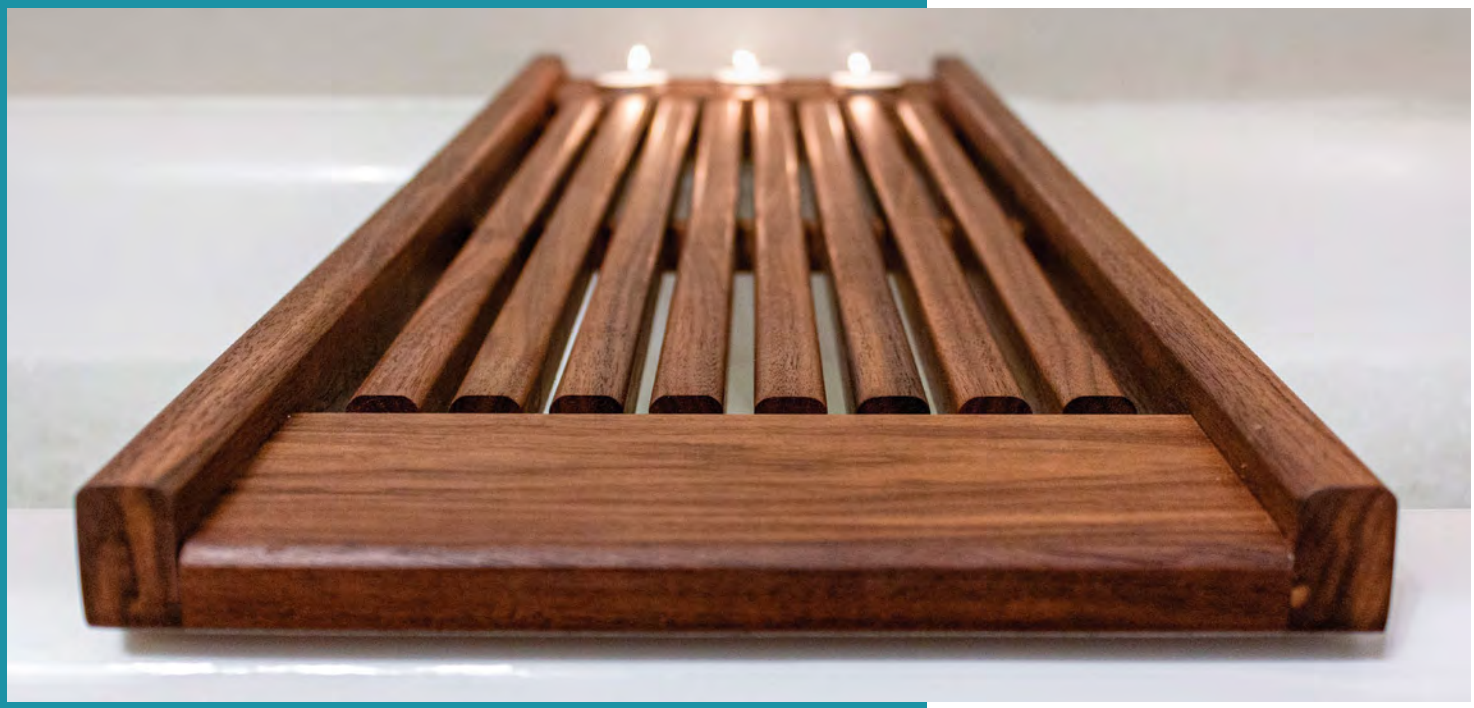
