Build Our Arts & Crafts Dresser

Building a classic example of early 20th century American craftsmanship.

The Arts & Crafts movement in America is best known for the rectangular, somewhat understated style of furniture produced around the turn of the last century. These pieces were typically built of quartersawn white oak--a wood that displays a dramatic grain pattern, or fleck--and stained a deep brown. Design detailing includes mortise-and-tenon joinery, handmade hardware and simple curved arches that soften the severely straight, parallel-sided appearance.

Our dresser incorporates many of the visual elements characteristic of this popular style, but we've updated construction with plate joinery in the case, vertical dovetails in the drawers and full-extension drawer slides.

The solid-wood parts range in thickness from 1/2 to 1-3/4 in. If you don't have a planer, check with your dealer or a local cabinet shop for custom planing. While lumber prices vary, expect to pay between $700 and $800 for the quartersawn white oak, drawer slides, pulls and finishing materials.

MAKING THE CASE

Begin construction by preparing 1-in.-thick boards to be edge-glued for the case sides and top, and 3/4-in.-thick stock for the case bottom panel. While simple glued butt joints are strong enough, we added joining plates to keep the boards aligned during assembly.

After assembling the panels, use a cabinet scraper or razor-sharp plane to smooth the surfaces and remove any glue stains. Rip the panels to finished width, and crosscut the top and bottom panels to length. Trim the top end of each side panel square and lay out the arched bottom edge of each by springing a thin wood strip between two clamps **[1]**. Use a sabre saw to make the curved cuts, and remove the saw marks with sandpaper or a spokeshave.

Mill the case legs to specified dimension, cut plate slots in the legs and side panels, and join the legs to the panels with plates and glue.

Lay out the mortises in the case sides and cut them with a plunge router and an edge guide. Finish each mortise in three or four light passes to avoid burning the bit or overloading the motor. Then square the mortise ends with a chisel.

Cut the joining-plate slots in the case sides for the case bottom and drawer rails **[2]**. Clamp a straight board to the side to aid in positioning the plate joiner.

Install a 1/4-in.-dia. straight bit in your router and cut the panel groove in each rear leg that extends between the top and bottom rail mortises **[3]**.

Rip and crosscut 3/4-in.-thick stock to size for the front and rear rails, drawer rails and rear mullions. Before cutting the curved edges of the bottom rails, cut the tenons on your table saw. Set the fence to match the tenon length and use a dado blade to cut the tenon cheeks **[4]**. Re-adjust the blade height and hold the rails on edge to cut the shoulders at the top and bottom edges of each rail. Cut the tenons at the ends of the mullions in the same way.

Mark the locations of the mullion mortises in the back rails and rout them with a 3/8-in. bit **[5]**. Clamp two rails together to provide a more stable base for the router.

Use a dado blade in your table saw to mill the panel grooves in the edges of the back rails and mullions **[6]**. A feather board secured to the table will keep the stock tight against the rip fence and reduce the chance of dangerous kickback.

Cut 1/2-in.-thick stock to size for the back panels and use a router table to cut the rabbets around the inside face of each piece **[7]**.


1


2


3

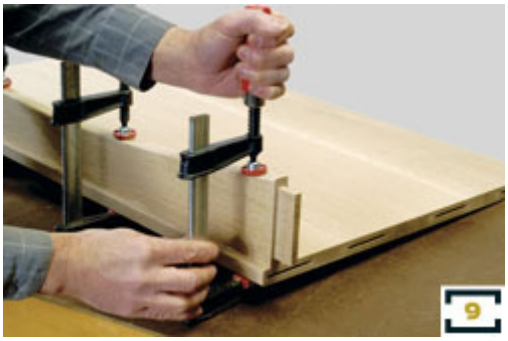

4

CASE ASSEMBLY

First, carefully sand the case parts with 120- and 150-grit sandpaper. Then, spread glue in the back rail mortises and on the mullion tenons. Position the mullions in the mortises in the bottom rail and slide the two center panels into place **[8]**. It's important to keep glue from the panel grooves so that the panels are free to expand and contract. Then, add the top rail and clamp the assembly.

Cut the remaining joining-plate slots except those for joining the top. Apply glue to the joint between the front rail and bottom, assemble the parts and clamp **[9]**. Next, join the bottom to the back bottom rail. When the glue dries on that joint, join the subassembly to one of the sides. Remember to slide the appropriate back panel into position first. Join the drawer rails to the side assembly and clamp until the glue sets **[10]**. Then, slide the remaining back panel into position and glue the second case side in place.

While the glue is drying, cut the joining-plate slots on the bottom of the case top. Rout a 1/8-in. chamfer around the bottom and top faces of the top panel **[11]**. Then, glue the top to the sides and back.



DRAWER BUILDING

Use an 8-degree dovetail bit to rout the dovetail slots in the drawer faces **[12]**. Note that the slots in the drawer faces stop short of the top edge.

