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When I started this book, this was the first project I built. I knew it would be involved. The chest itself is a basic two-door box with some drawers.

What makes the chest what it is, is the curved front — which led to the overall design. The rounded edges of the top, bottom and feet soften the look and feel of the chest. When the curved doors are opened, they in-
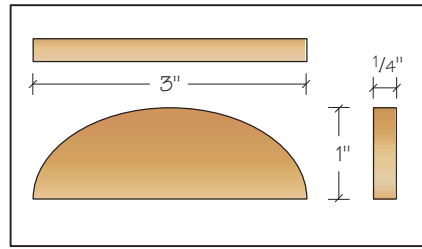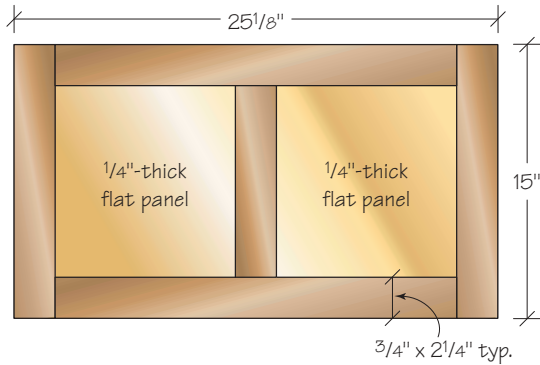
vite you to open the drawers.

I had been saving this walnut and curly maple for just the right project. Whenever I looked at the wood, I just couldn't bring my-self to cut into it. Then I realized that this was the project for this wood! There comes a time when you have to decide that this is it, and go for the project. I wasn't disappointed in the least and never looked back.
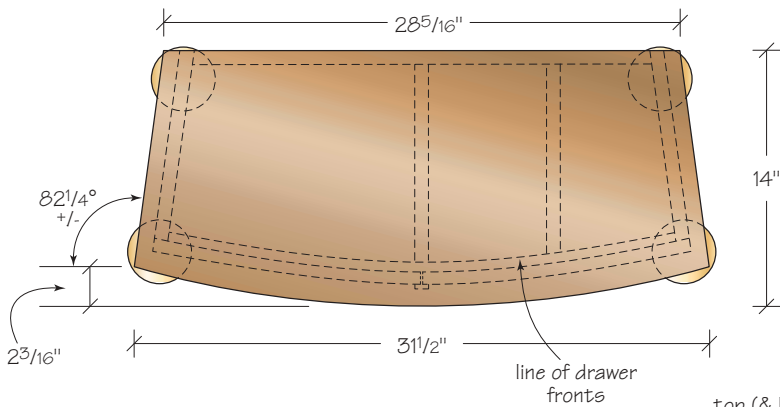
curved-front chest
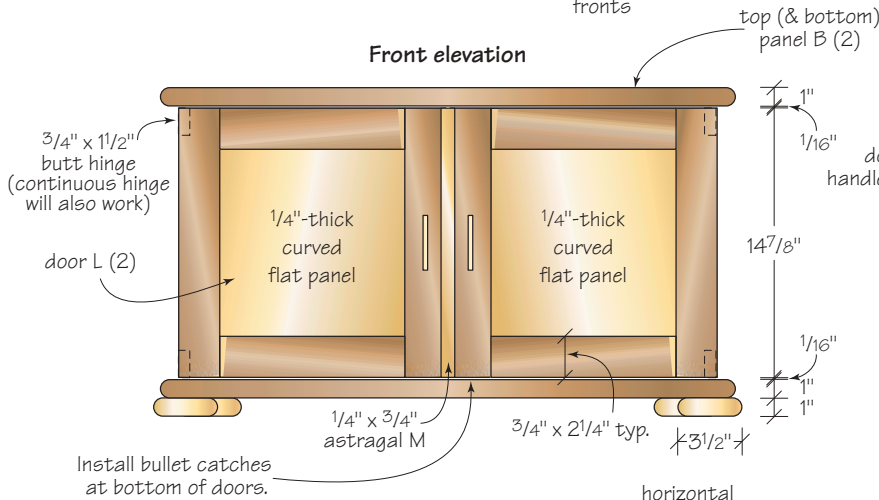
**Rear elevation
of back panel**

25¹/8"

15"

