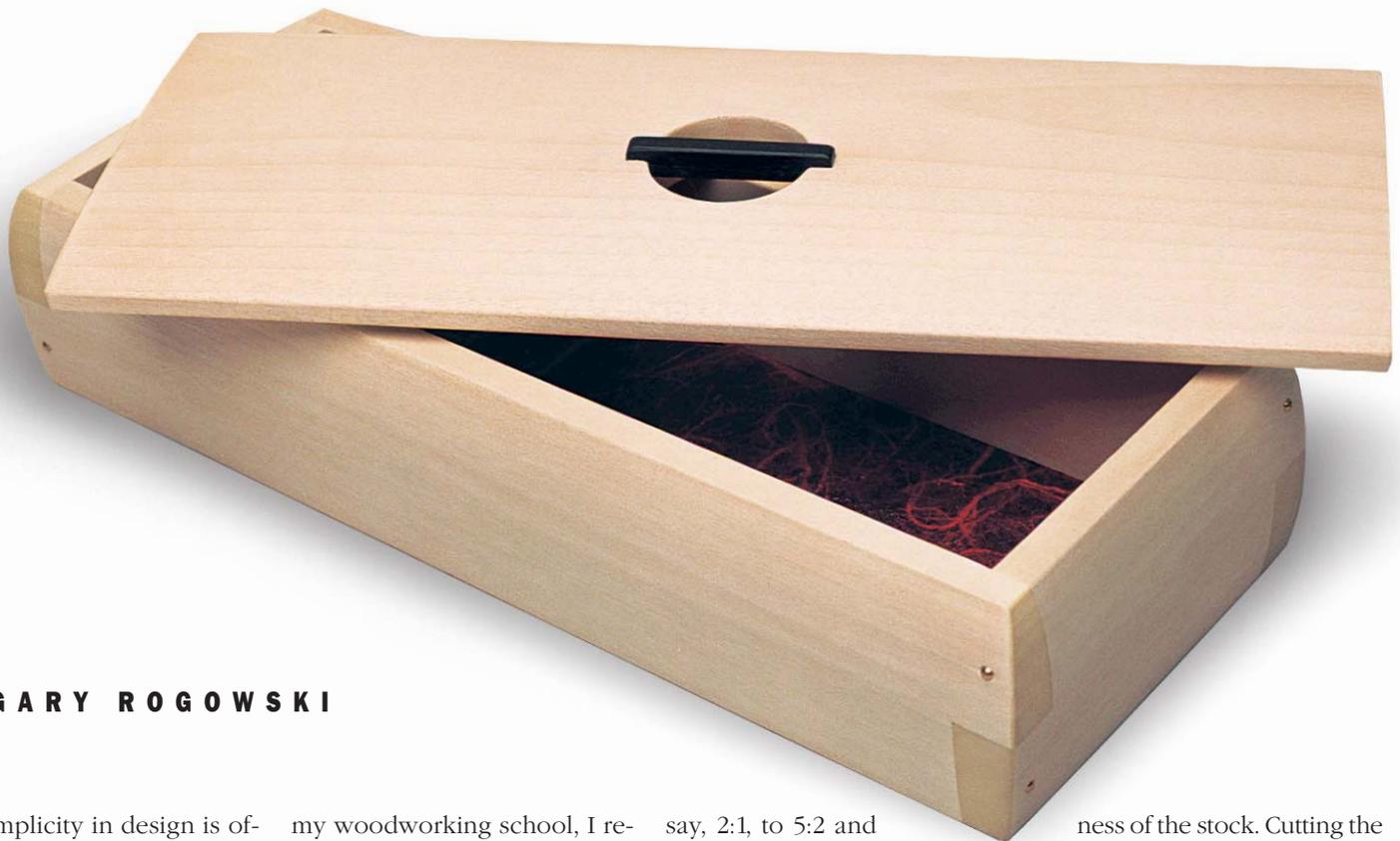


# A Small Elegant Box

Pinned lap joints  
and shaped sides  
refine a basic design



BY GARY ROGOWSKI

Simplicity in design is often mistaken for having a simple mind or a lack of ideas. Accuse me of this innocence, but I still prefer shapes to be more modest than bold. Because of this inclination, I've always found Japanese design to be inspiring, especially traditional designs for packaging. When I wanted a new joinery project for students attending

my woodworking school, I recalled a bamboo sushi container made with simple lap joints. I changed the design to use alder instead of bamboo and to include a bottom lined with rice paper. I left out the fish.

