Dovetailed Tea Box

This project offers a variety of techniques in a small package

BY MICHAEL PEKOVICH

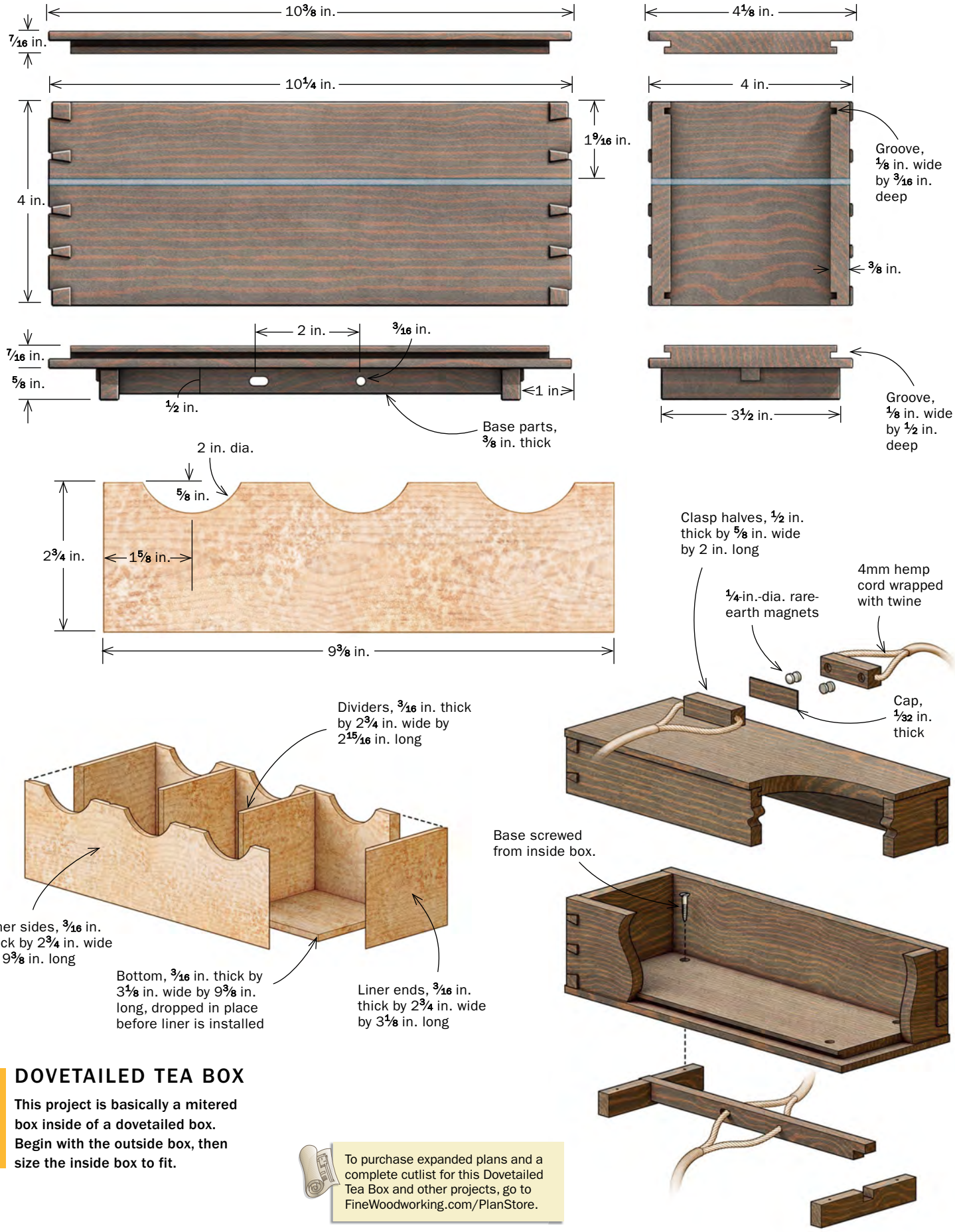
For some reason, tea tastes better coming out of a dovetailed box rather than the cardboard box from the grocery store. For me, tea is about taking a break. The time it takes to steep is just as important as the drinking of it. So anything that adds to that experience, whether it's a teapot or cup or box, can make a difference. For this particular box, I had imagined something like an oyster: a wenge exterior acting as a rough, rocklike shell and a bird's-eye maple liner providing an iridescent interior.

