

When I built my first workbench, my workshop was in the basement of a house that I was renting. I knew that I would be moving before too long, and I would need to be able to pick up and carry my workbench out of the basement. But I also needed a bench solid enough not to jump and dance all over the workshop when I was planing a board or carving a chair seat. Using widely available hardware, construction lumber, and a couple of sandbags, I built a bench that was inexpensive and easy to move, yet still had the solid feeling of a classic workbench. I loved that bench, and I've since built this one to a very similar design.

Framing lumber,
turnbuckles, bolts,
and bags of sand
make this rock-
solid workbench
quick to make and
easy to move

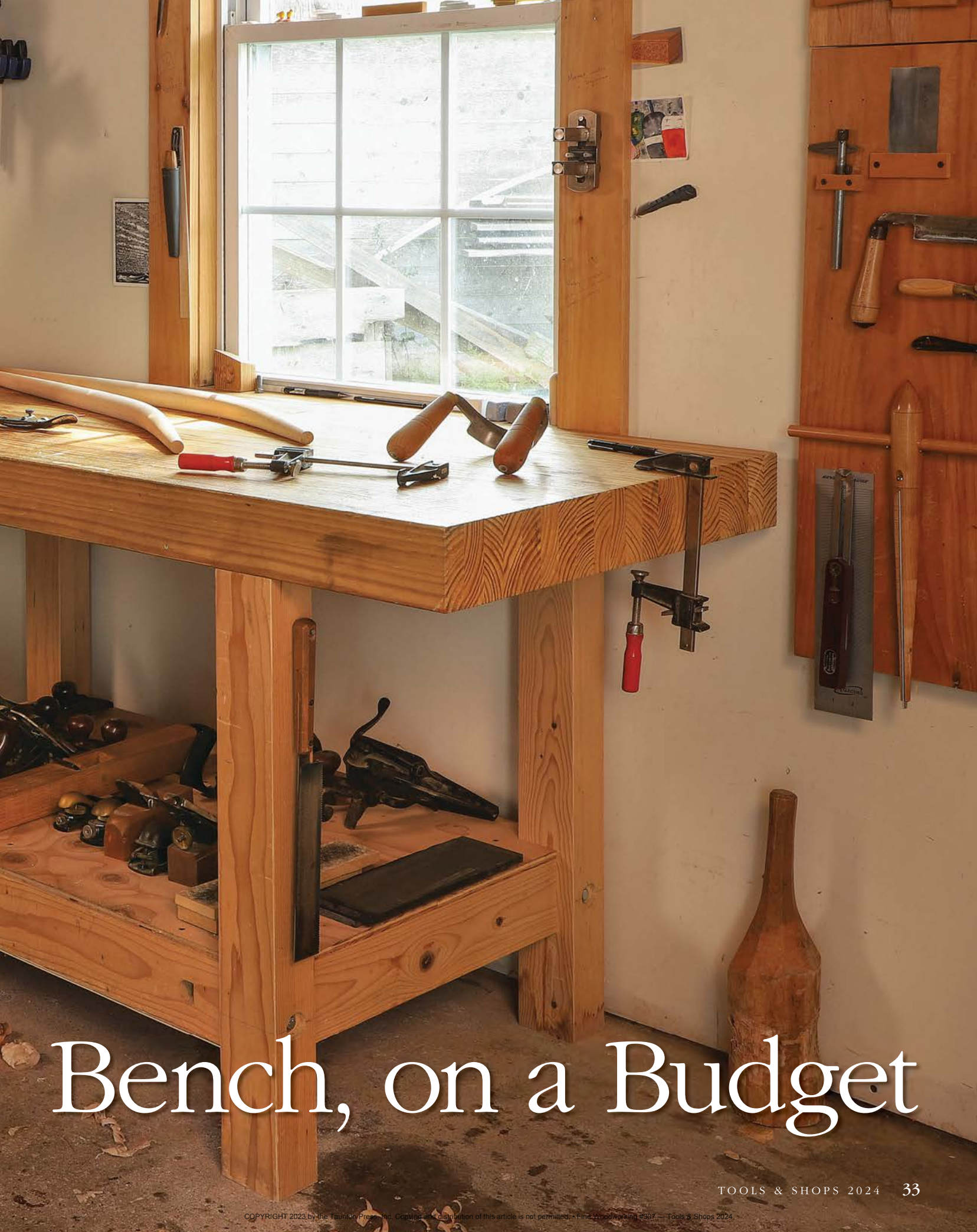
BY TIM MANNEY

Starting from the top

The benchtop is laminated from dimensional construction lumber. Whenever I go to lumberyards I scan the stacks and buy any boards with straight grain and few knots. I store them up in the tie beams in my workshop and pull them down as needed to build things like jigs, bending forms, shaving horses ... or a workbench. I built the top for this one while I was living in North Carolina, where southern yellow pine, a beautifully hard and heavy wood, is standard-issue construction lumber.



