# How to Tackle a Serpentine Drawer

From drawer fronts to table aprons, this veneered shape has many uses

BY JEFF HEADLEY

The serpentine shape is a simple yet pleasing form, which explains why it is found on so many types of furniture. However, its design and construction are not so simple. Although there are some antiques that were made by cutting serpentine shapes from solid wood, this represents a huge waste of high-priced lumber and the result is relatively heavy and coarse looking.

The method I used on the drawers in this chest is more straightforward. Build the core from 1-in.-thick layers of poplar, veneer the curved surface, fit the drawer front to the opening in the chest, and apply cock beading

around the drawer. You can use this technique on any serpentine piece, from drawers to table aprons.

### Build the core from secondary wood

Before you start on the drawers you should build the rest of the carcase, as the drawers are built to fit the opening and not the other way around. The other serpentine-shaped parts, the top and the drawer dividers, are easily cut on the bandsaw.

There are two ways to make the serpentine core, but for both, use the pattern from the chest rails to lay out the 1-in.-thick cores, leaving them 2 in. long. I make the core by gluing layers of boards until they equal the height of the tallest drawer front. They should be wide enough to accommodate the number of drawer fronts, plus the depth of the serpentine, plus enough scrap to be used as a caul for veneering. This large blank is heavy and awkward, so be careful when cutting it on the bandsaw. Try to cut cleanly; time spent here will pay dividends in less cleanup time.

Use spokeshaves to clean up the surface. A flat-bottomed spokeshave works on most areas, with a curved one getting into the bottom of curves. Remove the sawmarks evenly

***The drawers are the trick.*** *If you can handle the veneered drawers on this serpentine chest, you'll have no problem with the rails and top, which simply are sawn from solid wood.*

## Two ways to make the core

### 1 CUT FROM ONE BIG BLOCK

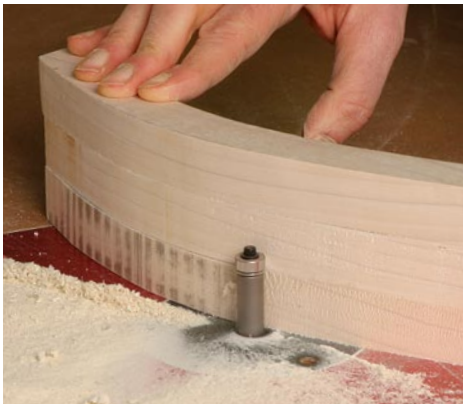
***One block yields several cores.*** *Build up layers until they match the height of the tallest drawer. Use a template for layout and then cut out the individual cores on a bandsaw.*

***Rip the core.*** *Cut the core to the correct height for the drawer opening by ripping it on the tablesaw.*

***Clean up the bandsaw marks.*** *Use flat and curved spokeshaves to clean up both sides of the core.*

### 2 ONE LAYER AT A TIME

***Multiple layers from one board.*** *To bandsaw less wood at once, lay out multiple layers of core on one board and then bandsaw them out.*



***Clean up one at a time.*** *After smoothing one layer, glue a bandsawn layer below it and use a template bit to clean it up. Glue on each successive layer and smooth it with the template bit.*

Photos: Mark Schofield

# Fit the core to the case

***Mark the correct length.*** *Use an offcut of the drawer core as a template to mark the correct length of the drawer and the angle at which to cut the ends.*

***Flush-fit the drawer front.*** *With the drawer front cut to height and width, place it in the opening and mark any areas on the face that need to be trimmed flush with the carcase. Use the spokeshaves to do so.*

across the width of the core to keep the thickness even. With today's thin veneers, you must be very thorough in cleaning up the core because any ripple will transfer through the veneer.

**Bandsaw too small? Try this—**If your bandsaw's resaw capacity is limited, or if you'd rather not maneuver a large block of wood on a small bandsaw table, you can construct each core individually using layers rough-cut to the serpentine shape. Smooth the first layer with a spokeshave or a spindle sander, and then glue it to a rough-cut section. Clean up the rough section on the router table using a flush-trimming bit bearing on the smooth layer above. Keep adding layers and trimming them until you reach the height of the drawer front.

