

# A Workbench That Works

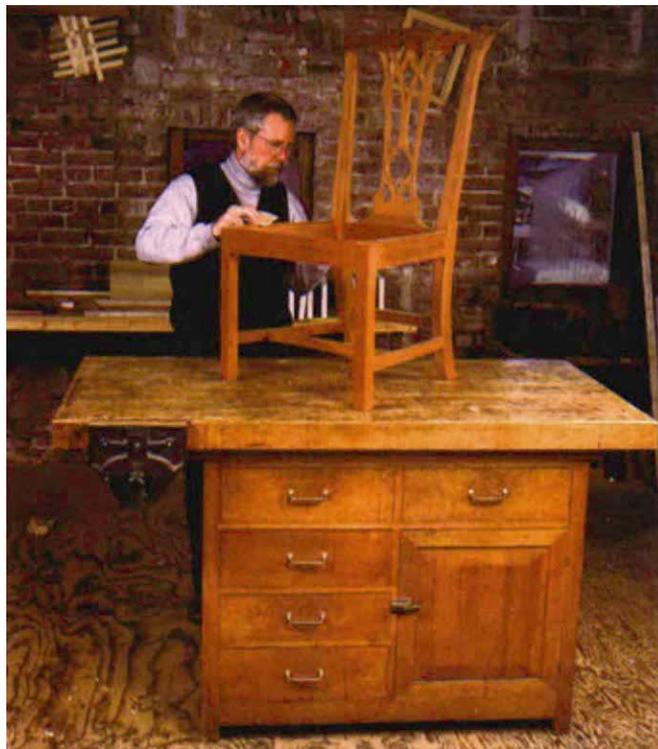
A small top without a tail vise  
has served this master furniture maker  
for three decades

BY PHIL LOWE

In the early 1970s, having completed my training in furnituremaking, I found myself in need of a workbench. I figured I'd make one that would be large enough to hold all of my hand tools and small enough to move, guessing that it would be some time before I settled down. I wanted an all-purpose bench for planing, scraping, cutting joints, carving and finishing. Cost was a concern because there was a slew of tools and machinery I wanted to buy, so I decided not to use any fancy or expensive hardwoods in its construction. For the original bench, I chose birch (sturdy and cheap) for the top and the frame, and I used construction-grade fir plywood for the side panels. That first version was a little on the low side, so I later corrected the problem by cutting down the original top and adding a new maple slab over it.

The relatively small size of the bench makes it comfortable to use. Unlike many larger benches, I can easily reach a workpiece resting on the top from all sides of the bench. It holds almost all of my hand tools—or at least the ones I use the most—keeping them well within reach. Also, this bench is small enough that it can be moved around the shop when needed. Loaded up with tools, it's heavy enough to stay in place while I'm using it. But I can break it down into manageable pieces, if need be, by removing the drawers and the top. I was particularly glad about this feature when I had to set it up in my first apartment in a third-floor attic space where I worked for a while.

In the construction of the case, I used mortise-and-tenon joints with pins for all of the frame pieces, through- and blind-dovetails for the drawers and housed dovetails for the drawer dividers. I



**Small but sturdy.** This workbench is almost 30 years old, and it's still used daily for all facets of furniture making.

built most of the frame with 8/4 birch, and I used 4/4 birch for the drawer dividers, the center partition and the drawer fronts. I fashioned the side panels with 3/4-in.-thick fir plywood, set into rabbets that were cut into the back edges of the legs and rails. Drawer runners—joined with tenons into mortises in the drawer dividers—are held to an inside frame by a screw in the back. The top is 8/4 maple, ripped to 3-in. widths that I glued together on edge for strength and stability.

To make the benchdog holes in the top, I cut a series of 3/4-in. by 1/2-in. dados before laminating the top. I also cut the same sized dados on every third board in a position that would line up with the dog on the vise, once it was fastened to the top. The overhang of the top is such that the dog holes are clear of the base so that they don't become clogged with sawdust. Also, I needed the over-

hang for clamping workpieces to the table. The overhang on the side above the drawers is smaller so that it doesn't restrict access to the tools in the top drawers. The new top is secured to the old original top (that I cut down to serve as a subtop) from underneath with lag screws, and that subtop is secured with lag screws through the top rails of the base cabinet.