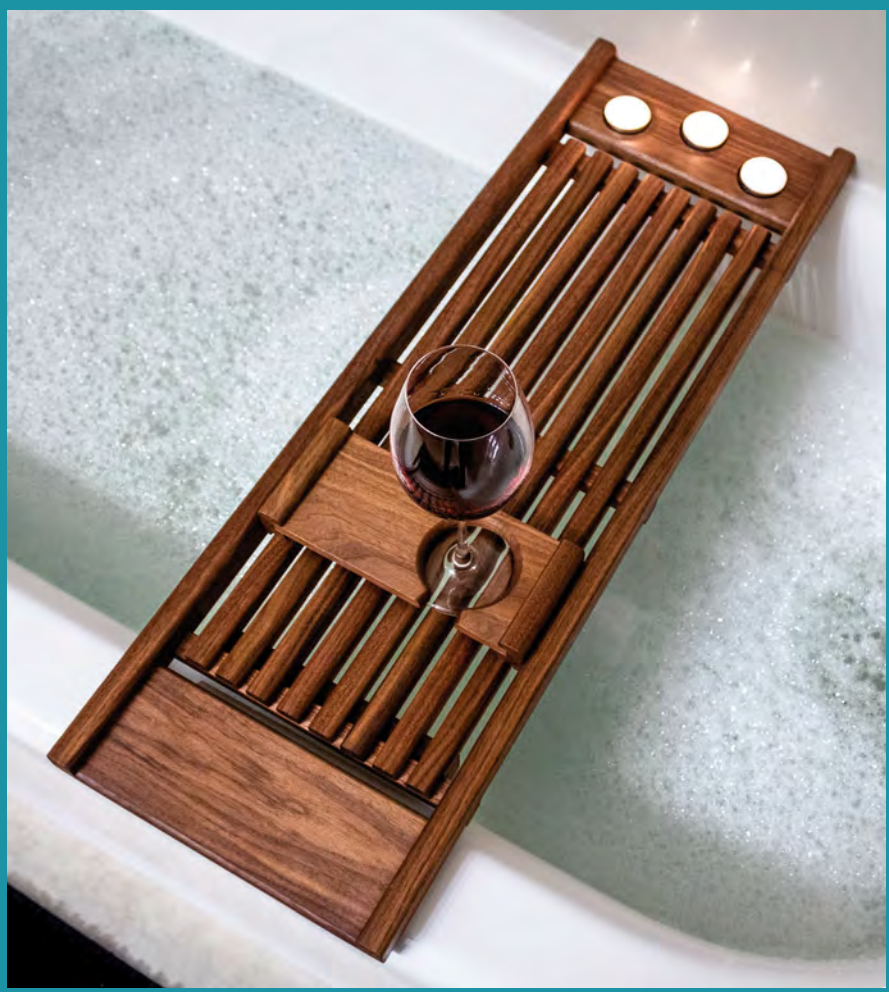