The box turned out to be a study in texture. The proud dovetails, the wire-brushed wenge, the hemp cord, and the bandsawn surface of the clasp all combine to create a box that is as interesting to touch as it is to look at. For an object that sees as much handling as a box, that's an important thing.

Work from the outside in

The box is fairly straightforward to build. I glue up the dovetailed sides, capturing the tongue-and-groove top and bottom, and then make a sawcut right through the box,

Photo, this page: Michael Pekovich



DOVETAILED TEA BOX

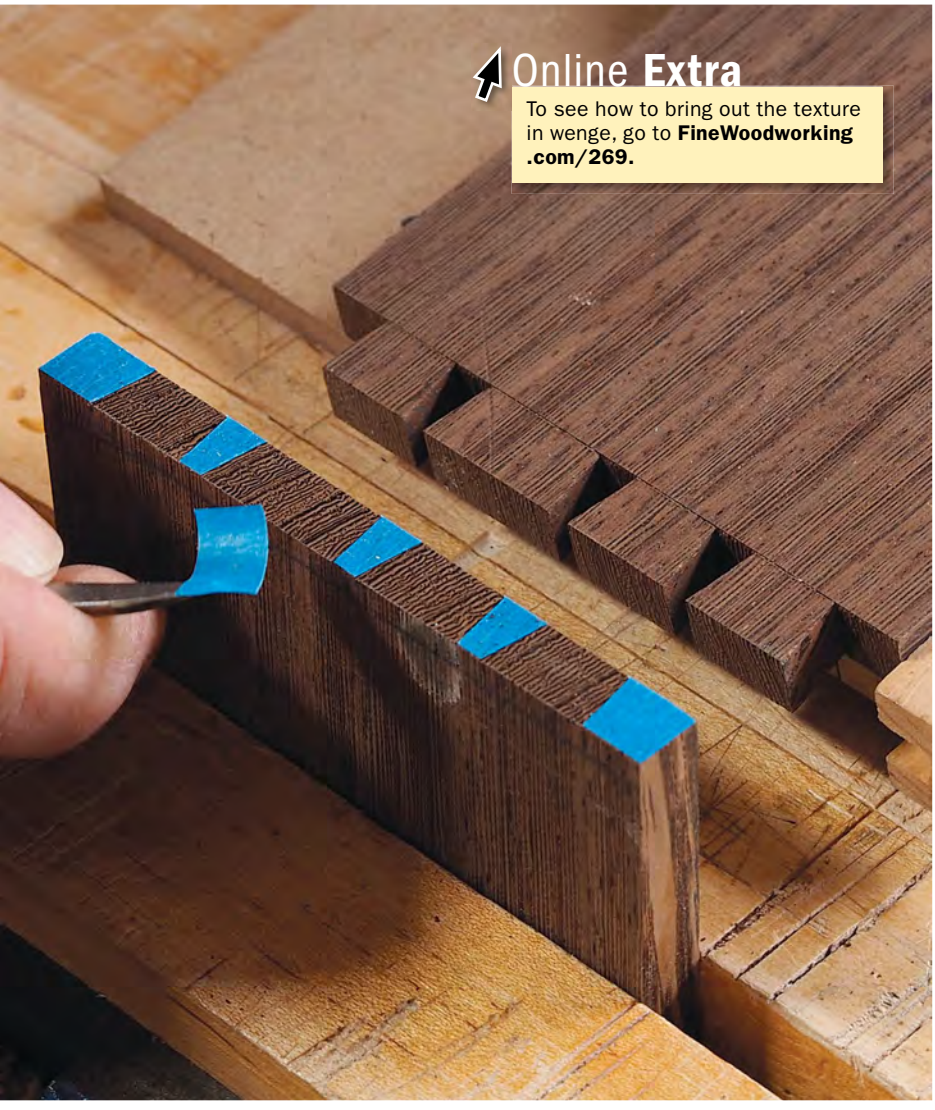
This project is basically a mitered box inside of a dovetailed box. Begin with the outside box, then size the inside box to fit.

