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Shaker-Style Woodbox



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iven the resurgence of fireplaces and wood-burning stoves over the last couple of decades, needs for in-home firewood storage also have redeveloped. Unlike earlier times, when many households depended upon wood-fueled fires for all of their cooking and heating, storage requirements today are somewhat reduced. This became readily apparent as I looked through my library for design ideas to construct a woodbox. While the room's overall ambiance is southwestern, it also contains a few other early-American antique pieces. A durable, functional woodbox was needed that, rather than providing a focal point for the room's decor, would serve its purpose without detracting from the ambiance.

Because the box was to be painted, I built it of clear white pine. Also, since the box was to be simple but functional, the joinery was selected on the basis of durability and efficiency. This box is easy to make, but it is still high quality. To ensure that the box would hang together as chunks of firewood are thrown in, and as the wood shrinks and swells with the changing seasons, the joinery, the grain orientations and the seasonal movements of its components all had to be carefully considered. As indicated in the drawings, da-

does and rabbets were used to join this box, securing the joints with cut nails. Cut nails are my choice over wire nails because they have more holding power and are historically correct for this style of joinery. I oriented the grain so the ends and bottom expand and contract in unison; that is, the cross-grain dimension extends front to back in these components. Thus, the front and back panels are carried along as the end and bottom shrink and swell.

The cross-grain orientation in the front, back and partition is vertical so these three components move as a unit as well. However, the partition is not carried with the bottom; therefore, the partition is housed in dados at each end and its length is adjusted so the bottom (along with the front and back panels) will move independently throughout the year.

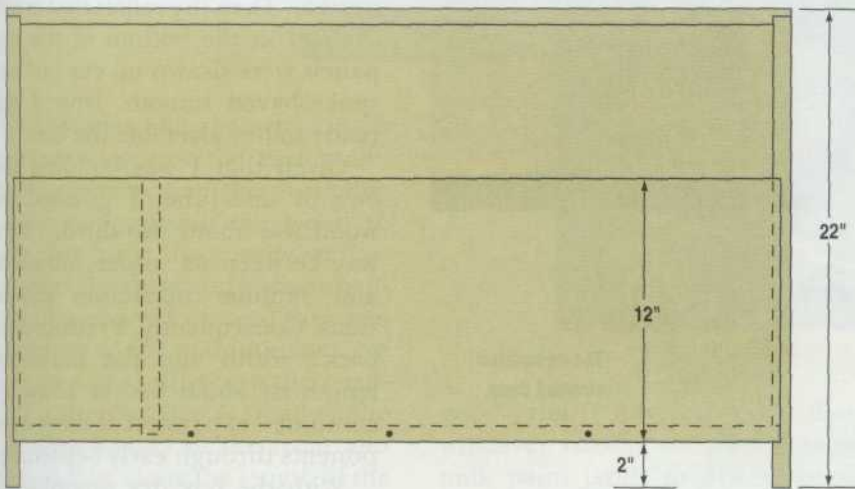
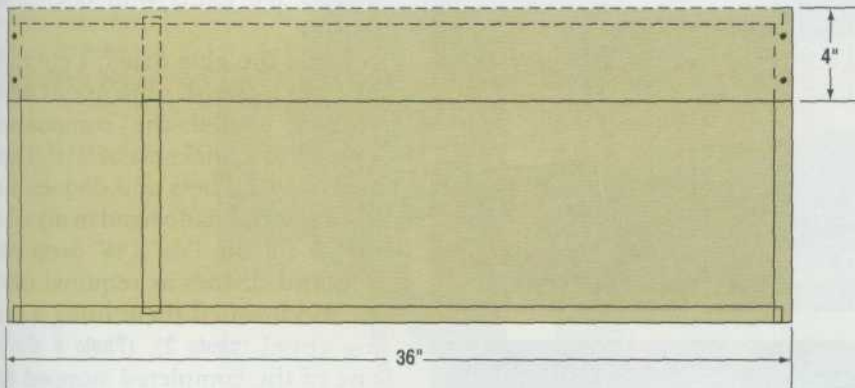
Finally, the rabbets in the end panels are stopped at the bottoms of the front and back panels. With the bottom housed in dados in the ends and in rabbets in the front and back, the bottoms of the front and back should be fixed, forcing expansion and contraction of these components to operate along their tops.