This bench functions quite nicely. The vise will not only hold workpieces between its jaws, but it can also hold them between the dog on top of the vise and one placed into the benchtop. I sometimes set up workpieces, such as panels to be planed, so that they rest against a thinner batten that spans two dogs. With this setup I need to lift my plane on the return stroke to prevent the panel from sliding backward. And sometimes, when planing the ends



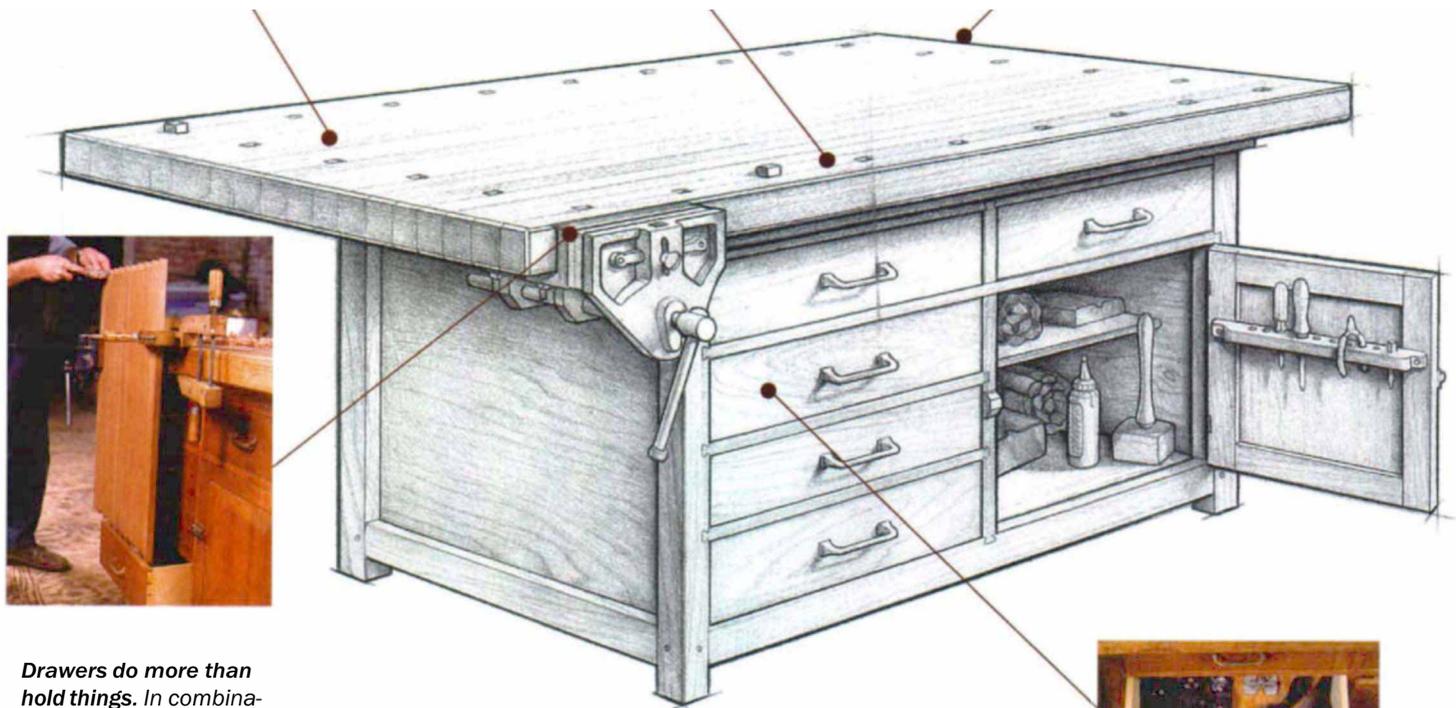
**The vise is an adjustable clamp.** A series of benchdog holes in the top line up with the center of the vise for clamping workpieces of varying lengths.



**Securing the workpiece without clamps.** A hardwood batten thinner than the workpiece butts against two benchdogs in the top to serve as a stop.



**Out of harm's way.** When it's not needed, this 3-ft. Starrett straight-edge lives in a slot under the benchtop.



**Drawers do more than hold things.** In combination with the vise, they also support workpieces such as this large mahogany carcass piece.



**Every tool has its place.** The contents of each drawer are custom-fit

## How it's used and what it holds

This benchtop's small size (32 $\frac{1}{4}$  in. by 59 $\frac{1}{4}$  in.) belies its versatility. The author's most-often-used hand tools fit compactly but comfortably in storage under the top. Layout tools, chisels, planes and spokeshaves, saws, rasps, files, scrapers, sanding blocks, hammers and carving tools all have specific homes. There's even a spot for one very essential tool—a clipboard to record billable hours of time spent on jobs in the shop.

or edges of panels or long boards, I use the vise to hold the workpiece and one of the drawers underneath to support it.

Looking back at the number of pieces I've built on this bench and remembering the number of workspaces it has inhabited, I realize how well it has served me all these many years. I'm sometimes asked how I could get by with such a relatively small top and without a tail vise. I have the additional work surface of a fold-down table near the bench that I use to lay out and organize parts of furniture I'm working on. And I honestly haven't felt the need for a tail vise, because dogs and a few clamps do the same job. I

can proudly say that I have never driven a nail into the top to hold anything in place. There is one thing I would change if I were to make this bench again. The kick space between the bottom rail and the floor is too small, resulting in an occasional pain in my big toe. Also, someday I'd like to replace the fir plywood side panels with something a bit more attractive, but I don't imagine that will happen until my daughters finish school. □

*Phil Lows builds and restores furniture in Beverly, Mass., where he teaches classes on building traditional furniture.*