WOODWORKER'S JOURNAL
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Classic Project

In this plan you'll find:

- Step-by-step construction instruction.
- A complete bill of materials.
- Construction drawings and related photos.
- Tips to help you complete the project and become a better woodworker.

Cherry Lingerie Chest

Heirloom Project

Cherry Lingerie Chest

A drawer for every day of the week

If furniture trends can be determined by current furniture catalogs, then a traditional bedroom classic—the lingerie chest—is enjoying newfound popularity. Our chest is long and lean, and like its forebears, has a drawer for every day of the week. The chest is also an ideal introduction to a simple form of frame-and-panel case contruction, using tongue-and-groove joinery.

Case Construction: Two Choices

Where case pieces are concerned, woodworkers using solid stock typically have two construction options. First, they can use wide boards (or edge glue several narrower pieces) to obtain the widths needed for the case sides, or second, they can use a frame-and-panel method of construction. Using a single wide board, or edge-gluing to yield a wide surface, may seem easiest, but there are several problems inherent with this method. First, if you do find a wide enough board, it may have some cup or twist. Edge-gluing narrower stock usually eliminates problems like this, but even with ideal stock, a wide flat surface may not be the most attractive option for your project. Also, with wide solid surfaces, considerable allowance for expected wood movement must usually be designed into the piece.

A frame-and-panel case may seem like considerably more work than solid board construction, but like much woodworking routine, once time for machine set-ups is factored out, there really isn't all that much more work involved. For our Lingerie Chest, the case is just three separate frame-and-panels, joined with tongue-and-grooves. The seven drawers are all identical, so you'll be able to mill all the drawer parts with a minimum of table saw settings. The eight drawer frames are also identical, so once again, a minimum of settings is required. Our chest uses cherry for all visible case parts, with the drawer boxes and drawer frames (excepting the front rail) being a secondary wood, such as poplar.

The Frame-and-Panels

The stock for all the frame-and-panel parts (excepting the 1/4 in. plywood for the back panels) is 3/4 in. thick. Rip and crosscut to yield the overall lengths and widths as listed in the Bill of Materials for the stiles (A, B, G) the rails (C, D, H, I, J), the side panels (E) and the facing (F). The overall dimensions include allowance for tenons and tongues.

All the tongue-and-groove joints are made with the dado head set for a 1/4 in. wide cut, but note that the tongue on the front stile is offset to be flush with the inside edge, to avoid interfering with the bead that's cut on the front corner. With the exception of this offset joint, all the tongue-and-grove joinery can be accom-

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plished with just two rip fence settings (just make sure all stile and rail parts are identical thickness). As shown on the exploded view, the dado head depth-of-cut varies (the panel grooves in the frame stiles are 1/2 in. deep; 5/16 in. deep in the rails), but by organizing your work you can make all like cuts at one time.

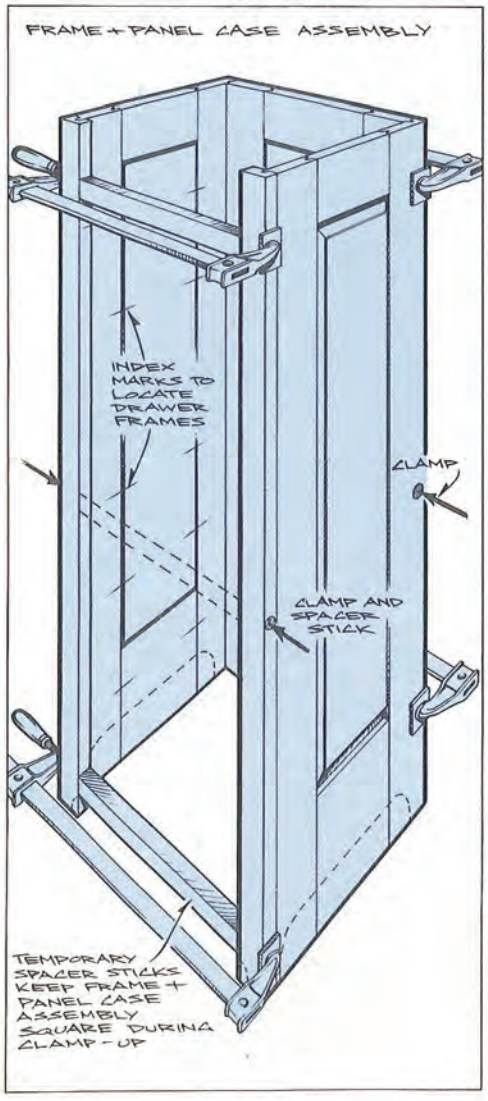
The side panels are cut to size, then using the table saw set-up shown in Figure 1, the bevels are cut. The table saw blade is raised up through the Masonite, leaving a no-gap surface for you to run the panels across. Don't try cutting the bevels with your regular table saw insert—the gap may swallow the narrow 3/16 in. edge, causing an accident. You'll need to do some sanding to clean up the cuts and square the bevel shoulder. A better choice for the cutting the raised panels is a dedicated panel raising router bit (see Sources). The bit leaves an even tongue to fit within the grooves in the stiles and rails, a distinct advantage over the beveled face of the table saw cut raised panel wedging into the grooves. Also cut the birch plywood back panels (K).