The first step in this project is to decide on the proportions of the box. It's surprising how different a box looks when you change the proportions from,

say, 2:1, to 5:2 and to 8:5 (the classic golden mean). Try some basic outlines on a piece of paper to see the difference. Then mill up some stock  $\frac{1}{2}$  in. thick and 2 in. wide.

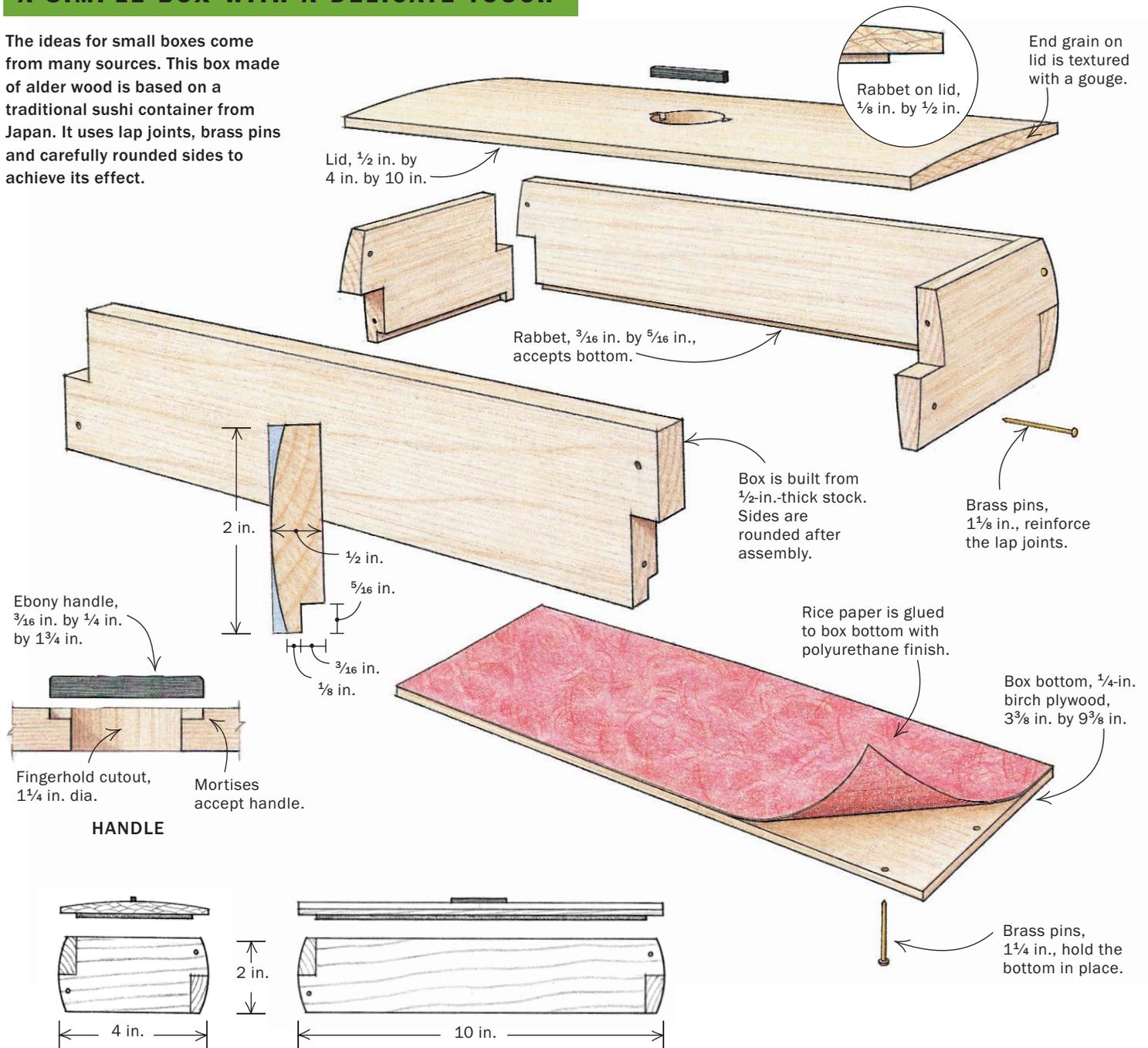
Lay out the lap joints at half the height of the stock (1 in. in this case) and mark them with a square. Then lay out the depth of cut with a marking gauge set to cut just less than the thick-

ness of the stock. Cutting the depth of the fingers to just less than the thickness of the stock enables you to clamp up right over the joint, making it much easier to glue up. The long grain rather than the end grain will be left proud so that it won't get in the way of your clamp pad.