Move the dovetail bit to your router table and cut the male halves of each dovetail joint on the ends of the drawer sides and backs **[13]**. Clamp a guide block to the work that rides on the top edge of the router table fence. This keeps the leading edge of the work from dropping in the table hole. Test these cuts on scrap lumber and make sure that the dovetails slide together easily.

Use a 1/4-in.-dia. bit to rout the slots for drawer bottoms in the sides and between the dovetails in the drawer faces. Then, cut the plywood for the drawer bottoms.

Apply glue sparingly and join the drawer sides to the faces, slide the backs in place and check that each drawer frame is square. When the glue is dry, slide the bottoms in place and fasten them with screws driven into the backs.

Install the drawer slides in the case by screwing them to the sides **[14]**. Note that the slides sit directly on the case bottom and drawer rails.

Temporarily install the pulls and engage the drawers in the slides. Adjust the slides, if necessary, so that the drawers operate smoothly and there's a uniform gap between the drawer faces and the case.

FINISHING

First, prepare the case and drawers by removing the hardware and finish sanding to 220 grit. Clean away all the dust with a vacuum. We stained our dresser with Behlen Solar-Lux stain, creating our own color by mixing Van Dyke Brown and Medium Brown Walnut in equal amounts.

Solar-Lux stains are solvent based and dry very quickly, so it's best to add some Solar-Lux dye retarder to the mix to avoid lap marks that can occur when applying the stain with a brush or rag. Allow the stain to dry for at least 4 hours--letting it dry overnight is better.

We finished our dresser with three coats of Watco Clear Wood Finish, semigloss, which is a fast-drying brushing lacquer. Apply according to the manufacturer's instructions, allowing each coat to dry thoroughly before applying the next coat.

MATERIALS LIST

KEY	QTY.	SIZE	DESCRIPTION
A	2	1 x 17-1/2 x 28"	oak side
B	1	1 x 22-1/2 x 38"	oak top
C	1	3/4 x 19-3/4 x 32-1/2"	oak bottom
D	4	1-3/4 x 1-3/4 x 31"	oak leg
E	1	3/4 x 4 x 34-1/2"	oak apron
F	1	3/4 x 5 x 34-1/2"	oak apron
G	1	3/4 x 3 x 34-1/2"	oak rail
H	2	3/4 x 7 x 32-1/2"	oak rail
I	3	3/4 x 3 x 21-1/2"	oak mullion
J	4	1/2 x 6-1/2 x 20-3/4"	oak panel
K1	2	1/2 x 4-13/16 x 18-5/8"	maple side
K2	4	1/2 x 7-1/16 x 18-5/8"	maple side
L1	1	1/2 x 4-1/16 x 31-3/8"	maple back
L2	2	1/2 x 6-5/16 x 31-3/8"	maple back
M1	1	3/4 x 5-9/16 x 32-5/16"	oak front
M2	2	3/4 x 7-13/16 x 32-5/16"	oak front

N	3	1/4 x 17-5/8 x 31-3/8"	plywood bottom
O	6	drawer pull	Whitechapel* No. 34PV31
P	3	drawer slide (18")	Rockler** No. 30845
Q	as reqd.	No. 20	joining plate
R	12	3/4" No. 6	rh woodscrew

SUPPLIES AND SOURCES

120-, 150- and 220-grit sandpaper; Behlen Solar-Lux stains: Van Dyke Brown (No. 916-724), Medium Brown Walnut (No. 847-522), Behlen Retarder (No. 847-585) and Watco Clear Wood Finish (No. 952-290) available from Woodworker's Supply, 800-645-9292; woodworker.com.
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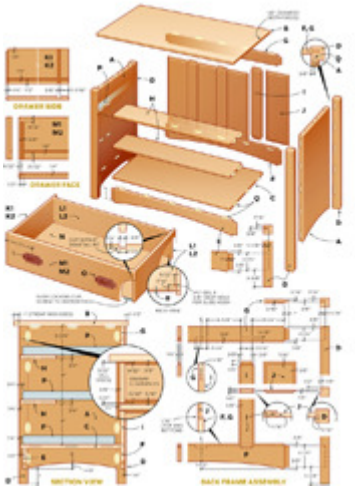

