

Build a Serpentine Sideboard

PART 2

Traditional interior
is redesigned
for longer life,
smoother action,
and an easier build

BY STEVE LATTA



Shape the dividers and rails

In Part 1, we built the front. Once the parts fit nicely, you can cut the sideboard's serpentine profile on them.



1 **Where leg meets curve.** With the front of the sideboard dry-fit, lay a straightedge across the front of each leg and mark where it meets the rails and the dividers.



2 **Make room for veneer.** Make a half-template from the centerline over, and use it to extend the lines you just drew. Then pull back the template just enough to allow for the vertical-grain veneer that you'll apply.



3 **Shape the top rail.** Attach the template to the bandsawn top rail and trim it flush (above), stopping just over halfway to flip the workpiece and reattach the template to rout the rest of the profile. Then dry-fit the legs and check that the upper rail is set back just enough to leave the veneer slightly proud of the leg (left).

Tall buildings seem to take forever to rise above ground level, and then shoot up to their finished height almost overnight. Likewise, the four legs, four rails, and two door blanks you've completed on this project (see "Build a Serpentine Sideboard, Part 1," in *FWW* #222) may not seem like much progress after all the hours you've invested, but believe me, you are well over halfway there. The finicky joints, painstaking inlay, and multi-step door construction are behind you. What lies ahead are the fun parts: finishing off the serpentine pieces, building the straightforward interior, and final assembly.

Antique sideboards had little allowance for wood movement; consequently sides cracked and drawers jammed. By building a kind of internal skeleton and making extensive use of frame-and-panel



4 **The rail becomes the template.** Use the top rail to shape the lower rail and then the two drawer dividers to give all four pieces the same profile.

Dress up the dividers and rails

With the profile cut, you can veneer the front of the rails and drawer dividers and edge-band the lower rail.

FIRST THE VENEER

Non-stick trick. To avoid having veneer stick to the part of the lower rail that will receive the banding, apply clear tape to the whole rail. Set a slicing gauge to the width of the banding, run the gauge along the rail registering off the lower edge, and then peel away the top section of the tape.

Apply the veneer. For both rails and dividers, use a cutoff as a caul, but add a piece of thin foam to even out the pressure between the curves. Cover the foam side facing the veneer in clear tape to prevent it from sticking to any squeeze-out.



Slice through the veneer. After the glue has set on the lower rail, and with the gauge still set to the width of the banding, slice through the bottom part of the veneer.

construction, I've done my best to ensure that my sideboard will age more gracefully.

Shape the front and then apply veneer and banding

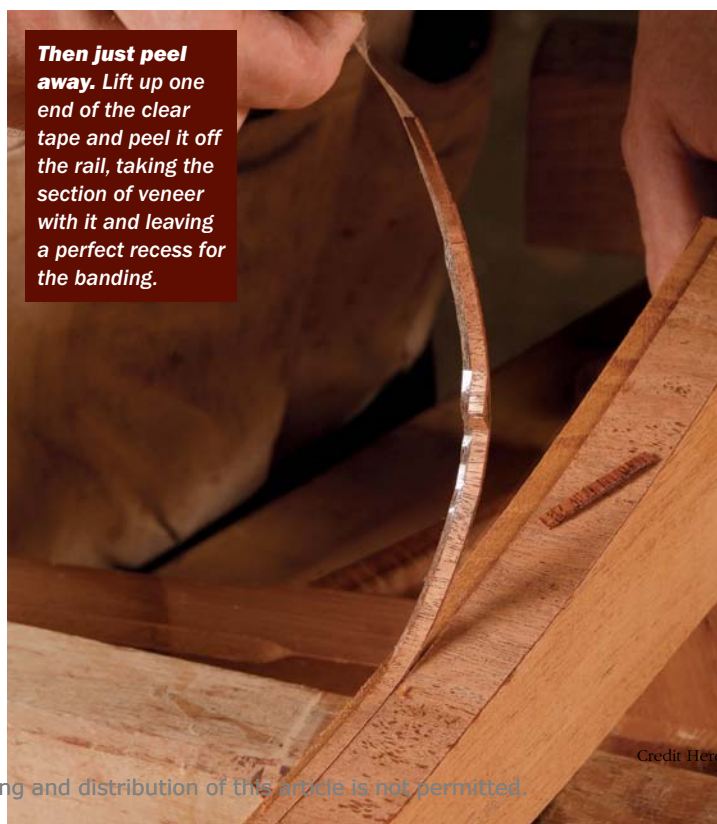
In Part 1, we'd reached the point of dry-fitting the front of the sideboard, without sawing the curves into the pieces yet. Before disassembling them, lay a straightedge across the face of each leg and mark where the rails and the dividers meet the leg.