When it comes to arranging the lap joints at each corner, you can stagger the fingers

## A SIMPLE BOX WITH A DELICATE TOUCH

The ideas for small boxes come from many sources. This box made of alder wood is based on a traditional sushi container from Japan. It uses lap joints, brass pins and carefully rounded sides to achieve its effect.



around the box: For this box I placed one upper finger and one lower finger on each side piece, which looks good to me. Or you can cut both fingers on the upper or lower half of each side. It's up to you, but bear in mind that when you stagger the joints, it's a much tougher glue-up. Any clamping pressure on the sides tends to collapse them in toward each other, so it helps

to glue up the box with the bottom in place to act as a spacer. The easier method aligns the sockets and fingers opposite each other so that each side is held in place by the other when pressure is applied.

### Cut lap joints and rabbets

Pull out your tablesaw and dado blade, if you must, but lap joints and rabbets are just as

easily cut with a good dovetail saw and a paring chisel. Just remember that these simple joints have very little gluing surface, so they must fit well to gain any strength from the joint. For added strength, I reinforce the joints with 1 1/8-in. brass pins after glue-up.

The rabbets to accept the bottom are easily cut on a router table. Because I built the box

with staggered joints, I cut the 3/16-in. by 3/16-in. rabbets for the bottom into each piece, with a stopped cut at the finger end and a through-cut at the other. End these stopped cuts well in from the end so that you lessen the chances of blowing out the short grain on the sides. The rabbets are squared up with a chisel before the box is assembled. Though this is a small box,

## BOX BUILDING WITH LAP JOINTS AND RABBETS

**1. Lay out the lap joints.** To lay out the fingers, use a marking gauge set to just less than the stock thickness.

**2. Make the first cut.** Use a dovetail saw to cut a kerf at half the width of the stock.

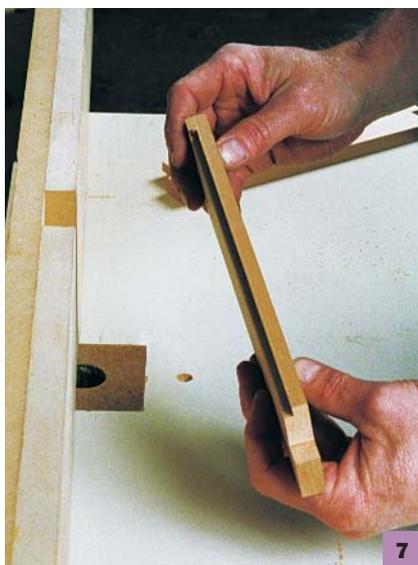
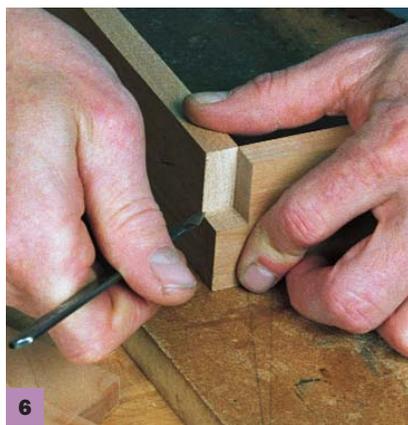
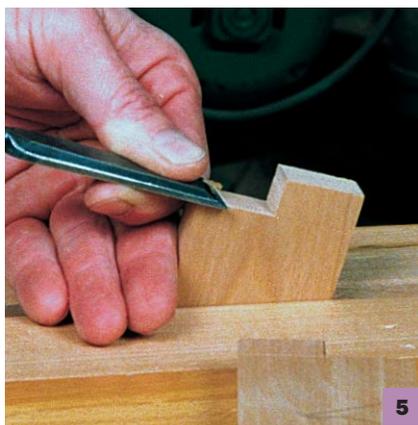
**3,4. Follow the chiseled line.** Establish a shoulder line using a paring chisel and cut away the excess.