Since the back is housed in the top of the rabbet, the gap between the back and top from late-winter to mid-summer will be visible only from the back. However, the front will shrink to expose an 1/8" or so of the rabbets in each end, while in late summer the front's top edge will extend above the relief in the ends

If this is objectionable, one could use a housed rabbet and dado joint, stopping the dado below the relief. This is a more complicated joint, however, requiring a bit more time which translates, in the commercial world, to additional cost.

With these design and construction details thought through, I proceeded to select and square-up stock for this box, not overly concerning myself with grain and color matching since the box was going to be painted. I also did not discard stock because of blue stain as I glued-up stock to the panel dimensions given in the cutting list. To make the wider panels, I simply edge-joined the stock, liberally spreading yellow glue on the edges, and clamped the stock together. Since one of my most important goals is to build furniture that does not self-destruct a decade

Dimensions



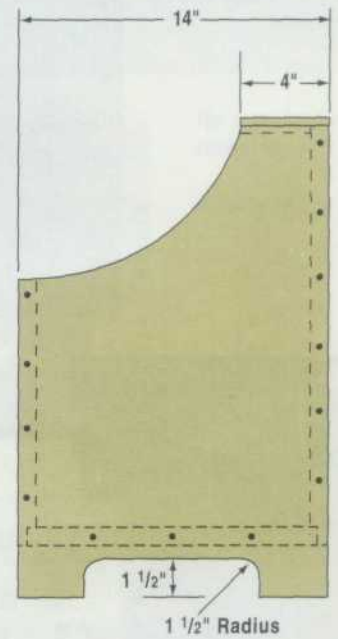
Materials List

White Pine:

2 ends	$1\frac{3}{16}" \times 14" \times 21\frac{9}{16}"$
1 front	$1\frac{3}{16}" \times 12" \times 35\frac{1}{8}"$
1 back	$1\frac{3}{16}" \times 19\frac{9}{16}" \times 35\frac{1}{8}"$
1 top	$1\frac{3}{16}" \times 4" \times 36"$
1 partition	$\frac{3}{4}" \times 11\frac{9}{16}" \times 13\frac{1}{8}"$
1 bottom	$1\frac{3}{16}" \times 13\frac{1}{8}" \times 35\frac{1}{8}"$