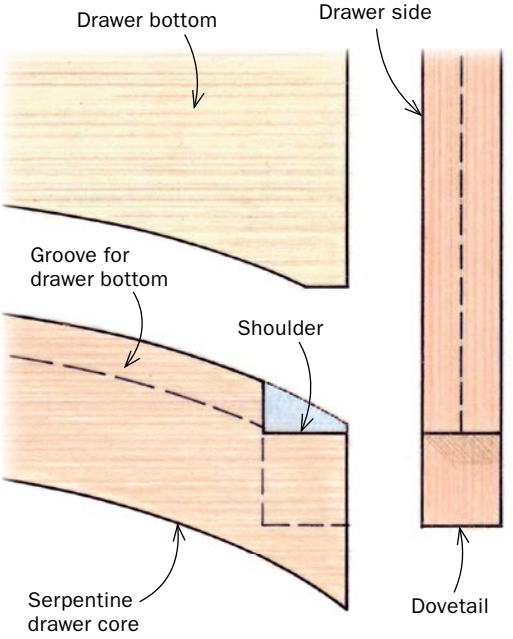
### Fit the serpentine blanks to the drawer openings

When cutting the drawer fronts to height, I always start with the tallest; if I make a mistake I can use it for the next size down. The waste from the smallest drawer front can be used for a serpentine skirt on the cabinet, if the design calls for it.

To cut the fronts to width, place a scrap of drawer-front core against the front of the relevant drawer rail, and lay a straightedge inside the case flush with the side and over the pattern. Draw a line for the angle on the pattern, repeating the process on the other side. Make sure not to shift the pattern left or right. Finally, mark the center point on the pattern.

This gives the total width for the drawers and the angle the sides need to be cut to. Transfer these points to the drawer front, then cut it on the miter saw or bandsaw. Clean it up and fit it to the drawer opening. Once the drawer front fits snugly, adjust the face by trimming any proud area with a spokeshave so that it mirrors the profile of the rails. Next, cut a groove near the bottom in the back of the drawer front using

## CUT THE JOINERY BEFORE ADDING THE VENEER




***Create a shoulder.*** *Mark the back corners of the core to create a square shoulder for the drawer sides. Darken your scribe lines with a pencil.*

***Lay out the pins.*** *Use a piece of wood the thickness of the drawer bottom to align the grooves on the drawer front and side. Mark the location of the pins on the drawer front.*



Drawings: Vince Babak

a ¼-in.-wide rabbeting bit in a router table. This will receive the drawer bottom and will help align the sides with the drawer front when laying out the dovetails.

I have found that it is a good idea to cut and fit the dovetails before veneering. If the drawer front shifts slightly after you cut the dovetails, you can go back and readjust the fit of the drawer front to the opening. Once it is veneered, you can make adjustments only by shifting the cock beading, which gives you much less flexibility. So, once the drawer fronts are fit, use a marking gauge to scribe a line on the top and bottom extending in from the ends the thickness of the drawer sides. Then mark a line in from the end and perpendicular to it, from a point roughly 1 in. from the front of the drawer. The distance should be the same on both ends. This gives a shoulder for the dovetails. Cut the tails on the drawer sides, and then lay out the pins.

### How to veneer a serpentine surface

Lay out the veneer in whatever design, shape, or pattern you want, but always start from the center. If you are doing a book-match, or using successive slices of veneer on multiple drawer fronts, it is vital to mark the center point on the veneer and align it with the center of the core. Even if I'm just veneering a single drawer, I still mark the centerline. Once glue has been applied, it is much easier to align the center and start clamping from there rather than checking if all four corners are in place. Cut the veneer at least ½ in. larger than

# Curved veneer made easy

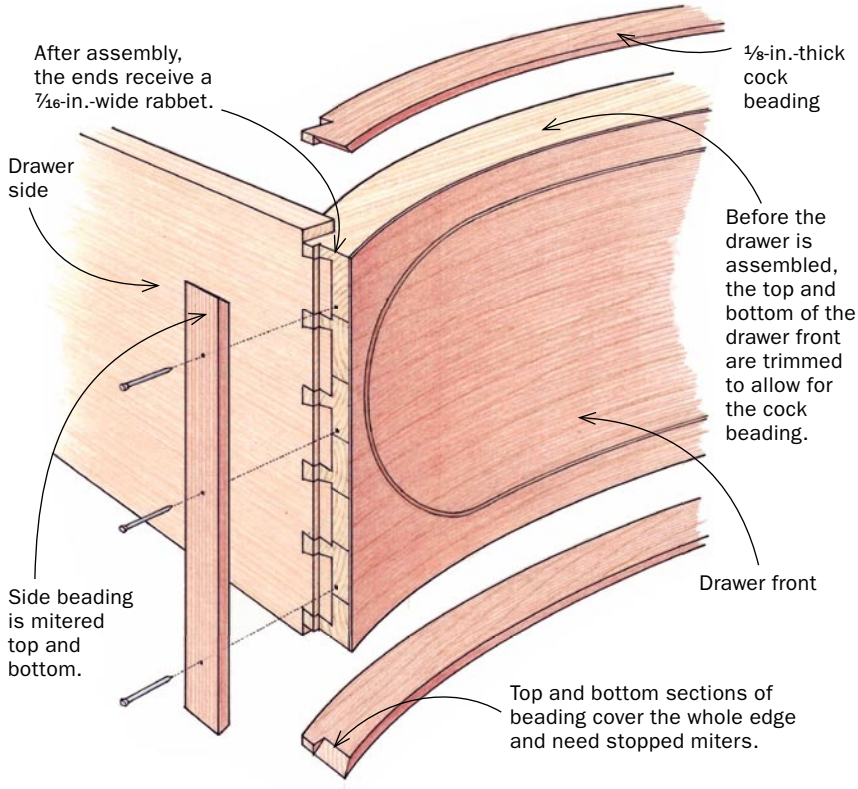
***Mark the centers.*** *To help you align the veneer quickly during gluing, mark the center points of both the core and the veneer (left).*