To purchase expanded plans and a complete cutlist for this Dovetailed Tea Box and other projects, go to FineWoodworking.com/PlanStore.

Drawings: John Hartman

A dovetailed box

A little help with the dovetails. *A simple shoulder guide positioned along the baseline (above) and held in place with a spring clamp helps ensure proper alignment of the parts for scribing (right). Adding tape to the end grain and peeling away the waste after scribing offers a clear road map for sawing (below).*



Online Extra

To see how to bring out the texture in wenge, go to **FineWoodworking.com/269.**

separating the lid from the base. I then build a liner and add it to the inside.

Dovetailing the box is the place to start. To create the proud dovetails, set a marking gauge a little wider than the stock thickness. When laying out the tails, make the tail that will be sawn through to remove the lid a little wider than the others to account for the sawkerf.

Once the tails are cut, I use a couple of tricks to make cutting the pins a little easier. First, I apply painter's tape to the end grain. This will help to highlight the otherwise invisible knife lines on the hard, dark end grain. Before layout I trim the tape to the exact size of the end of the board instead of folding it over the corners, which could throw off alignment when scribing the pins. Second, I use a jig to help position the parts accurately for scribing. The jig is a rectangle of ¼-in. MDF with a pine fence glued along one edge. A groove in the pine helps to secure it to the MDF and allows for slight adjustments when gluing. Use a combination square to check the fence for square while the glue is still wet and adjust as necessary.

To use the jig, position its fence along one edge of the tail board, and then slide the jig toward the end until the MDF is aligned with the baseline of the tails. Use a spring clamp to secure the jig. Place the tail board on top of the pin board with the edge of the MDF contacting the inside face. Slide the tail board over until the jig's fence contacts the side of the pin board. The tail board should now be in position for scribing the pins with a knife. Once you are done, peel away the tape from the waste areas between the pins to reveal a clear road map for sawing. To finish the joint, cope out the waste and chisel to the baseline of the pins.

Photos, except where noted: Rachel Barclay

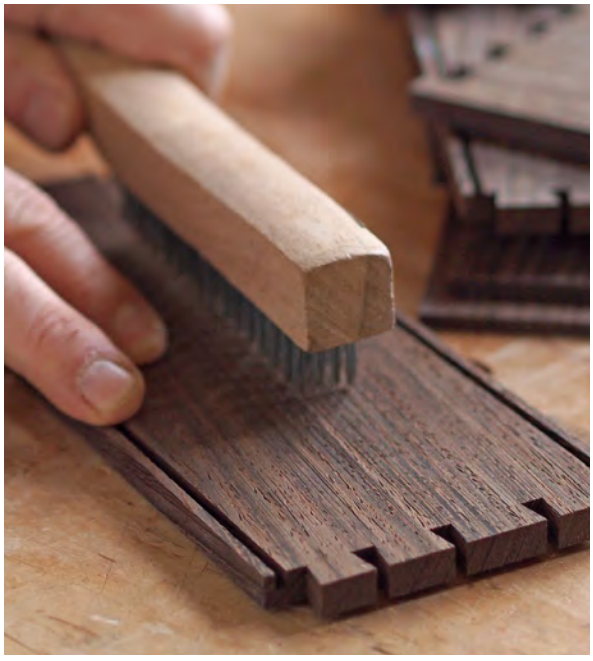
Grooves for the top and bottom. *Adjust the rip fence to take a cut a kerf-width away from the edge. Groove the box sides, and then raise the blade and groove the edges of the top and bottom (right). Aim for a fit that's rattle-free, but not overly snug (far right).*