2d cut finish nails

1 pint milk paint

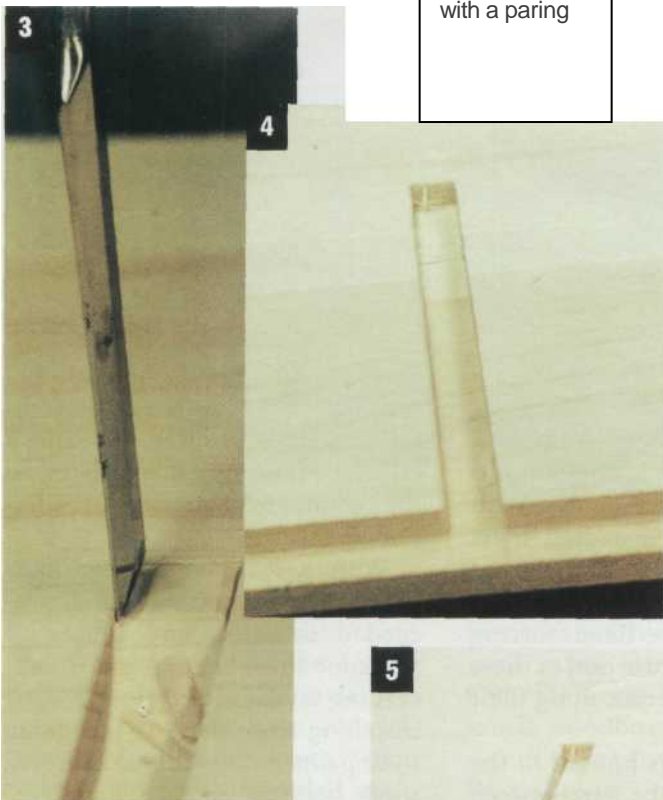




1
Cutting glued-up ends to finish dimensions



2
Cutting the rabbet in the bottom edge of the back panel



3
Completing a stopped dado with a paring

4
The complete stopped dado.

or two hence, I did not "reinforce" these edge joints with biscuits or dowels.

Once the glue dried, I cut each piece to its finish dimensions (photo 1) and planed the components smooth to a thickness of 13/16". Then I laid out rabbets and dados. Using a stacked dado head in my table saw, I cut the 13/16"X3/8" deep rabbets and dados as required (photo 2), and finished them using a paring chisel (photo 3). (Photo 4 shows one of the completed stopped dados.) I also cleaned up the rabbets with a shoulder plane so the assembled joints would be tight and crisp (photo 5). Then the reliefs that create the feet in the bottom of the end panels were drawn in, cut out and spokeshaved smooth. Now I was ready to dry assemble the box.

Given that I was building this box in mid-June, I guessed my wood was about two-thirds of the way between its winter minimum and summer maximum dimensions. Consequently, I reduced the back's width and the partition's length by about 3/32" to allow for continued expansion of these components through early September

With the box dry assembled, I laid out the curved relief in the top front of the end panels. By drawing the curves full-size on the ends, I could play with the shape until I found one that was pleasing to the eye. Disassembling the box, I cut the reliefs in each end, spokeshaved them smooth, and sanded the inside surfaces to 180 grit. The box was now ready for final assembly.

As before, I assembled the box dry and clamped it together securely. No glue was used in the box's assembly to ensure that slight differences in expansion would not cause the components to pull themselves apart. Using a 1/16" drill bit, I provided pilot holes for the nails and proceeded to nail through the ends into the front, back and bottom panels. In using cut nails, which have a



Cleaning up a rabbet joint with a shoulder plane



Driving a cut nail, showing the wide dimension of the nail, is oriented along the grain of the wood you're nailing through

The assembled and sanded woodbox.



rectangular cross-section shape, the wide dimension must be oriented along the grain (**photo 6**); thus the wedge effect of the wider than thick nails is exerted against the end grain, thereby eliminating the possibility of the nail causing the wood to split. Similarly, the bottom was secured to the front and back by nailing through the front and back into the edges of the bottom panel. No nails are used to secure the partition, since the idea is to allow the partition dadoes in the front and back to float along the length of the partition as the bottom/ends unit expands and contracts. Finally, I nailed the top to the ends, then countersunk all nail heads 1/16" to 1/8" below the surface. The cavities were filled, and after the filler cured, all exterior surfaces were sanded to 180 grit. (**Photo 7** shows the assembled box.) While 180 grit abrasives leave far too coarse a surface for my taste, this box was to be painted with tavern green milk paint. Since milk paint provides a textured mat surface, sanding beyond 180 grit would have been a wasted effort.

Following the manufacturer's directions, I mixed a pint of tavern green milk paint and coated the box inside and out. Now I have painted a fair number of Windsor chairs with milk paint since I began building chairs in 1984, but despite this decade of experience, my reaction as the first coat of milk paint dries is almost always the same — good grief, I have ruined it! For whatever reason, the first coat of milk paint tends to dry off-color and blotchy, in a word, awful! (**photo 8**) Anyhow, I persevered and burnished the dry painted surface with #2 steel wool. Then I applied the second coat and, voila, things were looking up. Once the paint was dry, I again burnished the surface, this time with #0000 steel wool. Now the box looked like something I could sign.