Treat Yourself to a Bath Tray

Weekend project has simple joinery and thoughtful touches

BY LEAH AMICK



I designed this bath tray for a friend's birthday and called it "Settle." She loves bubble baths so I built in everything she needs for a calming soak: a flat surface for a book or e-reader, pockets for tea lights, and a movable drink holder.

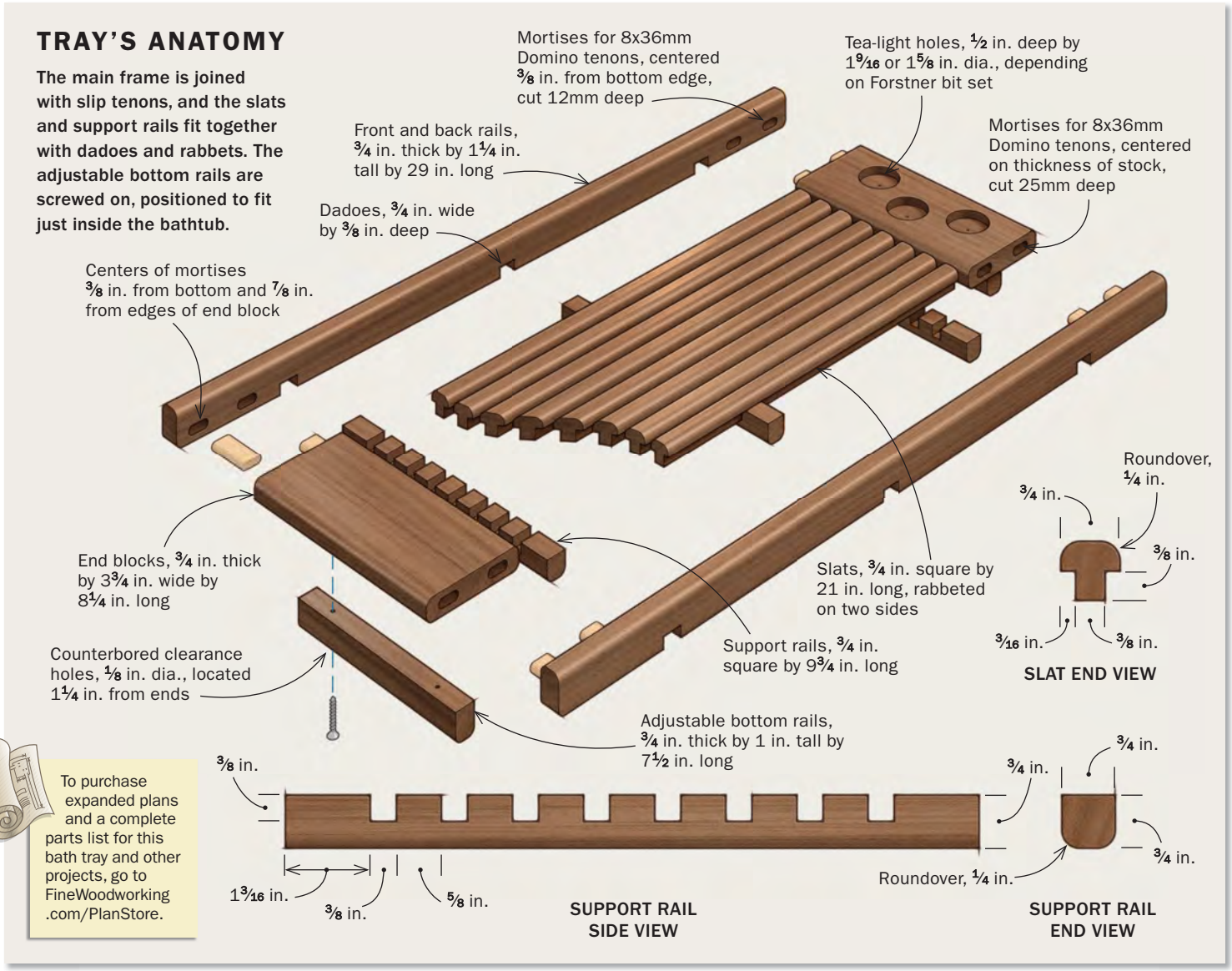
The slats are close enough to keep a glass steady and a phone from slipping into the suds, while allowing splashes to drain and dry. Underneath, adjustable rails stabilize the tray on the edges of the tub. When tub time is over, it's easy to lean the tray out of the way.

This bath caddy is a simple, straightforward build. I used the Festool Domino for the frame joinery, but a number of other mortising approaches would work, as would dowels or biscuits. The interior parts are attached with dadoes and notches, cut on the tablesaw.

Photo, this page: courtesy of Leah Amick

TRAY'S ANATOMY

The main frame is joined with slip tenons, and the slats and support rails fit together with dadoes and rabbets. The adjustable bottom rails are screwed on, positioned to fit just inside the bathtub.



To purchase expanded plans and a complete parts list for this bath tray and other projects, go to FineWoodworking.com/PlanStore.