**5. Clean up with a chisel.** Square up the joint with a paring chisel.

**6. Mark from the joint, not from a ruler.** With one shoulder cut, lay out the mating lap joint directly from the stock.

**7. Stopped rabbets on the router table.** Using a straight bit and stop block (not shown) on the router table, cut a rabbet in the bottom of the sides—be careful not to blow out the end grain. Use a paring chisel to square up the corners of the rabbets.

**8. An army of clamps.** After a dry run with the clamps, lay out the pieces and apply glue to the fingers and shoulders. Add clamps one by one, and check frequently to make sure the box stays square and that every joint closes.



glue-up takes more clamps than you might imagine. Make sure that pressure is evenly distributed and that everything is square, then leave it clamped up overnight.

### Shape the sides with a handplane

The next day, round the sides of the box with a sharp plane—I use either a low-angle block plane or a No. 3 smoothing plane (see the top photo on the facing page). Because you're planing end grain, work in from the corner, even if it means planing against the long grain. You can clean up any tearout by carefully planing in the proper direction once the bulk of the shaping has been completed.

Draw pencil marks around the edges so you can gauge how far in you want to shape. I round in about one third of the thickness of the stock, leaving the middle of the box sides the full 1/2 in. thick. Be careful at the bottom edges because too much shaping will weaken the wall covering up the rabbet.

Start to round out near the edges of the sides first and work your way back toward the middle until you get a nicely rounded shape. Finish up the shaping with a newly honed blade set for a very fine shaving, and be careful of any potential end-grain problems.

### Shape the lid and handle

The lid is cut out exactly the same size as the overall dimensions of the box before being shaped. Once the box sides have been shaped, the box lid will overhang the sides nicely. Rabbet the lid on the router table so that it fits just inside the box. Place the lid over the edge of a bench hook and clamp it so that you can round it with your plane (see the inset photo on the facing page). Again, use a pencil line to gauge how far to round the lid. After shaping,

## SHAPING THE BOX

**Rounding the sides.** A small block plane cuts in across the end grain. First, a bevel is established, then the entire side is rounded to a fair curve. A pencil line prevents mistakes by showing how much of the stock should be planed away at the edges of the box.



**Shaping the top.** The author uses a bench hook and a block plane (above) to round the top to a fair curve.

carve the end grain of the lid with a gouge (I use a No. 3) for an attractive bit of texture.

Before shaping the lid, drill a 1¼-in. fingerhold in the center of the lid and rout grooves to accept a handle. I use a ¾-in. straight bit in my router table to make these stopped cuts. Chisel them out square and fit a contrasting wood as the handle. I used ebony as the handle for this alder box and left it a bit tall in the grooves. I make the same box out of walnut and use holly for the handle. It helps to do all of your staining before gluing the handle in place.

### Add details to refine the box

There are a couple of other details I add to this simple box. I glue rice paper to the bottom



**Polyurethane finish acts as glue.** The author brushes a coat of polyurethane onto a sheet of rice paper and the box bottom, then lays the paper on the bottom and lets it dry.

using a water-based polyurethane finish from Varathane as the glue (see the photo at left). I put the finish on the bottom and the oversized rice paper, then press them together. No clamping is required. When dry, trim the rice paper exactly to size. The bottom sits in the rabbets and is nailed in place with brass pins. I use a slightly longer pin to nail each of the lap joints. Such thin stock has a tendency to split, so predrill the holes for the pins with an undersized bit. Then carefully tap in the pins, protecting the underside of the box with a towel or a scrap piece of carpet.

This alder box is bleached to give it a bone-white look. I use a couple of coats of a commercial two-part bleaching solu-

tion. After bleaching, I clean the wood with a water-dampened rag. The walnut boxes I make are ebonized using a stain made up of white vinegar and a piece of old steel wool. I give the solution a few days to mix up, strain out the steel wool particles and then wipe this stain onto the walnut with a rag. The amount of darkening that occurs will depend upon the tannin in the walnut, and at this stage it can look a little drab. But as soon as you put a clear coat over it, the beauty of the stained walnut really pops. I pad on a few coats of clear blond shellac as a final touch to this very simple design. □

Gary Rogowski is a contributing editor to Fine Woodworking.