Join the top and bottom

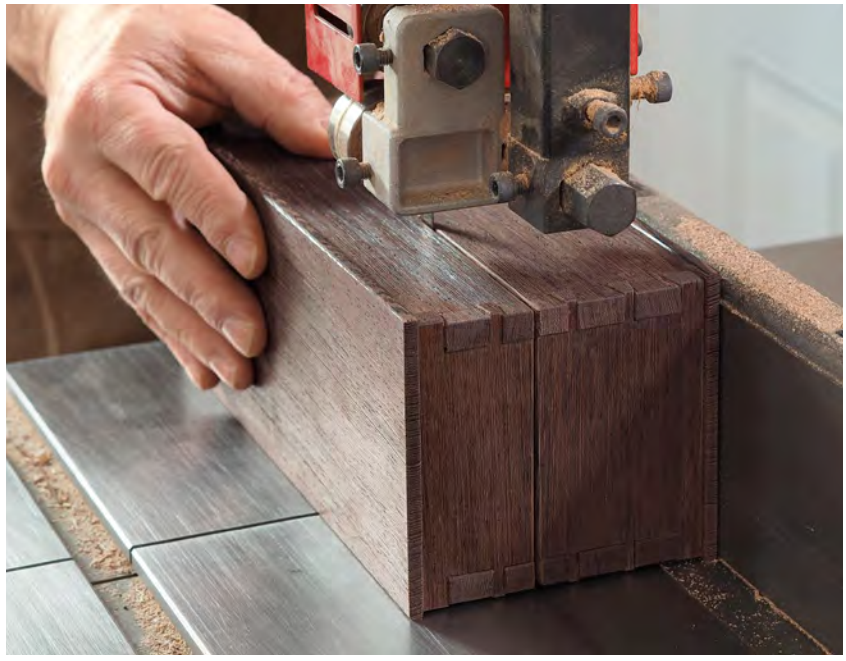
Boxes can look clunky if you're not careful, so I made the top and bottom appear thinner by leaving just a portion of their thickness visible above and below the sides. The result is a delicate-looking top and bottom that are in scale with the overall size of the box.

I start by cutting grooves at the top and bottom of the long sides and then around the edges of the top and bottom boards. I use a tablesaw blade with a ⅛-in. kerf and set the rip fence one kerf's width away from the sawblade. Leave the rip fence here while grooving the case parts and the top and bottom. Start with the long sides. Set the blade to cut roughly halfway through their thickness, and cut grooves along the

Trim the top and bottom. *Rip along the edges of the top and bottom to create a short tongue and allow the lip to overhang the sides. The ends of the box are not grooved, so turn the grooves at the ends of the top and bottom into rabbets.*



Liven up the wenge. *To add a little texture to the surface of the wenge, scrub along the grain with a wire brush. Follow with fine steel wool to smooth any fuzzy areas.*



Slice off the lid. *After gluing up the box, cut it in two at the bandsaw. Center the kerf in the middle of the wider dovetail. Chamfer the edges of the cut, but leave the bandsaw marks and burnish them with steel wool.*

Start with square ends. *Size the liner sides and ends for a snug fit in the box. Start by cutting them slightly oversize and sneak up on the fit with a handplane. The dividers will fit in V-grooves halfway into each long side, so their starting length needs to be the width of the box minus the thickness of one liner side.*

V-grooves, then miters. *The liner joinery can be handled at the router table. Start by cutting the V-grooves while the ends of the stock are still square (right). Then set a chamfer bit to cut a miter almost the full thickness of the stock (far right). Leave a small flat at the top to ensure that the liner is not shortened during mitering.*

Dividers get beveled ends. *Set the chamfer bit to cut a bevel half the thickness of the stock. Flip the divider to cut the second bevel.*

top and bottom edges. Then raise the blade to cut a deeper groove into all four edges of the top and bottom. The blade height should equal the thickness of the stock plus the amount you want the top and bottom to overhang the sides. Then kick it up a bit higher to allow for seasonal movement of the top and bottom.

The result should be a snug fit that's not overly tight. Next, make a trim cut to create a short tongue along the long edges of the top and bottom. This will allow the joint to fully seat. You won't need this tongue on the ends, since the ends of the box aren't grooved. Instead, trim away wood to turn the grooves at the ends of the top and bottom into rabbets.

Before glue-up, burnish the parts with a wire brush to define the grain and create a subtle texture. I apply a coat of thinned shellac to the parts to prevent any glue squeeze-out from sticking to the wood. Once the glue is dry, I saw the box in two at the bandsaw. Normally I would remove the bandsaw marks, but I like the added texture here, so I just chamfer the corners and burnish the edges with fine steel wool.