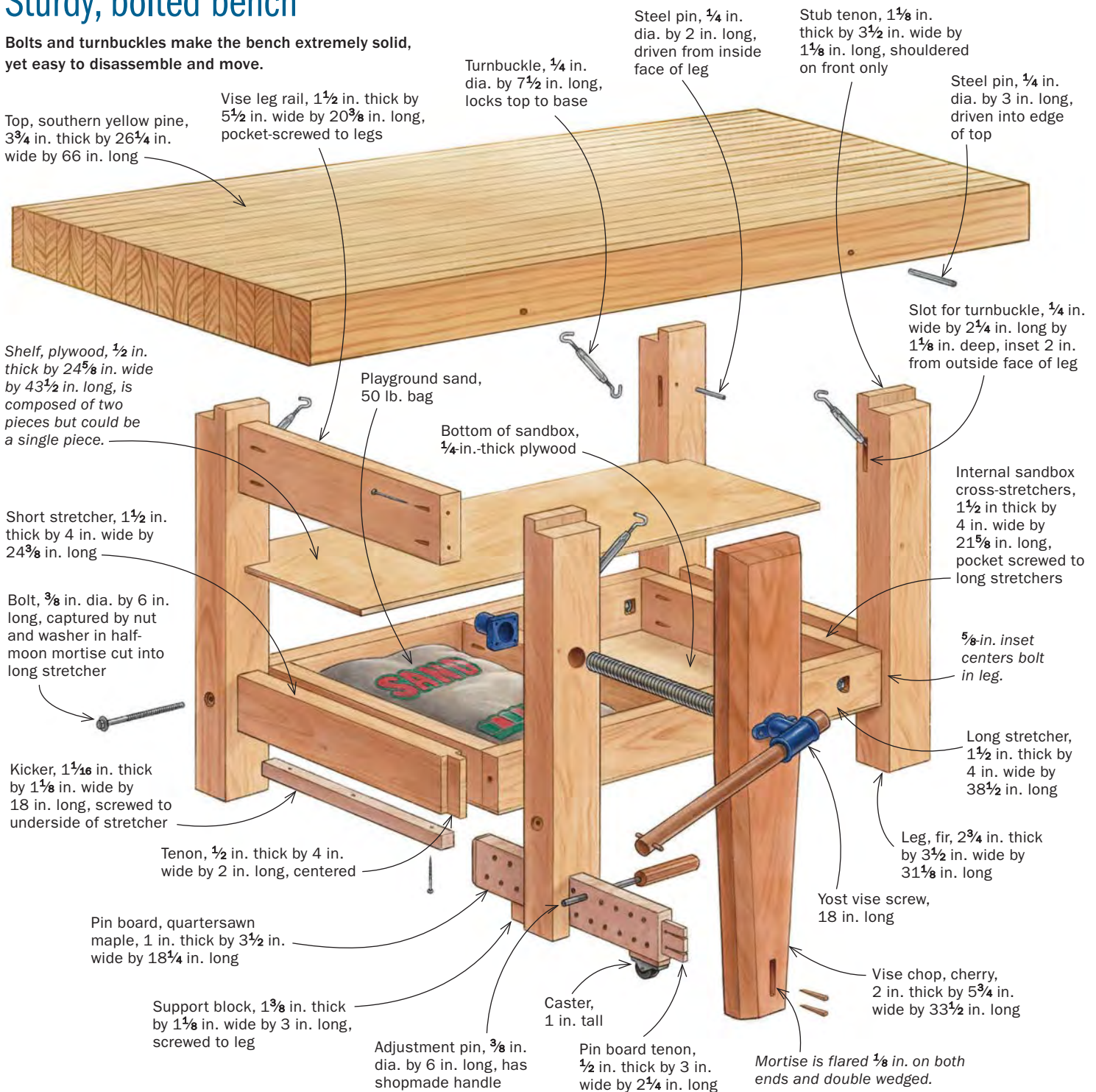
A Brute of a



Bench, on a Budget

Sturdy, bolted bench

Bolts and turnbuckles make the bench extremely solid, yet easy to disassemble and move.