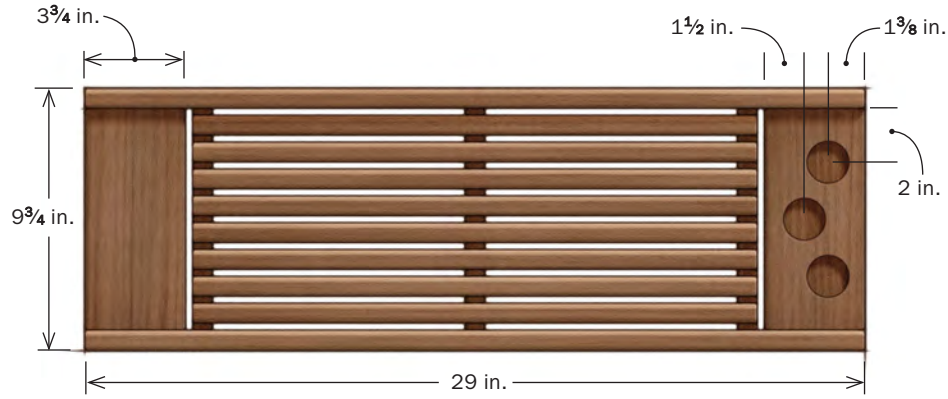
All parts are the same thickness

All of the parts for this project are made with ¾-in.-thick stock, so mill everything to that dimension. Then you can cut all the parts to finished width and most to length; leave the slats and support rails a bit long for final fitting later.

Cut one extra blank for each part, in case you make a mistake when cutting joinery. You can also sand all of the parts ahead of time to at least 180 grit, leaving just a bit more sanding to do before final assembly. Sand the slats evenly, keeping their width as consistent as possible. You'll be rabbeting their lower edges to create a tongue, which needs to fit into dadoes in the support rails.

Join the main frame

The first joints in the project are the slip tenons (Dominoes) between the end blocks and



Drawings: Christopher Mills

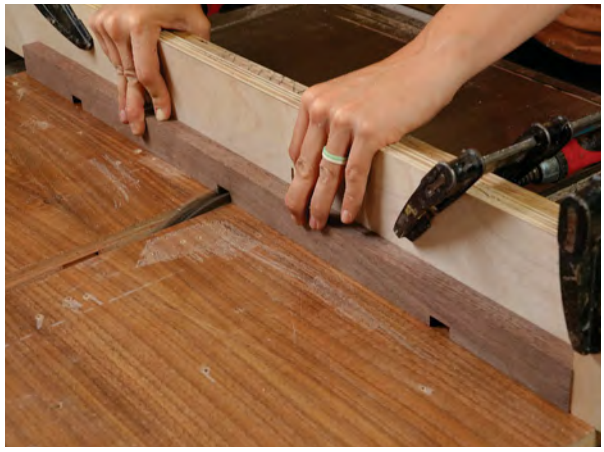
Cut the frame joinery

The main frame parts go together with Festool Domino tenons (or standard tenons, biscuits, or dowels), and the support rails fit into dadoes in the front and back rails.

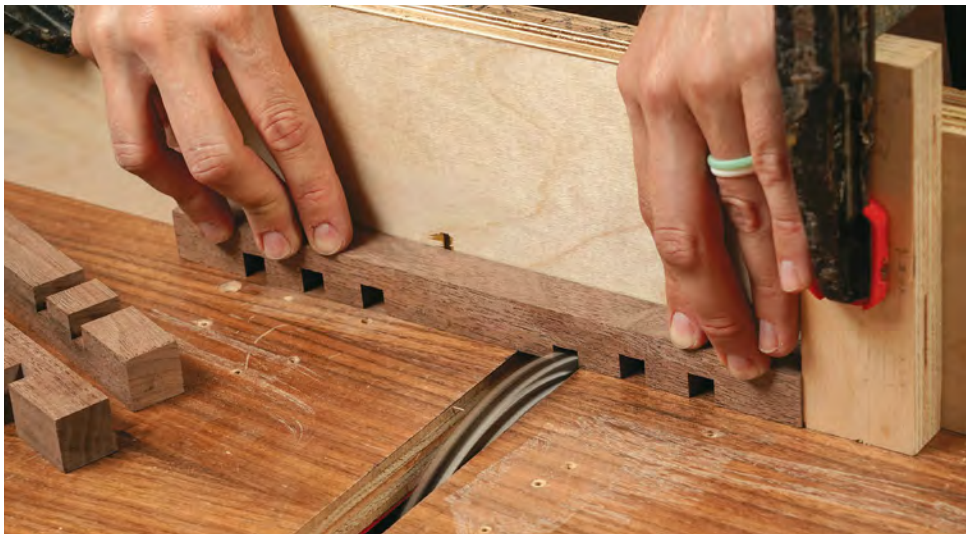
Mortise the end blocks. *Starting with the end blocks, Amick registers the fence of the Festool Domino joiner on the lower faces of the parts to make sure they end up flush.*