¹/4"-thick
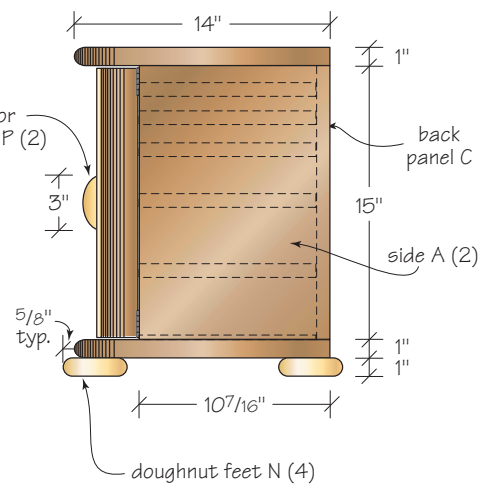flat panel

¹/4"-thick
flat panel

3/4" x 2¹/4" typ.

Handle detail (half scale)

3"

1"

¹/4"

Plan view

28⁵/16"

14"

82¹/4°
+/-

2³/16"

31¹/2"

line of drawer
fronts

top (& bottom)
panel B (2)

Front elevation

3/4" x 1¹/2"
butt hinge
(continuous hinge
will also work)

door L (2)

¹/4"-thick
curved
flat panel

¹/4"-thick
curved
flat panel

1"

1/16"

14⁷/8"

1/16"

1"
1"

Install bullet catches
at bottom of doors.

¹/4" x ³/4"
astragal M

3/4" x 2¹/4" typ.

3¹/2"

Side elevation

14"

1"

door
handle P (2)

3"

back
panel C

15"

side A (2)

5/8"
typ.

1"
1"

10⁷/16"

doughnut feet N (4)

Front elevation w/o doors

horizontal
divider J

horizontal
divider K (2)

horizontal
divider H (2)

3¹/8"

3¹/8"

1³/4"

1³/4"

2"

3¹/8"

3¹/8"

15/16" +/-

horizontal
divider H (2)

horizontal
divider F (2)

bottom filler
panel G

Small, round metal
knobs of different
diameters to match
the different drawer sizes.

center vertical
divider D

vertical divider E

materials list

REFERENCE	QUANTITY	PART	STOCK	THICKNESS	WIDTH	LENGTH	COMMENTS
A	2	sides	walnut	3/4	10 1/2	15	bevels will be cut on the sides to finished size
B	2	top & bottom	walnut	1	14	31 1/2	
C	1	back panel	walnut	3/4	15	25 1/8	bevels will be cut on the sides to finished size
	2	back panel C stiles	walnut	3/4	2 1/4	15	
	1	back panel C stile	walnut	3/4	2 1/4	11 1/2	
	2	back panel C rails	walnut	3/4	2 1/4	21 5/8	cut the rails long, assemble panel and cut to size
	2	back panel C panels	curly maple	1/4	10 1/16	11 1/2	
D	1	center vertical divider	poplar/curly maple	3/4	10 7/8	7 H	grain runs vertically, width includes 1/4" × 3/4" curly maple strip on front edge of panel
E	1	vertical divider	poplar/curly maple	3/4	10 3/8	4 1/4 H	grain runs vertically, width includes 1/4" × 3/4" curly maple strip on front edge of panel
F	2	horizontal dividers	poplar/curly maple	3/4	10 7/8	27 13/16	all the horizontal dividers are edged with curly maple
G	1	bottom filler panel	poplar/curly maple	1/4	10 7/8	27 13/16	and the grain runs left to right (or right to left);
H	2	horizontal dividers (l&r)	poplar/curly maple	3/4	10 7/8	13 1/2	this allows the solid-wood top, bottom, vertical and horizontal
J	1	horizontal divider	poplar/curly maple	3/4	6 7/16	10 7/8	dividers to move together with seasonal changes
K	2	horizontal dividers	poplar/curly maple	3/4	6 1/4	10 5/16	
L	2	doors	walnut/curly maple	3/4	14 5/8	14 7/8	
	4	door L stiles	walnut	3/4	2 1/4	14 7/8	
	4	door L curved rails	walnut	3/4	2 1/4	11 1/8	
	2	door L curved panels	curly maple	1/4	10 7/8	11 3/8	
M	1	astragal	curly maple	1/4	3/4	14 7/8	
N	4	doughnut feet	curly maple	1	3 1/2 dia		
P	2	door handles	curly maple	1/4	1	3	see illustration for handle detail