I selected a batch of 2x10s, ripped them in half, and glued them up to make a top 66 in. long, 26¹/₄ in. wide, and 3³/₄ in. thick. It's outstanding, but you don't have to make one that thick or use yellow pine. I've made workbenches with spruce tops as thin as 2 in. and they also worked great.

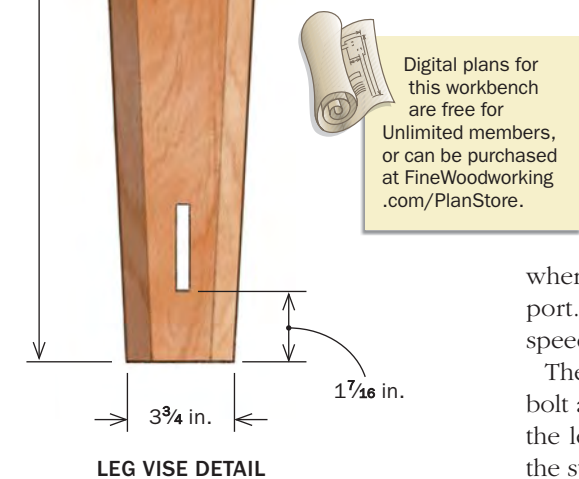
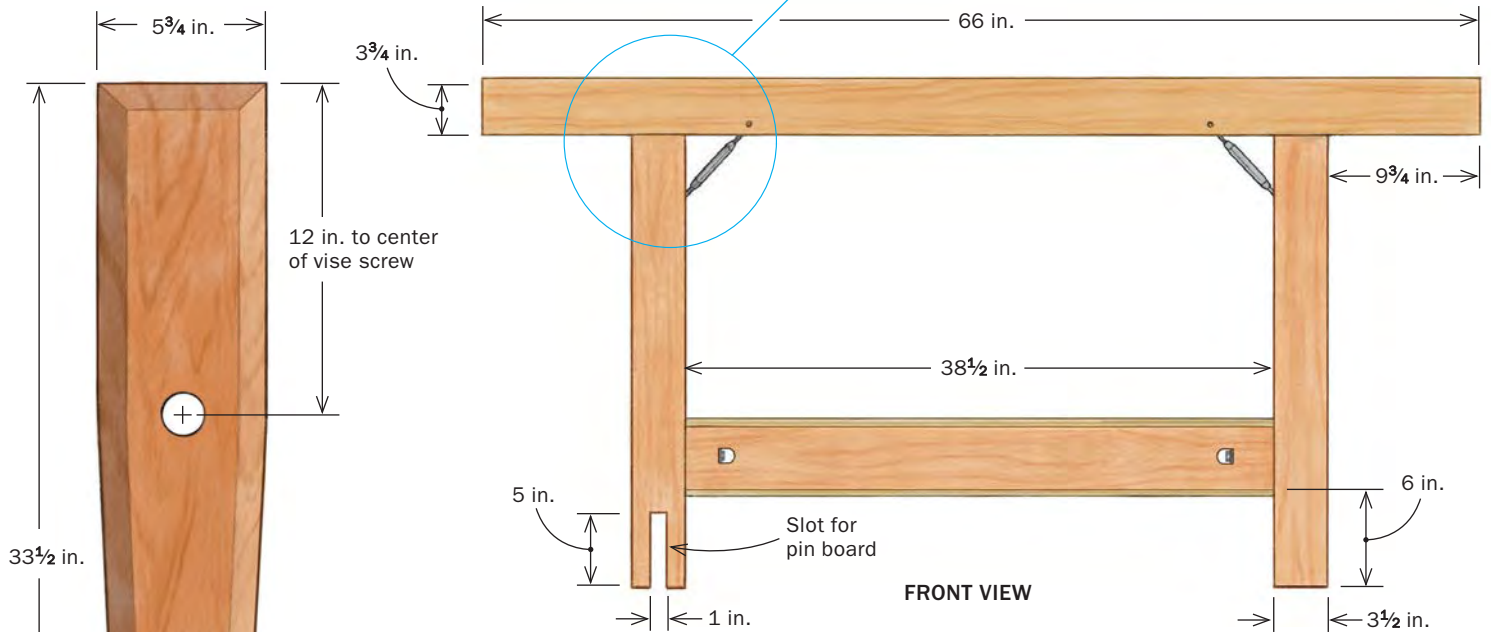
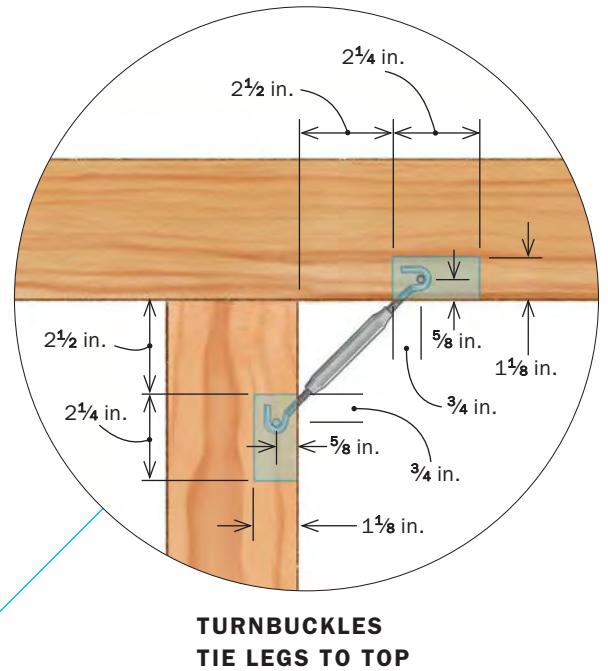
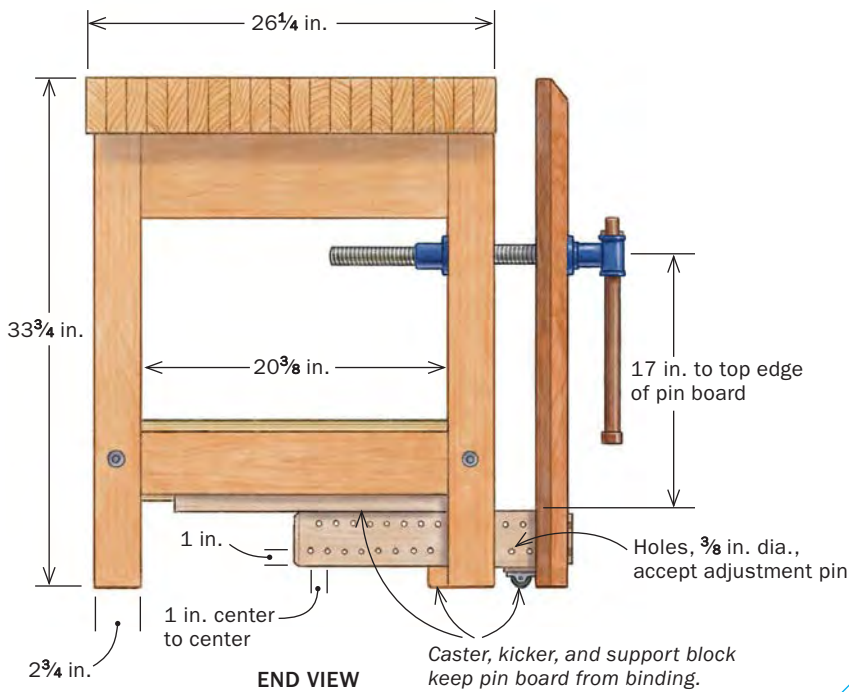
The most important feature of this workbench is the way the legs and the top are

