

HEIRLOOM Project



Empire Chest of Drawers

This take on the classic Empire chest of drawers is a modern rendition. It offers updated construction techniques while staying true to the design of Empire furniture.

When you hear the term Empire, the first thing that you think of may not be furniture. Personally, the term conjures images of Sith lords, Jedi, and light sabers. However, the Empire style of furniture has some interesting features that really appeal to me. And when I saw the design of this chest of drawers, I was excited to see how it all came together. Before you start building, let's quickly talk about what the Empire style is, and some of the design features.

A LUXURIOUS FEEL. The Empire design movement falls between the more popular Federal and Victorian styles (early to mid-19th century). The design was inspired by the Napoleon-era style from France, and the furniture reflects this elegant and luxurious style.

Some of the traditional Empire design features can be found in this chest of drawers. This starts with the heavy proportions, and a top drawer that's larger than the rest of the drawers. As you work down the chest, the drawers are graduated.

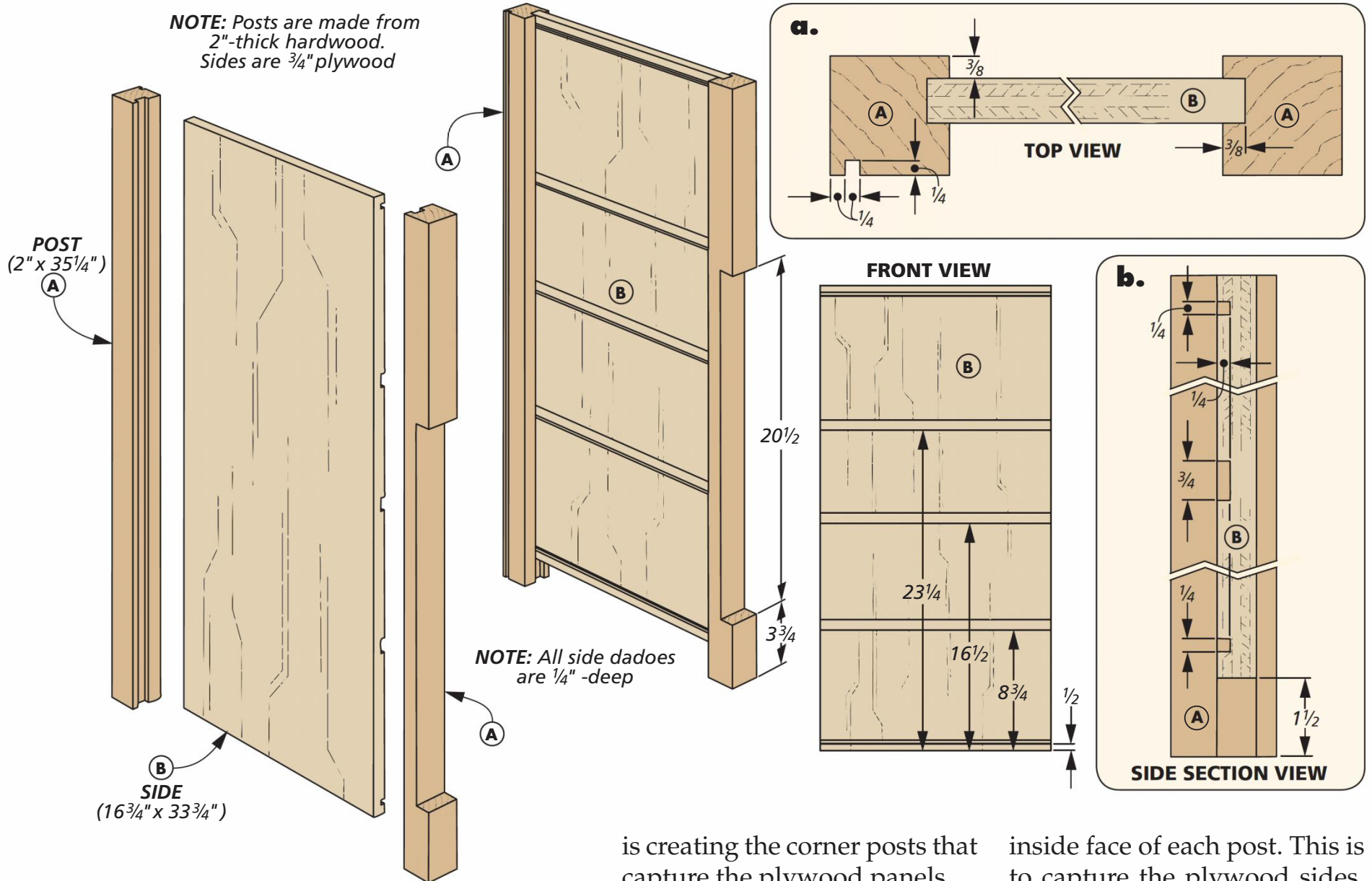
SPLIT TURNING. Another feature indicative of Empire furniture is scrollwork or turnings, often sitting below the top drawer. Here, we've featured a pair of split turnings that mirror the feet. Don't worry, they're straightforward to make. And speaking of making, turn the page because it's time to get started building this Empire chest of drawers.