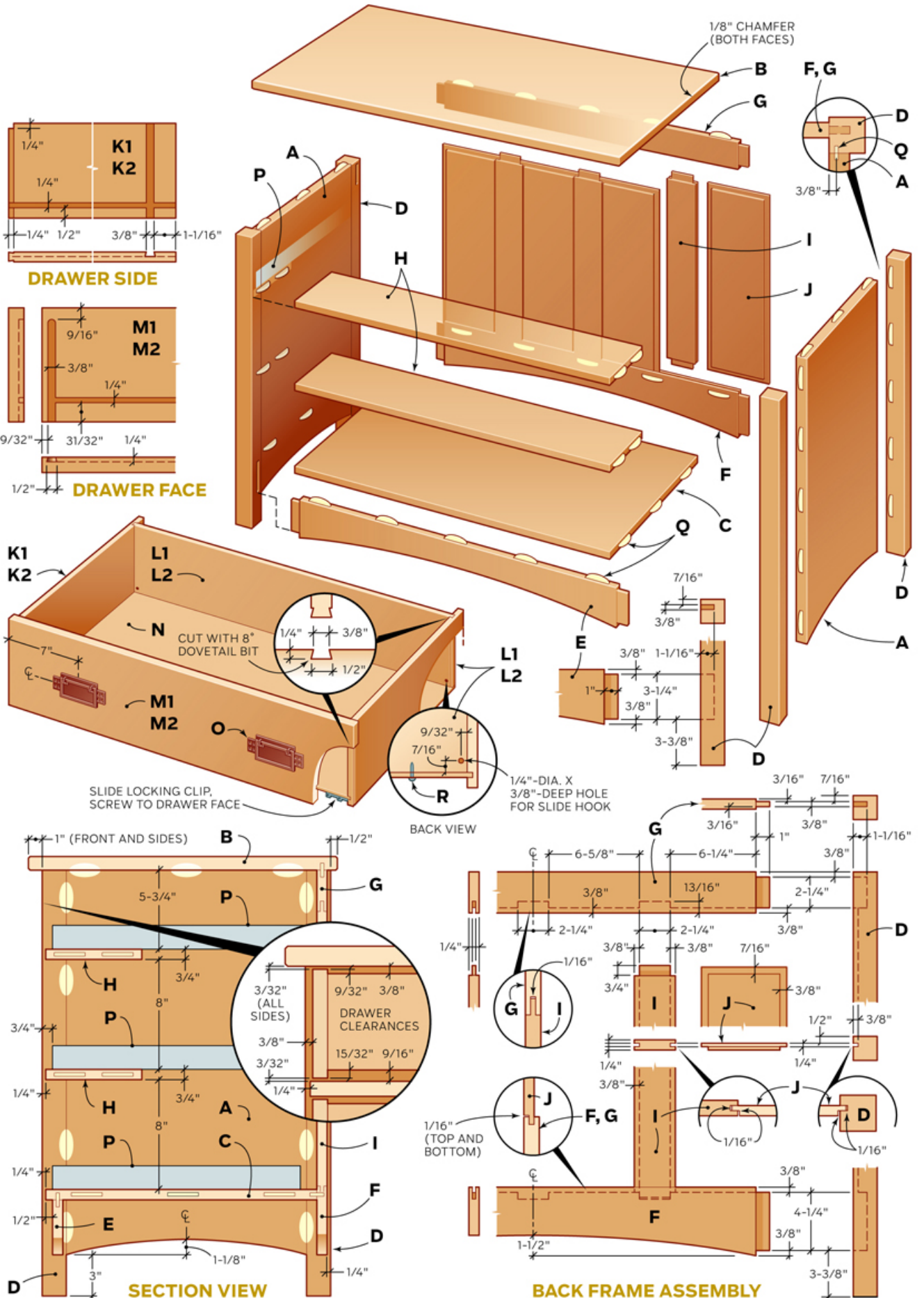
1/8" CHAMFER (BOTH FACES)
B
G
F, G
D
Q
A
3/8"
K1
K2
1/4"
1/4"
1/4"
1/2"
3/8"
1-1/16"
DRAWER SIDE
A
P
D
H
I
J
M1
M2
9/16"
3/8"
1/4"
9/32"
31/32"
1/4"
1/2"
DRAWER FACE
F
C
Q
D
A
K1
K2
L1
L2
N
CUT WITH 8° DOVETAIL BIT
1/4"
3/8"
1/2"
7"
M1
M2
O
L1
L2
9/32"
7/16"
R
1/4"-DIA. X 3/8"-DEEP HOLE FOR SLIDE HOOK
SLIDE LOCKING CLIP, SCREW TO DRAWER FACE
BACK VIEW
7/16"
3/8"
E
3/8"
1-1/16"
1"
3-1/4"
3/8"
3-3/8"
D
1" (FRONT AND SIDES)
B
1/2"
G
5-3/4"
P
H
3/4"
8"
P
3/4"
H
1/4"
3/4"
8"
A
P
C
I
1/4"
F
1/2"
E
1-1/8"
D
3"
D
1/4"
SECTION VIEW
3/32" (ALL SIDES)
9/32"
3/8"
DRAWER CLEARANCES
3/8"
15/32"
9/16"
3/32"
1/4"
3/16"
7/16"
G
3/16"
3/8"
1"
1-1/16"
6-5/8"
6-1/4"
3/8"
3/8"
13/16"
2-1/4"
2-1/4"
2-1/4"
3/8"
D
1/4"
3/8"
3/8"
7/16"
1/16"
3/4"
3/8"
G
I
I
J
1/2"
3/8"
1/4"
1/4"
3/8"
J
J
1/16" (TOP AND BOTTOM)
F, G
I
D
1/16"
1/16"
3/8"
F
4-1/4"
3/8"
1-1/2"
3-3/8"
BACK FRAME ASSEMBLY