Working from the full-size drawing that you've tweaked to fit the actual doors, make a template from 1/2-in.-thick MDF for half the front profile, allowing the ends to run a few inches long. Transfer the pattern to the top rail, flipping the template to cover both ends. Cut close to the line on the bandsaw and save the offcuts for later use as cauls.

Federal pieces often used face veneer on rails and drawer dividers, and I'm going to stick with tradition. Resaw a piece of mahogany to generate the vertically grained veneer about 1/16 in. thick, and then slice strips of the veneer about 1/8 in. wider than the thickness of the upper rail and the dividers.

Place the template back on the upper rail and attach it with double-sided tape. Place it on the pencil line if you are not

Then just peel away. Lift up one end of the clear tape and peel it off the rail, taking the section of veneer with it and leaving a perfect recess for the banding.





Glue up the front. It's finally ready. Glue together the front of the sideboard and add the extra pieces of vertical-grain veneer where the rails and dividers meet the legs.

ADD THE BANDING



Dry-fit the banding. Place the banding in its groove and score the legs where it crosses them (above left). Make several cuts across the legs with a sharp knife and then remove the waste with a chisel (above right) or a router plane.

using veneer, or back from the line by the thickness of the veneer if you are. Use a bearing-guided, spiral flush-cutting bit to bring the upper rail flush with the template. Once the upper rail is shaped, it becomes the template for the lower rail and the drawer dividers.

Using hide glue, hot or liquid, glue the veneer to the rails, overhanging each edge by about $\frac{1}{16}$ in. I clamp the veneer using the bandsawn offcuts as cauls, with a thin piece of foam covered with packing tape taking up any irregularities. Stop the veneer about $\frac{1}{2}$ in. short from each leg so you don't damage the veneer when attaching the legs, and patch in short pieces after gluing up the sideboard's face. Because the grain runs vertically, the patch is easy to do and quite invisible.

When the glue has dried, trim the overhang using a wide, sharp chisel or a plane iron. Slice with an inward motion to avoid breaking out any grain.

Because the bottom rail has a lower banding that is $\frac{5}{16}$ in. wide, the approach is a little different. Run a piece of packing tape along the lower half of the front face, pressing firmly to make sure it adheres well. Set a slicing gauge to the width of the banding and run it along the tape, referencing off the lower edge of the rail. Peel



How to splice it. There is no natural place along the front to hide a joint in the banding, so create a staggered splice (inset). Clear tape is sufficient to hold the banding in place until the hide glue dries.

Complete the cabinet

An internal skeleton and frame-and-panel assemblies solve the problem of wood movement and make assembly quick and simple.

START WITH THE SIDES AND BACK



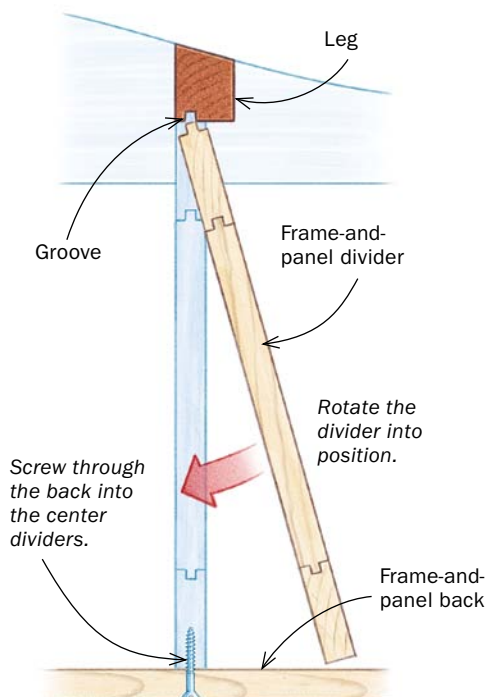
Let the sides move. The outer mahogany side is joined to the legs with elongated mortises to allow for movement. Use white glue, which also allows for movement. The internal poplar side rails are tenoned into the legs for added strength.



Add the back. Assemble the back separately by gluing the rear legs to tenons in the upper and lower rails and to the outer edge of the end stiles. Then glue the back assembly to the rest of the piece as shown, fitting it onto the outer and inner side tenons.

ADD THE CENTER DIVIDERS

In they go. The frame-and-panel dividers have shallow dadoes in line with the drawer dividers (right). When gluing them, make a pair of custom cauls whose face matches the 15° front face of the center legs (below right).



away the upper section of tape, leaving a $\frac{5}{16}$ -in.-wide strip. Size the veneer to about 1 in. wide and apply it so that it overhangs the top edge and laps over the tape. After the glue is dry, cut through the veneer with the slicing gauge still set at the same width, and remove the veneer and tape strip. Don't apply the banding until the front is glued together.