hardware

- 2 pairs butt hinges 3/4" × 1 1/2"
- 2 bullet catches
- 6 3/4" dia. sash knobs
- 1 5/8" dia. sash knob
- 2 1/2" dia. sash knobs
- 3 3/8" dia. sash knobs

tip >> MAKING DRAWERS FOR THE CURVED-FRONT CHEST

All of the drawers have 1/2" plywood bottoms, poplar sides and laminated poplar and white oak fronts. (If you have another species of wood you would like to put on the drawer fronts, that's your option!) Drawer sizes are determined by measuring the assembled chest. I did not use any drawer runners. If you want to use drawer runners, cut a groove in the bottom of the drawer and attach a hardwood strip to the bottom of each drawer space. I would recommend doing this before assembling the cabinet or the drawer cases.

materials list

REFERENCE	QUANTITY	PART	STOCK	THICKNESS	WIDTH	LENGTH	COMMENTS
A	2	sides	walnut	19	267	381	bevels will be cut on the sides to finish size
B	2	top & bottom	walnut	25	356	800	
C	1	back panel	walnut	19	381	638	bevels will be cut on the sides to finish size
	2	back panel C stiles	walnut	19	57	381	
	1	back panel C stile	walnut	19	57	292	
	2	back panel C rails	walnut	19	57	549	cut the rails long, assemble panel and cut to size
	2	back panel C panels	curly maple	6	256	292	
D	1	center vertical divider	poplar/curly maple	19	276	178 H	grain runs vertically, width includes 6mm x 19mm curly maple strip on front edge of panel
E	1	vertical divider	poplar/curly maple	19	264	108 H	grain runs vertically, width includes 6mm x 19mm curly maple strip on front edge of panel
F	2	horizontal dividers	poplar/curly maple	19	276	706	all the horizontal dividers are edged with curly maple and the grain runs left to right (or right to left); this allows the solid-wood top, bottom, vertical and horizontal dividers to move together with seasonal changes
G	1	bottom filler panel	poplar/curly maple	6	276	706	
H	2	horizontal dividers (l&r)	poplar/curly maple	19	276	343	
J	1	horizontal divider	poplar/curly maple	19	164	276	
K	2	horizontal dividers	poplar/curly maple	19	158	262	
L	2	doors	walnut/curly maple	19	371	378	
	4	door L stiles	walnut	19	57	378	
	4	door L curved rails	walnut	19	57	282	
	2	door L curved panels	curly maple	6	276	289	
M	1	astragal	curly maple	6	19	378	
N	4	doughnut feet	curly maple	25	89	89	
P	2	door handles	curly maple	6	25	76	see illustration for handle detail

hardware

- 2 pairs butt hinges 19mm × 38mm
- 2 bullet catches
- 6 19mm dia. sash knobs
- 1 16mm dia. sash knob
- 2 13mm dia. sash knobs
- 3 310mm dia. sash knobs

STEP-BY-STEP construction

step 1 • Before starting this project, study the technical drawings carefully. Try to visualize how all the parts will fit together and how they relate to each other. Draw the outline of the top B on your wood and cut it out as accurately as you can. Smooth the curved front edge, then trace the bottom B, using the top as a pattern. Rough-cut it out and use the top as a routing template.

Draw all the side, divider, door, drawer and back panel lines on the top panel. (See the plan view in the technical drawings.) This will be your guide for sizing all the parts for the rest of the project. Use the front, curved edge of the top as a reference to draw the lines for the doors, drawer fronts and horizontal divider front edges. (A combination square or marking gauge works best for doing this.)

step 2 • Glue a 2"- to 3"-wide strip of curly maple (or the decorative wood of your choice) to the front edge of these pieces. Using your top as the guide for sizing, cut out the vertical dividers D and E, the horizontal dividers F, H, J and K, and the bottom filler panel G.

step 3 • After you've created all the dividers, start with the right-hand set and assemble them using biscuits.