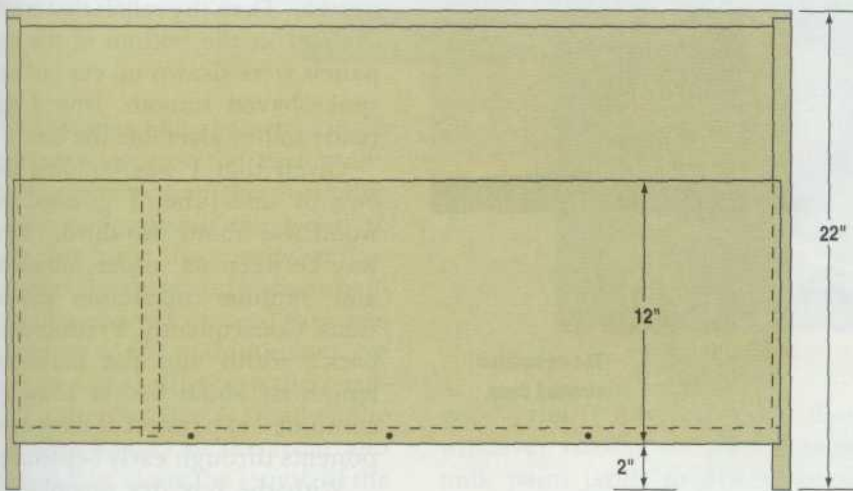
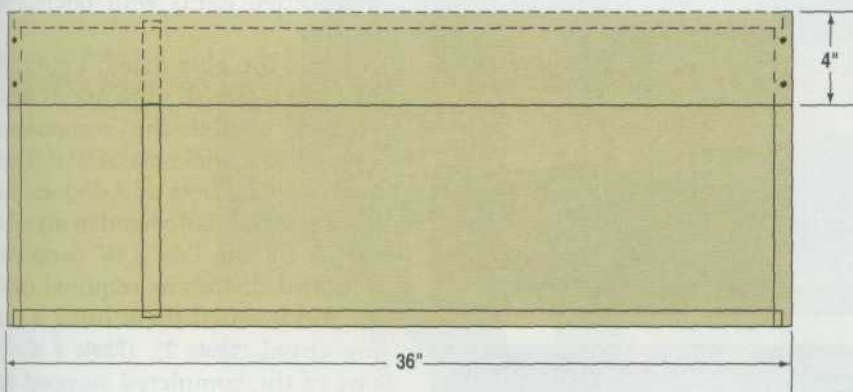
While the milk paint provides a



Applying milk
pain

very durable and quite refractory finish, it does water spot badly. To minimize this, I always seal milk painted surfaces with an oil finish of some sort —tung oil, Watco Danish oil or, for this piece, a mix of equal parts of boiled linseed oil, turpentine and satin polyurethane varnish. I coated the box with this mix, let it stand for 10 or 15 minutes, then wiped off the excess with paper towels, taking great care to collect all the oily paper afterward and destroy them in my wood-burning stove to avoid having them

Dimensions



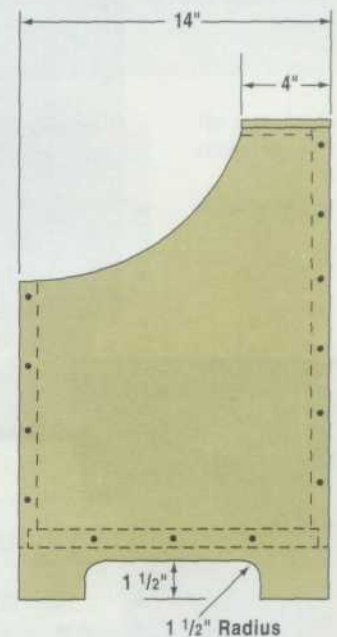
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