Before gluing the front, use a slot-cutter set up on a router table to cut a groove in the back of the center legs for the dividing panels. To locate that groove, center a groove on the stiles and rails of the poplar dividing panels. Using that offset on the leg guarantees the panel will be flush to the drawer opening. Repeat the process for the side compartment assemblies and then cut a slot in the inner edge of the bottom rail. Also, center a groove in the inner edge of the top rail to receive the cleat and kicker. Having the appropriate secondary materials ready to go when cutting all these grooves and slots saves a great deal of time and makes alignment far more accurate.

Assemble the piece from front to back

At this point, the front is ready to glue up and I do this in a very systematic manner

after a few dry runs. Use slow-set glue such as white or liquid hide glue to gain more open time. First, glue the drawer dividers into the center legs and dry-fit both rails to ensure the legs are correctly spaced and the drawer openings square. After the adhesive has set, glue the upper and lower rails to the center legs with the outer legs dry-attached to once again help with alignment. When that is set, glue on the outer legs, making sure the various joints are square and tight.

Once the entire assembly is dry, complete the veneer where the rails and dividers meet the legs. Score and cut across the legs for the lower banding using a sharp knife, chisel, and a small router plane, if you own one. Because the sides have such a potential for movement, the banding wraps the outside corner but terminates at the back edge of the front leg. Because the rail sits flush with the legs, there is no natural place to split the banding. Consequently, I make one long strip by doing a staggered splice to minimize the appearance of the joint. Using hide glue and short strips of packing tape as clamps, apply the banding along the bottom edge.

In traditional sideboard construction, any guides, runners, and cleats were mounted directly to the sides and as the sides moved, so did the internals. This led to problems with drawers and doors and, in many cases, cracked sides. On this piece, I used an additional set of poplar side rails, fully tenoned to the front and rear legs, to eliminate this problem and give strength to the overall construction.

The mahogany sides are joined to the legs with a triple tenon; the top has a tight fit and the lower two are inserted into elongated mortises to allow for movement. All of the cleats, guides, and bottom supports are mounted to the poplar rails and are totally independent from the case sides.

To further avoid movement issues, I replaced the traditional solid back, bottom, and internal dividers with frame-and-panel sub-assemblies. The back is poplar and its upper and lower rails attach to the rear legs with full tenons. There are four vertically grained panels floating between five stiles. When the back is glued to the rear legs, the outer edges of the end stiles are



ADD THE PANELS AND SUPPORTS

Add the bottom. Use a spline to align a panel support with the groove in the back of the lower front rail (left). Then glue and screw the support to the lower internal side rail. Slide in the bottom panel and then repeat the process with the center support (below), which also serves as a drawer runner.

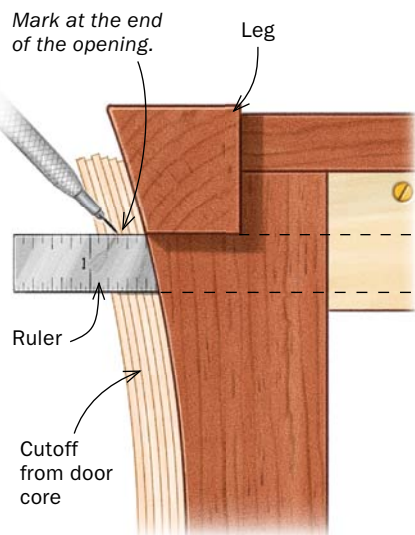


Runners allow movement. The runners are aligned by a spline that fits in a groove in the back of the dividers. The runners are glued to the frame of the divider but only screwed to the panel in one place to allow it to move seasonally.

Add doors, drawers, and top, and finish your masterpiece

Once the cabinet is complete, cut the doors to fit the openings. Holly stringing outlines the doors and ties them in with the rest of the piece. Cock beading the doors and drawers is an optional step.

MARK FOR THE WIDTH OF THE DOORS



Measure the opening. With the cabinet assembled, use a cutoff from the door's core to mark the door's width. Remember to allow room for cock beading if you decide to apply it.



Cut the doors to width. Transfer the marks on the template to the door, making sure the crotch is centered on the door (above). Cut the doors on a crosscut sled with a block of wood to lift one side so the other is flat on the sled (right). The blade must be angled slightly, too.



glued to the leg as well. This adds about 10 sq. in. of face-to-face glue surface on each end, enhancing the overall strength of the piece.

The other components that constitute the bottom of the side compartments (outer panel supports, lower runners, and panels) and the upper cleat and drawer kickers are joined to the back edges of the cabinet face using a tongue and groove. You'll add them after the whole case is glued up and the interior dividers are sized and mounted.

Not only was it quick and efficient to mill all the internal frame-and-panels, tongue-and-grooves, rabbets, etc., at the same time, but the subassemblies quickly come together during final assembly.

The top can be either veneered or solid wood, but in either case you'll want to add radial grained veneer running along the edges in the same way as the rails and dividers. Even on the end grain of a solid-wood top, movement is not an issue because the two grains are sympathetic. To further harmonize the top with the rest of the front, add black-and-white banding to the center of the edge.