Double up the rails. *Clamp the front and back rails together to steady the Domino joiner as you cut their matching mortises.*

Size the support rails. *Dry-fit the main frame to make sure it goes together properly, and cut the support rails a hair longer than the frame's width; they'll be sanded flush after assembly.*



Dado the front and back rails. *Use a test piece to be sure the dado stack is sized perfectly for the ¾-in.-thick support rails (left), and then dado the front and back rails on a crosscut sled (right).*



Dado the support rails now too. *These each get a row of dadoes that will hold the slats. Set a stop block for each dado position, flipping the workpieces to cut two symmetrical notches with each setup. Dado all three support rails before moving the stop block to a new setup.*

front and back rails, creating the structural frame of the tray.

Start by marking the orientation of the parts, and then mark centerlines at each joint location (a white pencil leaves clearer marks on walnut). The frame parts need to end up flush at their lower edges, so those are the faces that get layout marks, and those surfaces face upward when mortising with the Domino.

Insert the Domino bit for the 8x36mm tenons, set the fence to center the mortises on the end blocks, and set the depth for each cut. The tenons should project farther into the end block than into the rails.

The slats in the tray are supported by three rails that fit up into dadoes in the main frame. With the support rails milled to ¾ in. thick, use one to dial in the width of the dado stack for a perfect fit.

Cut the slat joinery

The support rails get dadoes of their own, to hold the slats. But there's a twist. The slats are just ¼ in. apart, and if I made full-width dadoes for them, there would be a short, fragile, end-grain section between each pair of dadoes.

Instead, I rabbet the bottom edges of the slats to form ⅜-in.-wide tongues, which drop into dadoes of the same size, making the short-grain areas between the dadoes thicker and stronger. After dadoing the support rails, test the height and depth of the rabbets on an extra slat blank before

Photos, except where noted: Asa Christiana

Prep the rest of the parts

There's some drilling to do, joinery to cut, and corners to round over before you're ready to assemble the tray. Amick strongly recommends pre-finishing the parts as well.

Drill for the tea lights. *Use a large Forstner bit to drill shallow holes in one of the end blocks. Set the depth stop to ensure matching holes.*

Rabbet the slats. *These are rabbeted along their lower edges to create a ⅜-in.-wide tongue that fits nicely into the dadoes in the support rails. Bury the dado set in an auxiliary fence to cut these rabbets. Bump the fence until the first slat fits nicely, and then rabbet the rest.*

Round the parts. *Use a roundover bit on the router table, starting with a heavier pass and ending with a light one for best results. Leave the ends of the front and back rails square; you'll round them after assembly to match the rounded edges of the end blocks.*

Pre-sand and pre-finish. *This is easier to do while the parts are still separate. Amick sands all of the parts to 220 grit and applies at least one coat of Osmo Polyx-Oil before assembly, being careful to keep as much finish as possible off the glue surfaces.*

rabbeting the final pieces. Then dry-fit the whole tray assembly and trim the slats to final length, so they end up flush with the outside edge of the support rails.