▲ The chest of drawers features five large drawers. Hardwood construction combined with half-blind dovetails make these drawers rock-solid no matter how much you load them up.

▼ The turned feet appear to be an extension of the split turnings that decorate the front of the case. However, a clever construction method allows you to create this illusion nearly effortlessly.





Create the **SIDE PANELS**

The case of this Empire chest is built out of plywood. Plywood dividers separate the drawer openings, and all the plywood gets covered in edging. Up first

is creating the corner posts that capture the plywood panels.

HARDWOOD CORNERS. Start by milling the posts to size. I chose to use cherry, but just make sure that your stock of choice is available in 10/4 thickness for the posts (or you'll have to glue them up). At the table saw, cut a wide groove on the

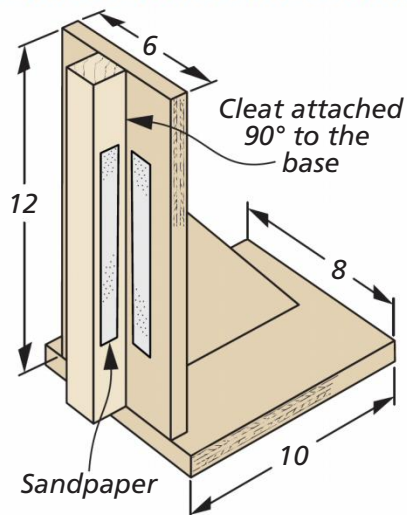
inside face of each post. This is to capture the plywood sides, like you see in the main drawing above and in detail 'a.'

Set the front posts aside for a moment, and cut another groove on the inside faces of the rear posts. This will be for the back that you'll create later.

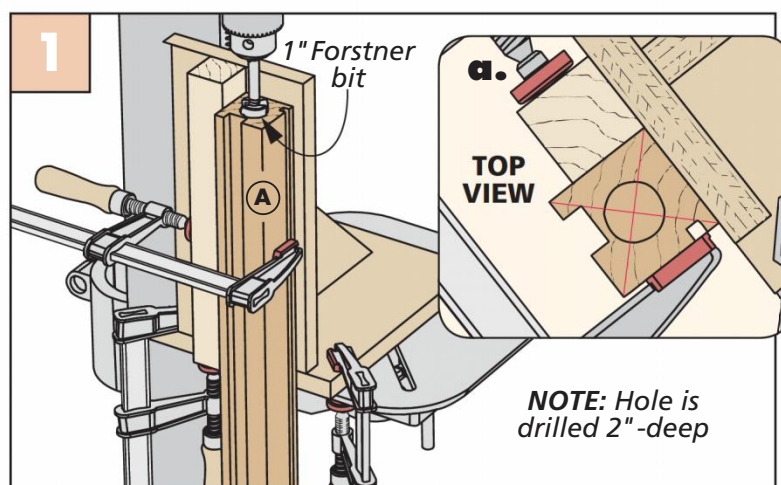
FOOT HOLES. Now, you can drill a hole in the bottom of each post. These will be for the feet that you'll turn later. Take a look at the box to the left to see how this is done. In short, I used a jig to hold the leg vertically at my drill press. Then, I used a Forstner bit to drill the hole to the proper depth.

NOTCHED FRONTS. With the holes drilled, there's one more thing to take care of on the posts. And that's cutting the large notch in the front posts. To tackle these, I defined the ends of the notch at the table saw. Then, I cut the bulk of the waste away at the band saw (Figure 1, next page). Leave a little bit of waste here. You'll want to clean up the cut

VERTICAL HOLE JIG



Drilling Guide. The guide is a right-angle block with a cleat attached to the face.