joined. The legs have stub tenons that go into matching mortises in the underside of the benchtop, and turnbuckles tighten the joints. I installed steel pins in the top and the leg near the joints to receive the hooks of the turnbuckle. When the turnbuckle is tightened, it pulls the benchtop and the legs together and seats the stub tenon against the mortise wall. This makes

for a very rigid joint. But when it's time to move, just a few turns on each turnbuckle completely frees the top from the base.

Base notes

On my first workbench, the stretchers and legs were entirely joined by bolts. That made for a very stable bench, but I've since realized that it's more convenient



for transportation to permanently join the two end stretchers to the legs with glued mortise-and-tenon joints. Now I only use bolts to join the front and rear stretchers to the legs. This means I have fewer parts bouncing around when I disassemble the bench for transport. And having fewer bolts to loosen speeds disassembly.

The front and rear stretchers have one bolt at each end. The bolt passes through the leg and emerges into a pocket cut in the stretcher where a nut can be threaded

on and tightened. The pockets are made by drilling a 1-in.-dia. hole and squaring one side of it with a chisel so that a washer and nut can sit flat against that surface, pulling the leg and the stretcher together as the bolt is tightened. You can fit the closed end of a wrench into the opening to hold the nut, or wedge a large flat-head screwdriver between the wall of the pocket and one of the faces of the nut to keep it from spinning.