step 4 • Cut the sides A to size. Again, use the top as your guide for determining the bevel angles on the front and back edges. Use the divider assembly (from step three) as a template to locate the biscuit slots in the right-hand side.
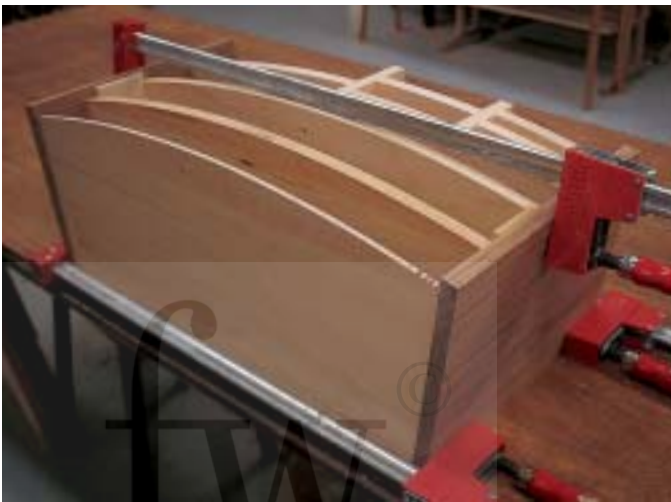
step 5 • Glue the rest of the drawer body together using biscuits. Note the spacers between the horizontal dividers. These assure the assembly is the same on both sides. (There is a very slight amount of adjustability, if needed, when using biscuits.)

step 6 • Cut out the frame parts for the back panel C. I usually use a single, square-toothed ripping blade to cut grooves for frame and panel construction. Adjust the fence so you can flip the parts end for end and end up with a $\frac{1}{4}$" groove. This ensures the groove will be centered in the frame parts.

step 7 • I use the same square-toothed blade to cut the tenons on the rails and center stile. Set the fence to the required tenon length and set the blade height, so that when you flip the part face for face you will have a centered tenon that is the correct thickness.

step 8 • After the back panel C is assembled, fit it between the side panels A. Then, glue it in place. Round over the side and front edges of the top and bottom panels B. Then, using biscuits, attach the bottom B to the drawer case assembly. Fit the bottom filler panel G into the bottom of the chest and glue it in place. Finally, attach the top B to this assembly using the same setup as shown in the photo.

step 9 • Make the doughnut feet N (without the holes!). Draw circles on the material and rough-cut the feet using a band saw or jigsaw. If you have access to a stationary sander, this is a simple way to perfectly round the feet: Drill a hole in the center of the foot. Drive a 16d nail into a scrap board and clamp the board to the sander's table. Insert the nail into the foot, and set the jig so the wood barely touches the sanding belt. Start the sander and slowly turn the foot. You could rig your belt sander to do the same procedure. Clamp the sander sidewise in your bench vise and use the benchtop as the sander table.

step 10 • Round over the edges of the feet to create the bullnose. Do this in two or three steps, raising the bit a little higher for each cut. If you are not comfortable with this setup, use a wood rasp to round over the edges. (Actually, this setup is safe. The ends of the fences are set as close to the router bit as possible to keep the opening very small. The right-hand fence acts as a brace to steady the work and your hands.)

step 11 • To finish-sand the feet, thread a $^{3}/_{16}$" hanger bolt into the hole in the center of the foot. Chuck the machine-threaded end of the hanger bolt into a power hand drill. Clamp the drill in your vise. Turn on the drill and lock it. Sand the feet, progressing to 220-grit sandpaper. This fine sanding really brings out the grain of the curly maple! Attach the feet to the chest using a screw through the center hole. Use no glue.

step 12 • Check your drawing on the top of the top panel B. Make a bending jig to the correct radius for the drawer fronts. To save wood, I laminated three layers of $\frac{1}{8}$"-thick poplar and used one layer of $\frac{1}{8}$"-thick white oak to make the drawer fronts. You can use whatever wood you like for the drawer fronts. I used white oak because it bends better than the walnut or curly maple, and I just happened to have some scraps of it in my wood stash. As I've said before, these are your personal tool chests, so do what you like!

step 13 • Before fitting the drawer fronts, cut the plywood drawer bottoms and fit them into their respective openings. Allow for the thickness of the drawer fronts. Then, fit each of the drawer fronts. When you are happy with the fit, cut the drawer sides and backs. Use the drawer bottoms as your template for cutting these parts. (The sides and backs will be glued on the top of the bottoms.)