Fitting and finishing the doors

Cock beading is optional and not all Carolina pieces had it. Even if you're certain you'll add the beading I would still add a strip of mahogany to the hinge side of each door's core to give the screws a better grip. Before diving into the actual doors, hang one of the sample doors (see Part 1) and resolve any potential problems.

After crosscutting the door on the table-saw to the proper height, take the offcut (or an offcut from the original core), hold it against the door opening, and mark the width, remembering to subtract $\frac{1}{4}$ in. for the two $\frac{1}{8}$ -in.-thick strips of cock beading. Cut the door to width using a crosscut sled with the blade tilted and the door supported by a strip of stock, in the same manner that you sized the core to receive the tongued side edging.

Now that you know the final dimensions of the doors, you can run a piece of stringing around the face, about $\frac{3}{4}$ in. from the edge. I used the Lie-Nielsen straight-line stringing tool to cut this groove. Because of the doors' curvature, the head

ADD THE STRINGING

Cut the grooves. Latta uses Lie-Nielsen's straight-line stringing tool because the orientation of the head can be reversed for cutting concave surfaces. On flat surfaces, the L-shaped fence rides on and against the workpiece.



Trim the stringing flush. After the glue dries, use a bench chisel bevel-side down to remove the bulk of the stringing that is proud of the surface.

needs to be reversed for the top and bottom recesses.

Cutting curved cock beading—With the stringing complete, you can add the cock beading. The first task is to make a template of the door's curve using 1/4-in.-thick MDF, extending the curve about 1 in. on each end. The side of the template opposite the curve should be dead straight for the side pieces of cock beading. Attach the template to a 1/8-in.-thick piece of mahogany that has been bandsawn close to the desired line, and profile the cock

beading with a bearing-guided beading bit.

You can cut the miters on the ends of the cock beading using a fine-tooth saw, and pare them with a plane iron, but I've found the easiest method is to use a disk sander with the table angled at 45°.

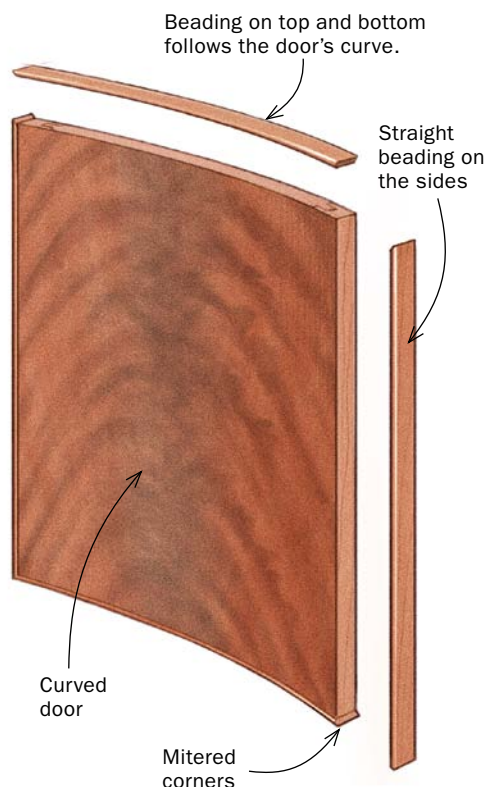
Rout the hinge mortises in the legs and then transfer the hinge marks to the doors. Set the hinges and hang the doors.

The bow-front drawers are made in the same way Jeff Headley showed in his article "How to Tackle a Serpentine Drawer" (FWW #199), and the accompanying Mas-

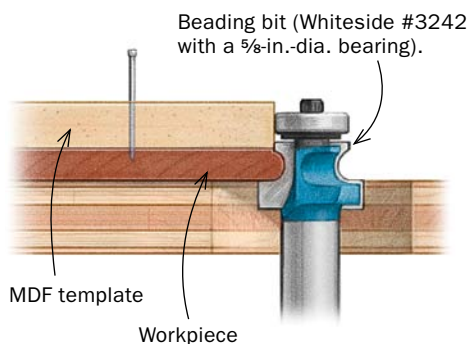
ter Class shows how to add stringing to them. The finish shown in Peter Gedrys's article, "Antique Finish that Holds Nothing Back" (FWW #220), will work perfectly on this Federal piece. Add some Sheraton pulls (londonderry-brasses.com, item No. SK4) and you've completed one of the most beautiful pieces of the early 19th century. □

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CUT, SHAPE, AND APPLY THE COCK BEADING



Shape the cock beading. A template curved on one side and straight on the other profiles the beading for the doors' top and sides.



Fit the beading. A good way to secure the curved door without damaging it while you fit and then glue in the beading is to use a hand screw with cork-faced pads.