Foot Mortises. With the guide clamped in place, swing the table to one side to drill the holes for the feet. Back out the bit occasionally to clear the shavings.

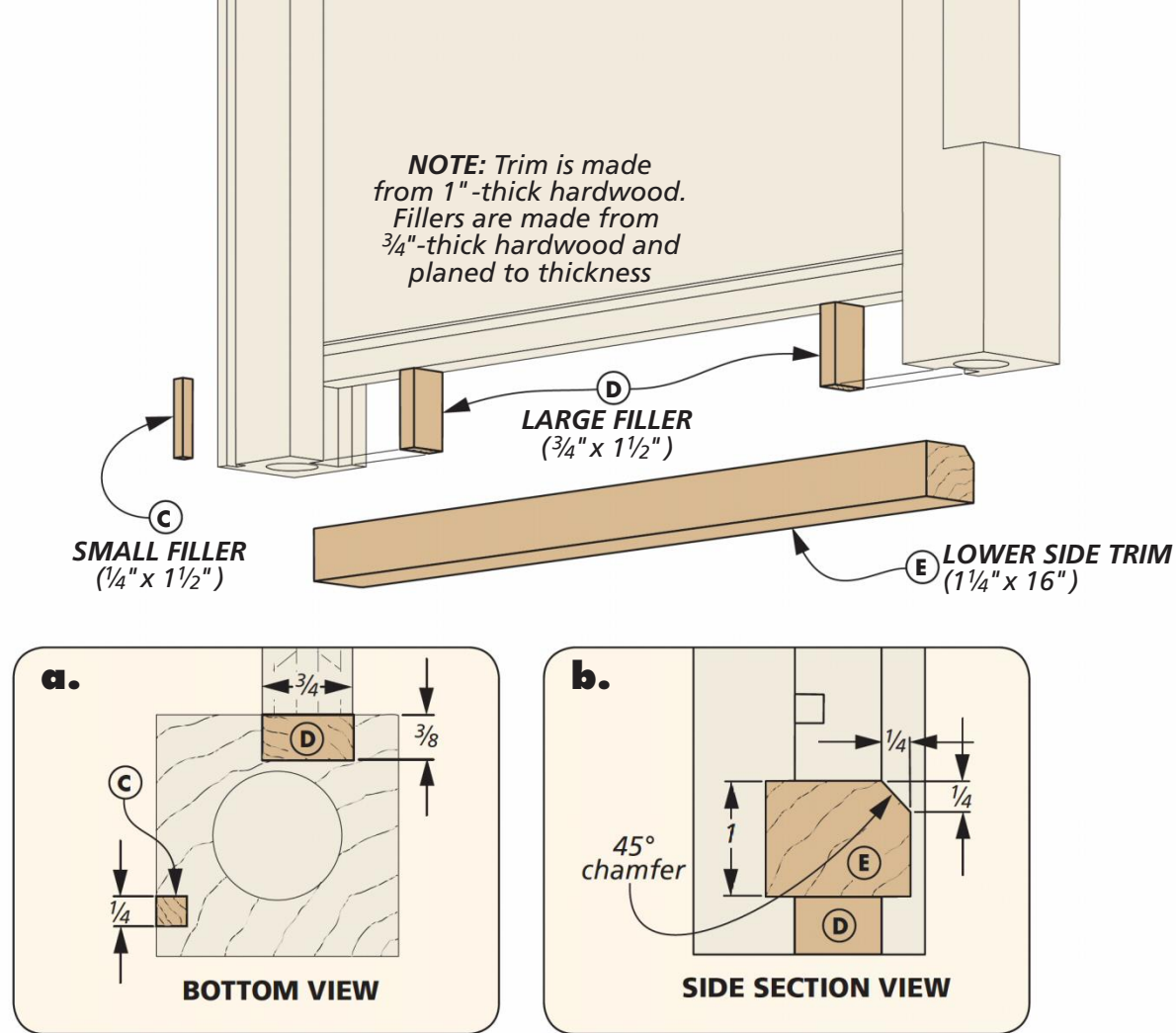
at the router table (Figure 2). Just use a long auxiliary fence on the router table, and make a light, planing cut to clean up the face. Any remaining waste in the corners can be cleaned up with a sharp chisel.