step 14 • The back and sides are being glued to the drawer bottom in the upper left of this photo. The curve of the bottoms and the inside radius of the drawer fronts should match. This means that very little stress is placed on the drawer fronts when they are glued into place, as shown on the other two drawers. If there is too much stress on the drawer fronts, they could come unglued from the bottoms.

step 15 • Cut $\frac{1}{8}$"-thick strips of walnut for the curved rails for the doors L. Laminate them using the same method as you used for gluing the drawer fronts. (However, you will need a different lamination jig with a different radius.) While you're gluing the rails, make some scrap rails to use for practicing your grooving and cutting. After you have sized the rails, cut the groove for the curved panel using a straight-cutting router bit. You don't need a curved fence for this operation. The point of contact on the fence behind the router bit will be just fine. Slowly feed the rail through the setup. I would recommend that you practice on some scrap material if you don't feel totally comfortable with this operation.

step 16 • Cut the rails to length. Hold the rail "flat," right next to the saw blade and make the cut. Butt the ends of the rails to the stiles and hold them on your drawing. If the joint looks like it will match the curve, then you're ready to cut the tenons on the ends of the rails. When I say that the joint looks like it matches the curve, remember that you will need to shape the stiles to continue the curve of the rail through the rest of the door.

step 17 • Cut the tenons on the curved rails. Using a tenoning jig is the easiest. Hold the end of the rail flat on the saw table next to the tenoning jig and simply measure the distance from the top of the jig to the rail. Cut a spacer to fit and you're all set.

step 18 • Set a stack of wedges against the miter gauge fence and under the rail so the end rests squarely against the saw fence. Then make the outside cheek cut for the tenon.

step 19 • Cutting the cheeks on the inside of the rails is just the opposite of the previous step. Put a spacer under the end of the rail and secure it to the miter gauge fence.

step 20 • Now for the fun part — making the curved panels. I created the $\frac{1}{4}$"-curved panel by coopering it. First, thickness the flat panels to $\frac{5}{32}$". Plane some scrap wood to the same thickness, then slice the curly maple and the scrap wood into $1\frac{1}{4}$"-wide strips. I know there is a mathematical way to determine the bevel angle that should be cut on the edges of the strips, but I just used the scrap-wood strips in a trial-and-error method. Use your full-scale drawings on top B to be sure the curve is correct by placing the strips on end, butted together. When all is correct, cut the bevels on all the maple strips. Be sure to keep the strips in order, so the grain pattern will match when you glue the strips together. You can cut these bevels either on the table saw or on the jointer. Lay all the strips faceup and tape all the edges together. (See project one, steps three and four and the technical illustration.) Then turn the assembly facedown and apply glue in the bevel joints.

step 21 • Lay out your clamps on a flat surface and lay the panel face-down on the clamps. Apply just enough clamping pressure to pull the bevels together. The panel will begin to arch, but the tape will keep the strips aligned. By putting a little weight in the middle of the panel, you can counter the outward pressure and pull the bevel joints tightly together. After the glue has dried, use a low-angle block plane or scraper to smooth the peaks of the bevel joints. Use a curved scraper for the inside of the panel to hollow the strips so the curve becomes smooth. A random-orbit sander works well to sand it all smooth. When sanding the inside of the curve, let the panel rock back and forth as you sand across it with the sander. Sanding the outside or front of the panel is much easier. Check the fit of the panels in the curved rail grooves. Carefully scrape or sand the panels until they fit into the grooves.

step 22 • Layout the door stiles and clamp them together. Mark where the rails will join the stiles. This helps keep the framework square when gluing it all together.

step 23 • Dry assemble the frames and panels before you apply the glue. Make sure all the parts fit together. At final glue-up, make sure the doors are perfectly square and flat. A curved door can multiply these little errors at fitting time.

step 24 • I used two butt hinges at the very top and bottom of the doors. A continuous hinge would look nice on this chest, also. Lay the hinge on the front edge of the chest's side and draw around its plate. Score the cutout with a utility knife. Use a chisel to cut the mortise.

step 25 • By putting the hinges up in the corners, they are less noticeable.

step 26 • Sometimes the simplest solution is the best. I fussed and fussed with handles for this chest. I finally decided that a simple, half-round piece of curly maple with the edges rounded over just like the top and bottom panels was the solution. I put two small nails in the handle with the sharp ends protruding a little to keep the pulls from moving.