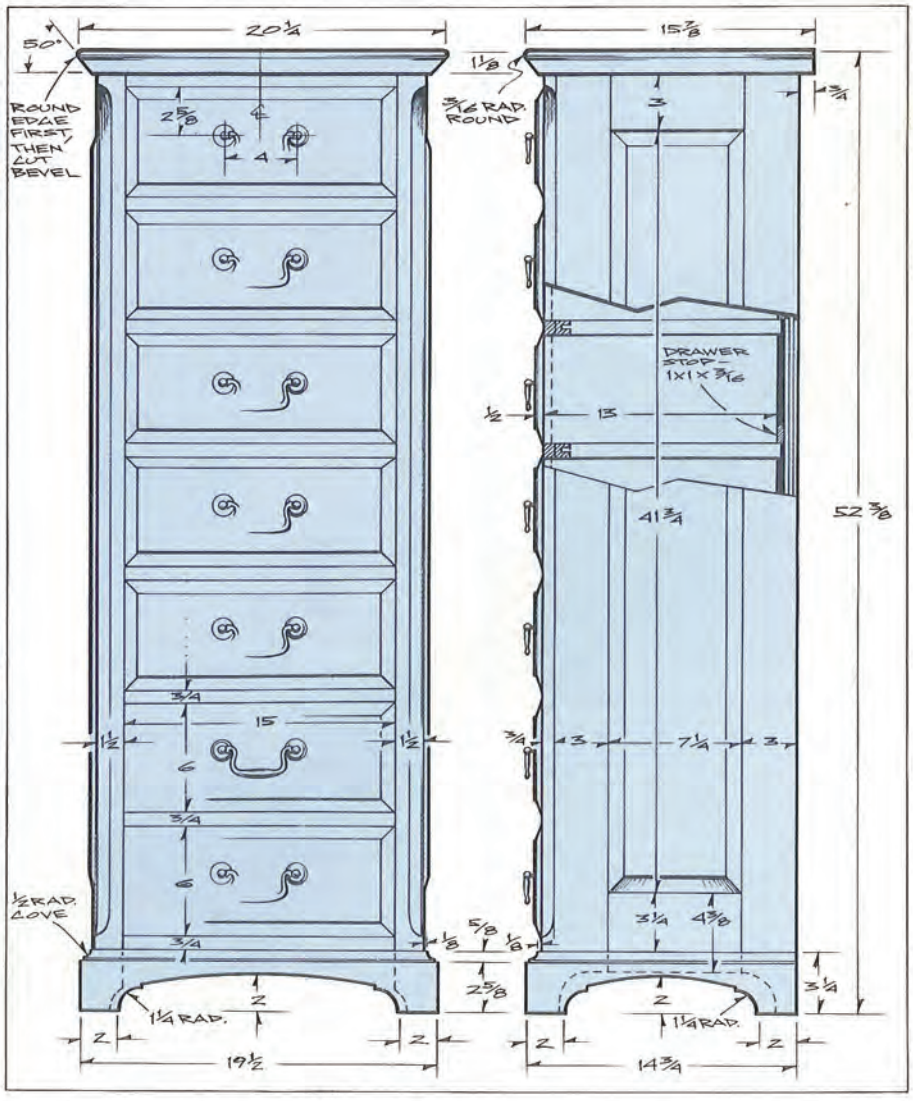
Case Assembly

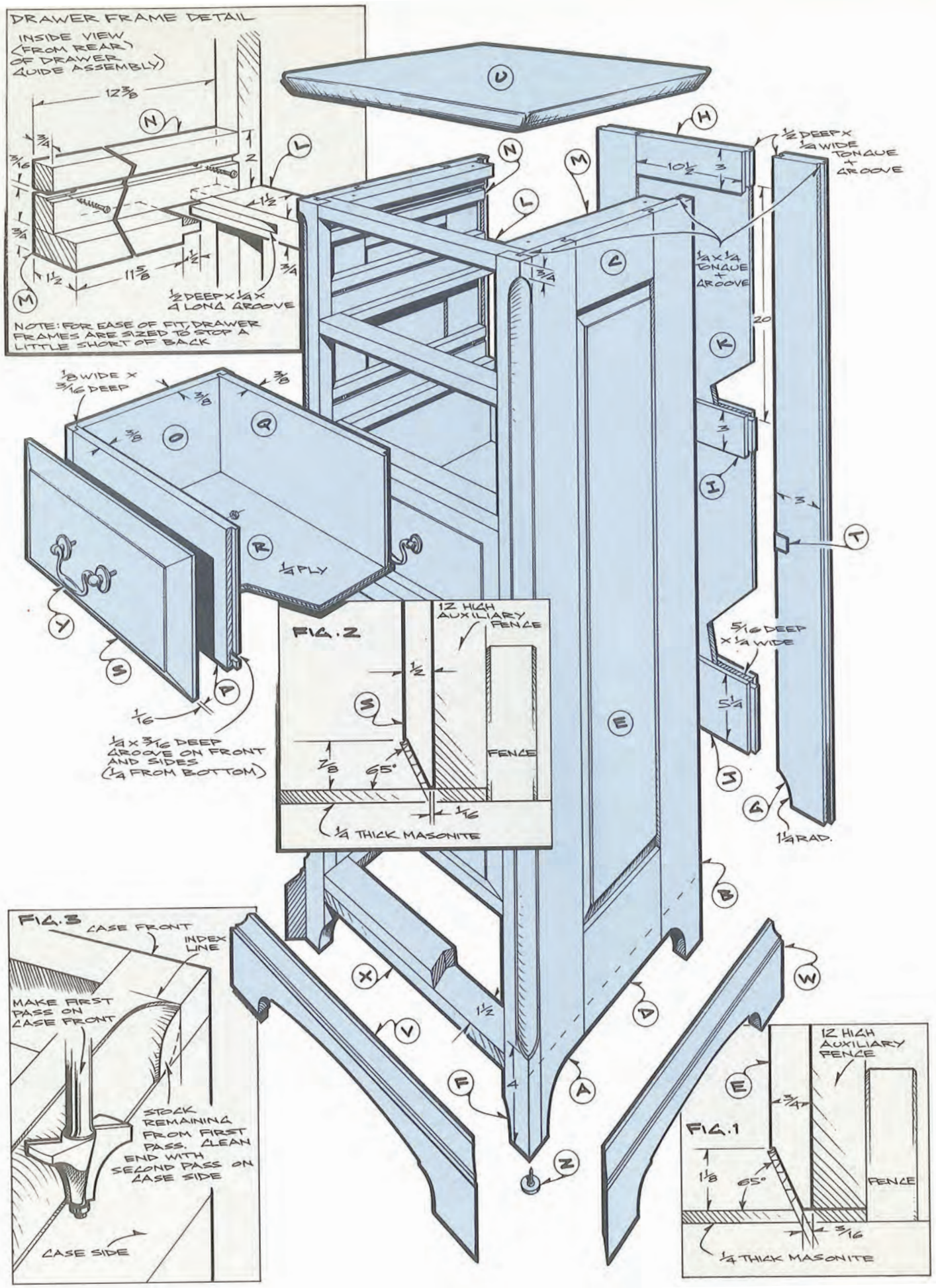
Glue the facings (F) to the front stiles (A), and check the assembly for squareness. When dry, glue and assemble the side and back frame-and-panels. Pin the raised panels on-center at the top and bottom to center them within the frame openings. Once these three separate frame-and-panel assemblies are out of clamps, lay out and make index marks on the inside of the side frames to locate the drawer frames. Then glue up the three frame-and-panels, as shown in the case assembly detail. The spacers across the front are needed to keep the entire assembly square. Take measurements across the case diagonals (the measurements should be identical) to insure squareness, then let dry.