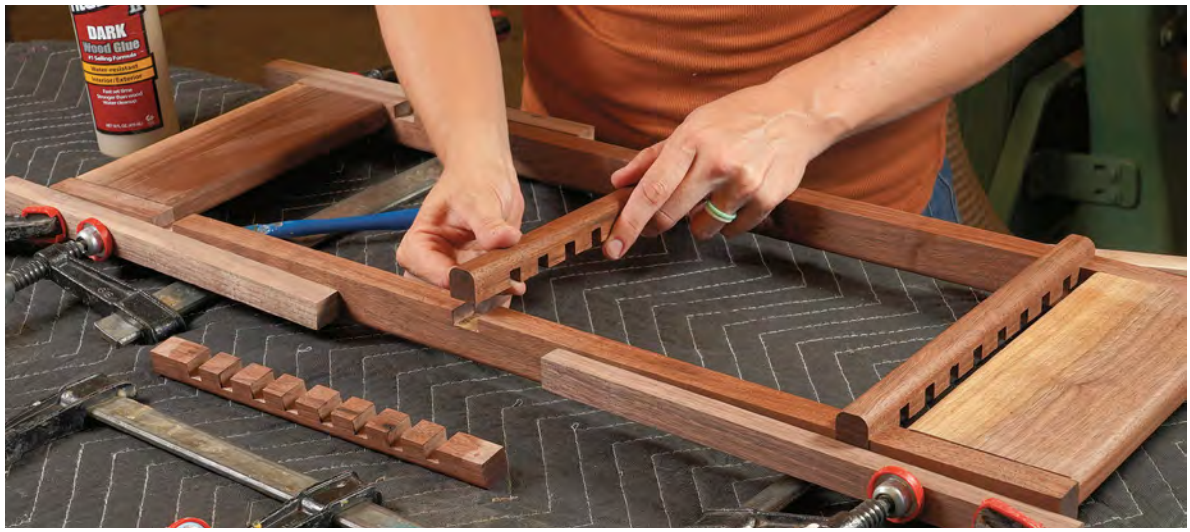
Add the details

Before assembling the tray, drill three tea-light pockets into one of the end blocks (or omit them if you like). A sharp Forstner bit does the job perfectly on the drill press. Tea-light candles are about 1½ in. dia., so make the holes a little larger than that.

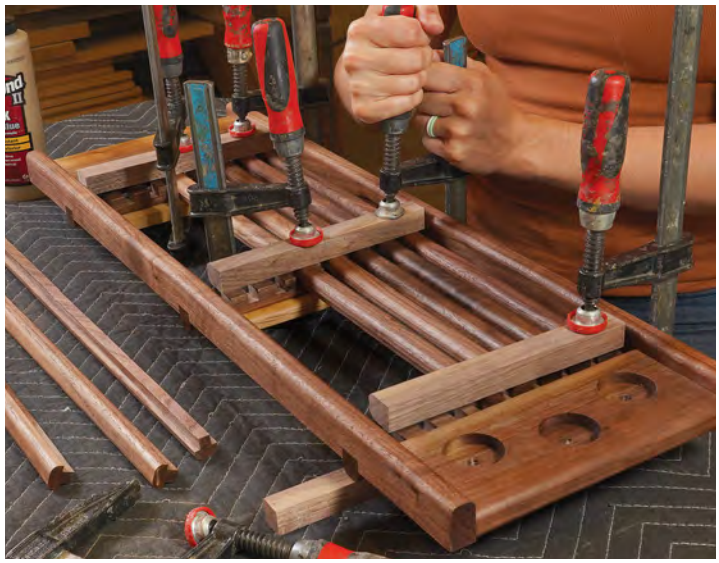
Next, cut the adjustable rails to size. These fit against the rim of the tub, keeping the tray stable while letting it slide fore and aft. Drill and counterbore clearance holes into each one. Then use these clearance holes to mark for matching pilot holes in the end blocks. Locate the pilot holes carefully, so you don't drill through the bottoms of the tea-light pockets.

