. Screw it in place, then nail on the back boards.

Before trimming the lock to length, reinforce the bottom notch and close it off so the lock doesn't slide through. I use a

Cut notches for the strap hinges before screwing on the short leaf. *The notches provide clearance for the hinge barrels. Fitzpatrick just cuts a through-mortise here; it's easier, and the thin wall of a stopped mortise may break off over time anyway.*

Tape on the hinge leaves to check their placement on the lid. *The lid should be flush with the back edge of the chest when closed. Tape will help you determine this placement before screwing the hinges to the lid. (Do this after angling the back edge of the lid and attaching its battens.)*

4-in.-long mending plate from the hardware store—brass if I'm feeling fancy.

Finally, attach the skids. Chamfered bottom edges—and a swipe of wax—will help them slide easily across a floor.

Top it off and add the hardware

At last, it's time for the sloped lid. Like the attached front, the lid's back edge will need to match the angle of the sides. Same for the back ends of the battens, which I install to keep the wide panel flat. I cut a fingernail profile on the top's two ends and front edge.

You can source handles and hinges from many places, but for inexpensive ones, I recommend the offset strap hinges and iron handles carried by Lee Valley. For a handmade look, Horton Brasses carries a kit of gorgeous forged hardware for this chest.

Locating strap hinges on the carcase is easy: Just measure in from each end, cut the notches, and screw the hinges to the back. Locating them on the lid requires more finesse, because the angled back edge of the lid should lie in the same plane as the back when it's shut. To do this, place the lid upside down and the chest on its back, with its top edge overlapping the angled back of the lid by about ⅜ in. That will get you close. To verify it, tape the hinges in place and gently test the fit before screwing on the hinges.

I locate the lifts just a hair forward of center, because I always pick up my chest from the front. That slight shift forward helps to balance the weight, as the taller back of the chest is heavier. If you'll use the lifts to actually lift the chest, through-bolt them for strength.

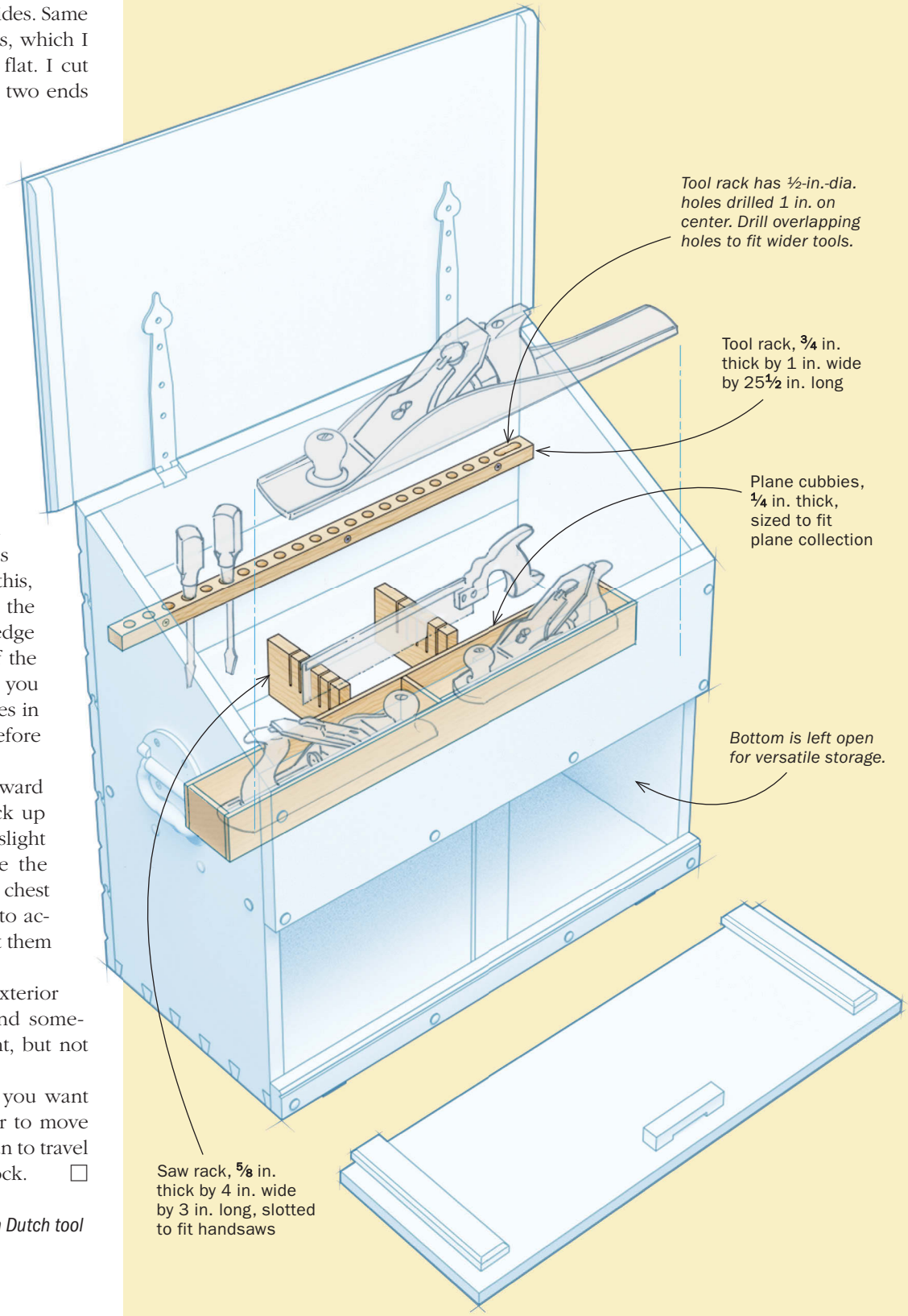
For a finish, I paint all the exterior surfaces except the bottom, and sometimes the inside of the fall front, but not the battens and catch.

Add casters to the corners if you want to make the chest a little easier to move around the shop—but if you plan to travel with it, make sure the casters lock. □

Megan Fitzpatrick is writing a book on Dutch tool chests with Lost Art Press.

A mix of simple, versatile storage options

Fitzpatrick keeps the chest's bottom compartment undivided for versatility. The top compartment, however, gets fittings for some essential tools. The holders are nailed or screwed in place. Outfit the interior for your own tool set, perhaps with cubbies from ¼-in. stock for your bench planes and block plane. You'll almost certainly also want a rack for a backsaw or two and a rack at the back for chisels. Make these from whatever hardwood offcuts you have (though pine will be fine, too).



Rack with holes gets screwed to the back. *The rack's holes make it great for storing marking gauges, dividers, screwdrivers, awls, and narrow chisels. Locate it about 7 in. below the top edge to fit the tool handles.*

Overlapping holes accommodate wide chisels. *Drill overlapping holes if you have wider chisels to store.*

Build a cubby around your planes. *After tacking together the outside of the box, add dividers to keep your planes from banging into each other.*

Tack the cubby to the chest. *Nails make the cubby easier to install and leave only small holes if you ever need to rip it out. Attach it with your longest plane in place toward the front of the chest, creating an appropriate space for it as well. (The chest is sized for a No. 8.)*

Two boards with kerfs hold your backsaws. *Space the kerfs to leave enough room for your fingers. The saw rack gets pinned to the back of the chest and to the cubbies.*