Drawer Frames

There are eight identical drawer frames (the topmost frame is upside down), each consisting of a rail (L), joined with a tongue-and-groove joint to a pair of runners (M). Take your rail length






DRAWER FRAME DETAIL
INSIDE VIEW (FROM REAR) OF DRAWER GUIDE ASSEMBLY
12 3/8
11 5/8
1 1/2
1/2 DEEP X 1/4 X 4 LONG GROOVE
NOTE: FOR EASE OF FIT, DRAWER FRAMES ARE SIZED TO STOP A LITTLE SHORT OF BACK
1/8 WIDE X 3/16 DEEP
1/4 PLY
1/4 X 3/16 DEEP GROOVE ON FRONT AND SIDES (1/4 FROM BOTTOM)
1/2 DEEP X 1/2 WIDE TONGUE + GROOVE
1/4 X 1/4 TONGUE + GROOVE
10 1/2
20
5/16 DEEP X 1/4 WIDE
5 1/4
1 1/4 RAD.
FIG. 2
12 HIGH AUXILIARY FENCE
FENCE
65°
1/4 THICK MASONITE
FIG. 3
CASE FRONT
INDEX LINE
MAKE FIRST PASS ON CASE FRONT
STOCK REMAINING FROM FIRST PASS. CLEAN END WITH SECOND PASS ON CASE SIDE
CASE SIDE
FIG. 1
12 HIGH AUXILIARY FENCE
FENCE
65°
1 1/8
3/16
1/4 THICK MASONITE

measurement—and the notches at the rail ends—directly from the case assembly, while it's still in clamps. When joining the rail and runners, use a framing square to insure squareness. The guides (N) are glued and clamped to the runner/guide assembly. We show a groove for the screws, but they could just as easily be countersunk. By the way, if you have enough foresight, you can cut the tongue-and-groove joint at the same time as the frame-and-panel joinery; just allow a little extra length on the rails so they can be trimmed later to fit the actual case. Our Drawer Frame Detail shows the groove in the rail as stopped about 4 in. from each end, since there's no need to run the groove along the full length. Once the drawer frames are out of clamps, notch the ends of the front rails to fit tightly between the case facings. Then install the drawer frames in the case (four screws for each drawer frame), using the marks for alignment.

Bill of Materials
(all dimensions actual)