***Align the veneer.*** *After you apply white glue to the veneer and the core, hold the veneer in place with masking tape to prevent it from shifting when pressure is applied.*

***The core as a caul.*** *You can use either another serpentine core or the remains of the block from which the cores were bandsawn as a clamping caul.*

***Trim the edge.*** *Use a wide chisel to pare the overhanging veneer flush with the core.*

# Edge beading completes the look




## 1 TRIM AND RABBET THE DRAWER

***Measure for cock beading.*** *With the drawer front pushed slightly into the opening, use a section of cock beading and a knife to score where to cut away the drawer front.*

To add the oval inlay to the drawer fronts, see Master Class on pp. 92-94.

needed all around. I glue both the core and the veneer with Elmer's white glue, which has a long open time. With the two centerlines matched up, tape down the veneer with blue painter's tape. This keeps the veneer from squirming when clamping pressure is applied.

Lay a sheet of plastic or 1/8-in.-thick packing foam over the veneer, then a piece of old carpet with no more than a 1/2-in.-thick pile, followed by a slice of 1/4-in.-thick plywood or bending plywood cut slightly larger than the drawer front. Last, lay on the core of the largest drawer front or the balance of the block from which the cores were cut and clamp the assembly as hard as you can. Always start clamping at the center and go out. This pushes any glue toward the ends rather than toward the center, where it would bubble. Wait about an hour and then remove the clamps and cauls. Peel away the blue tape and scrape off any glue that has leached through. It is much easier to do this after the veneer is stuck down but before the glue hardens. Reclamp the assembly and let it sit overnight. The next day, trim the veneer flush using a wide bench chisel.

### Beading protects the veneered edges

If you decide to add fine lining to the drawer front (see Master Class, pp. 92-94), do it at this stage.

Dry-fit the drawer sides and back and slide the drawer into the case until the front is just inside the carcase. Take a small piece of cock-bead material and, running it along the drawer rails and the carcase sides, scribe a line around the edge of the drawer front. The purpose of the cock beading is to fit the carcase opening, not to mirror the dimensions of the drawer front. Then take the drawer box apart and cut down the top and bottom of the drawer front to the scribe line. You can remove the bulk of the waste on a jointer and fine-tune the cut with a handplane.

***Reduce the height.*** *Use a jointer followed by a handplane to reduce the drawer height to the scribed lines for the top and bottom sections of cock beading.*

***Assemble the drawer and trim the ends.*** *Use a straight bit in a router to cut away the ends of the drawer front. Rout close to the scribe line, and finish the job with a chisel.*

## 2 MAKE AND ATTACH THE BEADING

***Cut out the beading and miter it.*** *Transfer the shape of the drawer front to the cock-beading stock, leaving the front ⅛ in. proud (right). The top and bottom sections of beading have stopped miters (far right) to receive the end sections. The notch is to allow for the drawer sides.*

***Top and bottom, then sides.*** *Offcuts from shorter drawer cores are used as cauls when clamping the top and bottom sections of cock beading (left). For the side cock beading, because the sides of the drawer front are end grain, reinforce the glue joint by countersinking brads (above).*

Now glue and reassemble the drawer, inserting it in the opening to dry. When the dovetails are dry, use a straight bit in a router to cut the sides to the scribed line, but go in only about 7⁄16 in. It would be a shame to cut beautiful dovetails and then cover them up.

Glue and clamp the top and bottom pieces of cock beading. When dry, use a spokeshave to trim the back of the beading flush and the front about ⅛ in. proud. Next, glue and nail the cock bead on the drawer sides.

I filed a concave round into a small paint scraper for creating the bead profile. Shape the corners with a flat chisel, and then smooth any rough areas with sandpaper. After the drawers are given a final fitting, you have the option of installing locks and inlaying a diamond escutcheon around the keyhole. □

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## 3 SHAPE THE BEADING

***Trim and shape.*** *Use a spokeshave to trim the front of the cock beading until it is just over ⅛ in. proud of the drawer front (left). Headley uses a notched paint scraper to shape the half-round profile on the cock beading (right).*