The shelf below my bench is also the cover of a box full of sand. One hundred pounds of playground sand keeps the

Quick setup

With four flat structural components—the top, the two end units, and the shelf/sandbox—the bench disassembles quickly and stacks compactly for storage or shipping. Once bolted back together, it is extremely stout.

Bolts for easy assembly. The base goes together quickly, with four bolts locking the leg units to the long stretchers. Three internal cross stretchers are pocket-screwed between the long stretchers to form the box that holds the bags of sand.

Stub tenons to the top. The benchtop, a lamination of carefully selected construction lumber, is mortised on the underside to mate with stub tenons on the legs.



bench firmly in place, easily compensating for the light weight of the softwood lumber that I used to build the base. And the bags are easily removed when the bench needs to be disassembled. The front and rear stretchers are linked by three pocket-screwed cross stretchers and skinned with plywood top and bottom.

Vise unit

A workbench needs a vise. I prefer a leg vise. It is simple to build, and the only



The powerful turnbuckle. Manney's bench derives great rigidity from the four turnbuckles connecting the top to the legs.

hardware required for it is a vise screw, which is widely available and inexpensive (I paid about \$60 for the 18-in. Yost vise screw I used on this bench). Leg vises apply a huge clamping force and have a much larger capacity than most manufactured vises. My leg vise has 11½ in. of clearance between the vise screw and the top of the bench, and the chop can be opened 12½ in. from the face of the workbench.

The simplest form of leg vise doesn't even require any joinery. For three years I used a leg vise without a pin board; it was just loose on the bottom. I would use a block of wood as a spacer in place of the pin board. I mostly work with stock between 1 in. and 2 in. thick, so I made a block that was 1 in. thick by 2 in. wide by 4 in. long. When I worked on stock ½ in. to 1 in. thick, I would insert the block so its 1-in. dimension would be pinched between the vise chop and leg. When working on 2-in.-thick stock I would flip the block down so that the vise would clamp the thicker dimension. This worked well, but the vise was floppy when I screwed it in and out, and if I was working on something thicker or thinner than normal, I would have to run around looking for scraps that would work as a spacer block.



Sand for stability. Fifty-pound bags of playground sand stowed between the stretchers give an already stout bench even firmer footing.



Shelf completes the base. Screwing in the shelf while the leg bolts are only gently tightened brings the sandbox stretchers into plane with the primary stretchers. With the shelf screwed down, Manney gives the bolts their final tightening.

Add the leg vise

A leg vise, straightforward to make, is powerful, capacious, and very affordable.



Chop on wheels. The cherry vise chop has a maple pin board and a Yost vise screw. Manney added a small caster below the pin board for smooth action.



Strong and simple. Manney likes the leg vise for its affordability, simplicity, and clamping capacity.



Inserting the pin. With the vise set at roughly the span of the workpiece he'll be clamping in it, Manney inserts a pin through the pin board to act as a fulcrum.

Big wide jaw. The vise can open enough to clamp workpieces up to 12½ in. wide, and it has 11½ in. of clearance above the vise screw.

So, finally I made myself a pin board. Instead of cutting a mortise through the leg for it, I cut an open slot at the bottom of the leg. I screwed a support block to the inside of the leg at the floor and a long kicker block to the underside of the end stretcher. The clearance between the two blocks is about $\frac{1}{32}$ in. more than the width of the pin board. Together, they guide the pin board and keep it from binding. If the vise does bind, unscrew one of the blocks and plane it a little to create more clearance.

I also bought the smallest fixed-wheel caster that I could find and installed it on the underside of the pin board as close to the vise chop as possible. This little wheel carries the weight of the chop as the vise is extended and also prevents it from binding. When I push the chop close to the leg, the wheel travels right into the slot in the leg. The wheel is not essential, but after many years of lifting or kicking the vise chop to keep it moving in or out, I can tell you that a wheel is very nice.

Even if you don't have a moving date on your calendar, you might consider this workbench. It's inexpensive, easy to build, easy to disassemble, and it doesn't sacrifice on performance. □

Tim Manney builds chairs and makes reamers in South Portland, Maine.

The bench in use



A very versatile vise. Capable of handling big planks with ease, the leg vise is equally adept at working with smaller stuff. Above, Manney uses a scrap cut to length to support the back end of a wide board for edge planing. Below, he grips a thin planing stop in the vise as he makes a batch of chopsticks.