Assembly goes quickly

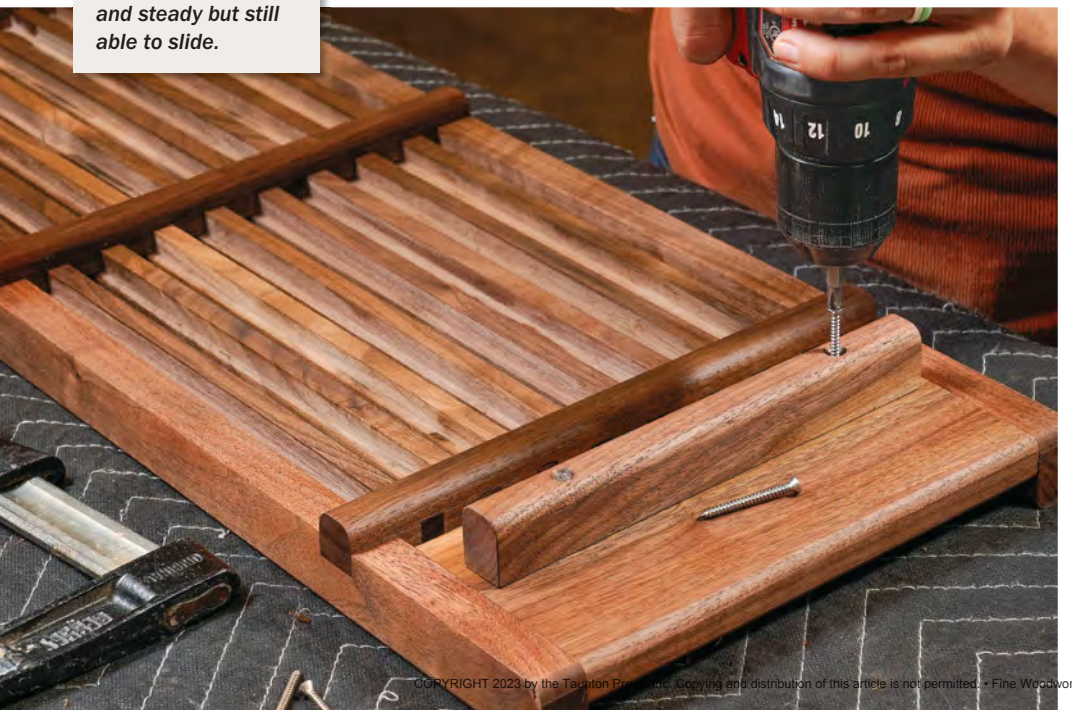
The simple joinery makes this project easy to assemble. Afterward, don't forget to round the ends of the main frame rails to match the roundover on the end blocks.



Assemble the frame. *After gluing the Domino tenons into their mortises and clamping the main frame together, glue the support rails into their dadoes. They should protrude a tiny bit past the edges of the frame, so you can sand them flush later.*



Add the slats. *Glue in half of the slats at a time, using cauls to spread the clamping pressure. After assembly, finish the roundovers on the outer frame, and give the whole tray a light sanding and another coat of finish.*



Add the adjustable rails. *These should be placed to fit between the top edges of the tub, ensuring that the tray will be stable and steady but still able to slide.*

The last decorative detail is a ¼-in. roundover on all of the exposed edges to give the tray a soft, soothing aesthetic. Using a bearing-guided bit on the router table, I round the top edges of the slats, the top edges of the front and back rails, the bottom edges of the support rails, all the long edges of the end blocks, and the bottom edges of the adjustable rails.

One area I don't round yet is the ends of the front and back rails. I round the bottom edge of those after assembly, blending them into the rounded edges of the end blocks.