Part	Description	Size	No. Req'd.
	Side Frame-and-Panel		
A	Front Stile	3/4 x 3 1/4 x 51 1/4*	2
B	Back Stile	3/4 x 3 x 51 1/4	2
C	Top Rail	3/4 x 3 x 8 1/4*	2
D	Bottom Rail	3/4 x 6 1/2 x 8 1/4* **	2
E	Panel	3/4 x 7 3/4 x 42 1/4***	2
F	Facing	3/4 x 1 1/2 x 51 1/4	2
	Back Frame-and-Panel		
G	Stile	3/4 x 3 1/4 x 51 1/4*	2
H	Top Rail	3/4 x 3 x 11 1/2*	1
I	Center Rail	3/4 x 3 x 11 1/2*	1
J	Bottom Rail	3/4 x 6 1/2 x 11 1/2* **	1
K	Panel	1/4 x 11 1/2 x 20***	2
	Drawer Frame w/ Guide		
L	Rail	3/4 x 1 1/2 x 16 1/2	8
M	Runner	3/4 x 1 1/2 x 12 1/8*	16
N	Guide	3/4 x 2 x 12 3/8	16
	Drawer**		
O	Side	3/8 x 6 x 13	14
P	Front	3/8 x 6 x 14 5/8	7
Q	Back	3/8 x 5 1/2 x 14 5/8	7
R	Bottom	1/4 x 12 13/16 x 14 5/8	7
S	Face	1/2 x 6 x 15	7
T	Stop	3/16 x 1 x 1	14
	Top/Base/Hardware		
U	Top	1 1/8 x 15 7/8 x 20 1/4	1
V	Base Front	3/4 x 3 1/4 x 19 1/2	1
W	Base Side	3/4 x 3 1/4 x 14 3/4	2
X	Glue Block	3/4 x 1 1/2 x 15	1
Y	Bail Pull	Solid Brass, 4 in. O.C. Boring	7
Z	Leveler	1 in. dia.	4

* Stile widths include tongue. Rail and runner lengths include tenon(s).

** Width of bottom rails is before cut-outs are made in side and back frame-and-panel assemblies.

*** Side panels are solid stock, and panel width and length allows for some wood movement. Length and width of plywood back panels is exact groove-to-groove distance. In practice, cut these plywood panels a little under-size so they don't interfere with the rail shoulders seating flush when the back frame-and-panel is assembled.

**** Drawer parts are dimensioned exactly to fit length and width of drawer opening. In practice, measure your drawer openings and size the drawers about 1/32 in. less in width, 1/16 in. less in height.

Drawers

The seven drawers each consist of a pair of sides (0), a font (P), back (Q), birch plywood bottom (R), and face (S). Weshow a dado-and-groove joint, but use whatever joint you prefer. The bevel on our drawer face is cut using the set-up shown in Figure 2. It's similar to the side panel set-up, with the same blade angle, but different blade height and fence settings. As illustrated, we've sized the drawers a little short of the case back, and then used stops (T) glued to the case back to properly locate the drawer face bevel with respect to the case front. When positioned correctly, the bevel on the drawer face should be flush with the case front, as shown in the photo.

Details/Base/Top

Part of the charm of our chest is the 5/8 in. radius bead cut on the font corners. It's done with the router and a 5/8 in. radius beading bit. Be sure to block the chest up so the side panels aren't resting on the floor. As shown in Figure 3, make index marks to indicate the cut ends, make a pass with the router on one face, then switch the router to the opposite face and make a second pass. This second pass is needed to produce a symmetrical form on the bead ends. Ideally, both passes will be indexed perfectly, but if you end up with a small step, some clean-up work with chisels may be needed.

Next up are the top (U) and base (V, W). The top is just solid boards, edge-glued to yield the 15 7/8 in. width. Round the edge with a 3/16 in. radius roundover bit (see Sources), then, using the table saw, cut a SO-degree bevel on the sides and font. The base parts are cut from a single board about 50 in. long. Use a 1/2 in. radius cove bit to mold one edge of the board, then use miter cuts to establish final length. Lay out the base profiles as indicated, joining the 1 1/4 in. radii with long, gentle curves. Before adding the base parts, use a hand-held jigsaw to cut back the case bottom at the front, back and sides. The base is glued and finish-nailed to the case, with a long glue block (X) providing additional support for the base front. The top is screwed in place through the upside down uppermost drawer frame.

Finishing Touches

Our cherry chest has a Minwax cherry stain, topped with two coats of clear shellac and finally one coat of McClosky's Heirloom Satin Varnish. The solid brass bail pulls (Y) are from Horton Brasses (see Sources). The levelers (Z) were purchased from a local hardware store.

Assembly Tip

It may be tempting to try to get all your tongue-and-groove joinery exact (with tongue length identical to groove depth), but in practice, it's a good idea to trim a hair from the tongue (or tenon) length—or make the grooves (or mortises) just a bit deeper. This insures that shoulders along the joints close up good and tight during assembly.