A mitered liner

Fine-tune the fit. *Pekovich uses a dedicated shooting board designed to plane mitered ends (far left). Start with the liner sides and ends and install them in the box. Then size the dividers to fit in the V-grooves (left). Aim for a snug fit, but don't try to wedge too-tight parts into the box.*

Divide and conquer

The mitered liner acts to register the lid to the body. It also offers a nice surprise when the box is opened. I try to use wood that will offer a contrast to the dark wenge and a little pop as well. Curly, bird's-eye, and spalted maple all work well.

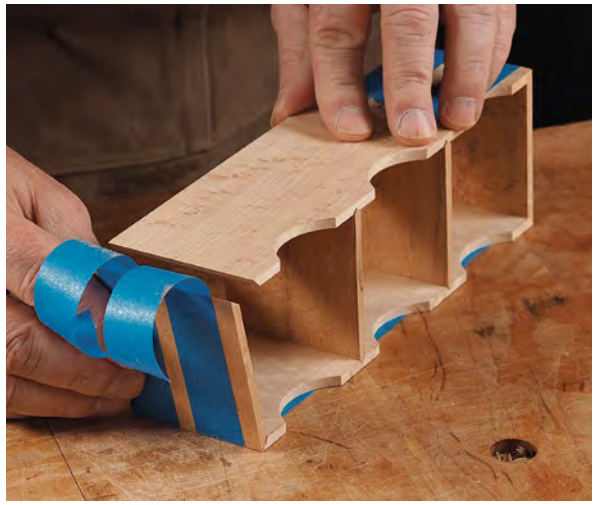
Start by cutting the parts to finished length but with their ends square. I'll get close at the tablesaw and then use a shooting board to dial in the fit. The sides and ends should just fit inside the box, but the dividers need to be cut shorter. Set one long side of the liner in place, and size the divider to fit between that and the opposite side of the box.

Turning the square ends of these parts into miters and cutting the V-grooves can be handled at the router table. Begin with the V-grooves; it's easier to cut them while the ends are square. Install a V-groove bit and raise it to half the thickness of the stock. Use a push pad to keep the stock on the table and tight against the fence. One fence setting will handle all four V-grooves.

To cut the miters, install a chamfer bit (the V-groove bit would also work), and position the fence to expose just a portion of the bit. You want a bevel that's almost the full height of the workpiece, with just a thin line of unrouted stock above it. Don't raise the bit too far or you will shorten the piece as you rout the miter.

For the dividers, slide the fence over until you are cutting a bevel half the thickness of the stock. Flip the stock over and take a second pass to create a mitered point to register in the V-groove. Again, leave a thin flat at the center of the stock where the bevels meet.

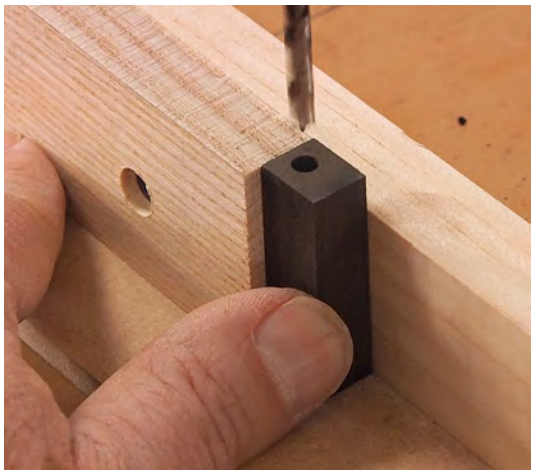
The mitered parts probably won't fit at this point. I use a shooting board designed to handle 45° miters to bring the stock to length (see Handwork, *FWW* #261, to make a similar shooting board). Start with the corner miters. Then plane the dividers to fit, taking equal passes on each side to keep the point centered.