Pre-finish the parts before assembly

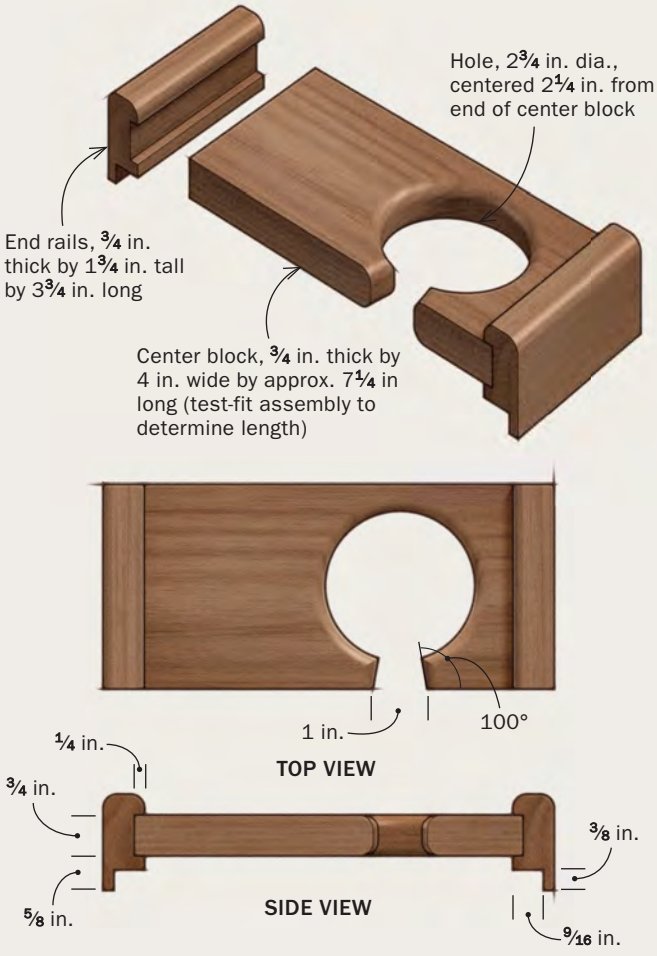
Give the parts one last sanding before assembly, to 220 grit. To maintain the snug fit in the joints, don't sand inside the dadoes, and sand the sides of the rails and slats only very lightly. After sanding, apply at least one coat of finish while all of the surfaces are easily accessible, working to keep finish off the joint surfaces. A coat or two of finish will also make it easier to clean glue squeeze-out from the nooks and crannies.

I finished the tray with two coats of Osmo Polyx-Oil (satin variety), a high-solids oil that builds nicely and is easy to apply.

Glue up the tray in two stages, as shown on this page. As you press the slats into place, make sure their ends are flush with the edges of the support rails.

GLASS HOLDER IS A NICE TOUCH

The joinery is just as simple on this sliding wine-glass holder, which rides between the slats and frame rails. Adjust the size of the center hole to fit your glass or mug of choice.



After assembly, I place the finished frame back on the router table to make the roundovers continuous on the outside corners. Then I apply a last coat or two of Osmo, doubling it up on the raw surfaces.

Last, fasten the adjustable rails to the bottom of the tray so they sit just inside the edges of your tub.

Don't forget the wine-glass holder

The sliding wine-glass holder is not mandatory but it's a really nice accessory. It's sized for a standard wine glass, with rabbeted end pieces that elevate the holder so the foot of the glass can slip under it. But the holder can easily be adapted to other types of glasses and mugs.

I use a hole saw to cut out the circle, and then bandsaw an opening into it. After you've assembled and finished this last accessory, you're ready to run the hot water, light the candles, pour the wine, and relax. □

Leah K.S. Amick is a furniture and product designer in Portland, Ore.

Add the optional drink holder

This cutout is sized to steady the base of a standard wine glass, but it can be adapted to hold other types of glasses and mugs.

Check the fit. *This simple assembly is joined with dadoes, and the end blocks are rabbeted to fit between the slats. Dry-fit the assembly to be sure it slides smoothly along the tray.*

Make the cutout. *Amick uses a hole saw to cut the large hole in the center block, and then bandsaws an opening to the edge.*

A fitting end. *As you did with the tray, round, sand, and pre-finish the parts of the holder before assembly. Afterward, give them another light sanding and a second coat of finish.*