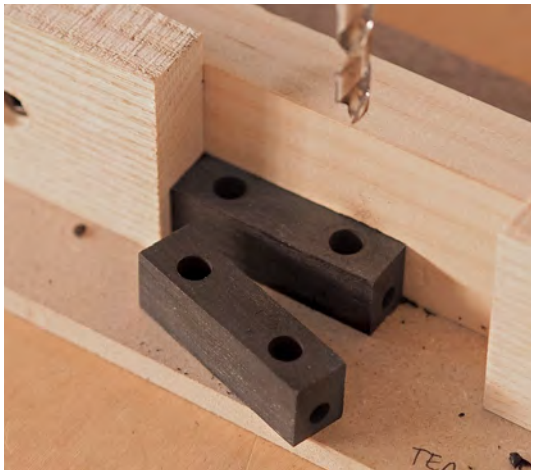


Wrap it up. *After cutting the scallops in the sides, lay the liner parts facedown on the bench and apply tape across the joints. Flip them over and add glue to the miters and V-grooves, then roll up the assembly. The tape should be enough to keep the miters tight, but clamps may need to be added across the dividers to tighten gaps at the V-grooves.*

Add the liner. *Drop the bottom in first, then slide the liner in on top of it. Gluing isn't necessary. The portion of the liner that extends above the box sides may need to be beveled slightly on the outside faces to allow the lid to lift off easily.*

An ebony clasp





Drill the blanks. *Each half of the clasp receives a hole for the cord as well as a pair of holes for the magnets. A fence clamped to the drill-press table helps when aligning the holes. When drilling the through-hole, a stop keeps the blank vertical (top). A pair of stops are used to drill the magnet holes (bottom).*

Add magnets and cap it with veneer. *For extra strength, drop a pair of magnets into each hole. Double-check their orientation to make sure the halves attract instead of repel each other. Then cap the magnets with a thin strip of ebony. If the cap is too thick it will reduce the attraction of the magnets.*

Once the liner is fitted, remove the parts and glue them up. After smoothing the surfaces, I apply a thin coat of shellac to keep glue squeeze-out from sticking to the inside faces. To assemble the liner, clamp a straightedge to the benchtop and arrange the parts along it with the inside faces down. Apply tape across the seams and flip the parts over. Add glue to the miters and V-grooves and roll up the assembly, adding tape to the last corner. If necessary, apply light clamping pressure across the dividers to close any gaps. When the glue is dry, sand the top edges flush, then plane or sand a long, shallow bevel on the outside of the assembly where it extends above the box sides. This will make it easier to remove and replace the lid.

Tie it all together

The final task is to add the base and the ebony clasp. The first step is to make the clasp itself. In the past I've used a sliding dovetail to join the clasp halves, but I have since discovered that hidden magnets handle the job well and make construction easier.

Each half of the clasp gets three holes—a hole through its length for the cord and a pair of stopped holes for the magnets. Then it's a matter of dropping a pair of ¼-in.-dia. magnets into each stopped hole and covering the face with a thin strip of ebony.

In order to attach the clasp, the base must be in place. It consists of two short bars that act as feet and a longer bar between them. The center bar is notched to fit the feet, which are screwed to the box from the inside. The longer bar is also drilled so the cord can pass through—one hole being round, the other oval.

Thread the cord through the round hole in the base and then through the clasp halves. The ends of the cord should pass each other through the oval hole in the base. Use twist ties at the top and bottom of the sides to hold the paired cords together. The fit of the clasp should be snug, but not so tight as to prevent the halves of the clasp from joining. Once the tension is right, fix it by driving a wedge into the oval hole. I use a chisel to bevel the end of a dowel, add glue, and drive it into the oval hole, locking the cord ends tight. Then I saw the dowel flush and trim off the cord ends, making sure not to cut into the cord itself by accident.

The last step is to wrap the sections of the cord between the twist ties with thinner twine. Removing the base temporarily and clamping it in a vise makes the process easier. It's common for the cord to take on a curve as it is wrapped. Straightening it as you go can help, but you may still need to play with it a little more once the wrap is finished. Screw the base back in place and you're ready to fill the box with your favorite tea. □

Creative Director Michael Pekovich is author of The Why and How of Woodworking, *available this August from The Taunton Press.*

String it up. *Loop the cord through the holes in the base and clasp. Add a twist tie at the top and bottom edge of each side. Adjust as necessary until the clasp is centered on the lid (above), then drive and glue a wedged dowel into the oval hole in the base that the cord ends are threaded through (right).*

Add a wrap to the cord. *Use thinner twine to wrap the cords between the twist ties. Start with a few wraps over the end of the twine to secure the starting end of the wrap. Before reaching the opposite tie, insert a loop of twine under the wrap (top). When you reach the end, thread the twine through the loop and pull it to draw the end under the wrap (above).*