SIDE PANELS. The sides of the chest (and the dividers) are plywood. Here, I chose a quality cherry veneer plywood. There's some simple joinery here, but first cut the side panels to size.

DADOES. Dadoes on the inside of the panels capture the dividers (detail 'b' previous page). The top and bottom divider have a tongue cut on the ends, so those dadoes will be a little narrower than the middle three.

When you're ready to cut the dadoes, you can pick your poison. Generally, for plywood panels (if they're not too large) I like to cut dadoes on the table saw. If you choose this route, set up the dado blade to match the plywood thickness. Alternatively, you could cut the dadoes with a router and straight bit. (I would use a narrower bit and make two passes for a snug fit.) See page 14 for some techniques on routing dadoes.

ASSEMBLY. After the dadoes are cut, you can glue the corner



posts to the sides. Make sure to align the top of the posts flush with the sides. With the clamps applied and the glue drying, you can tackle a few final details on the side assemblies.

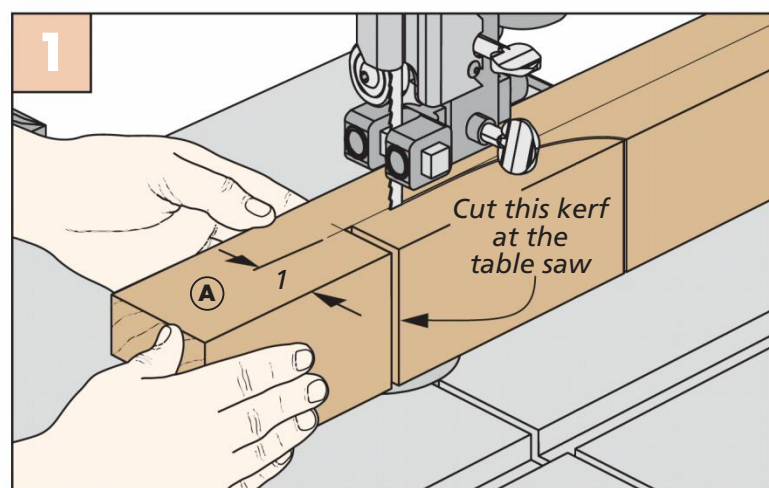
FILLERS & TRIM

After gluing up the side assemblies, you'll notice that the groove for the side panel is visible on the bottom of the corner post. So, you'll want to cut a small filler block and plug the

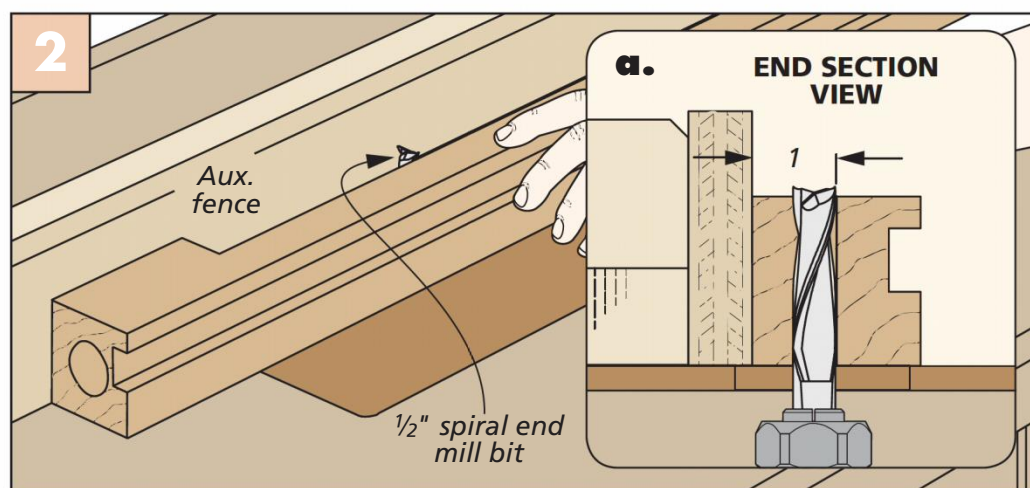
groove, along with the groove for the back (detail 'a' and the main drawing above).

The last detail to knock out is a thick piece of trim that's attached to the bottom end of the side panel (detail 'b'). Start with a long blank, then rout a chamfer along one edge. You'll need another piece of trim for the front of the chest later, so I made an extra. Cut the trim to fit and install it with glue and a couple of pin nails to hold it while the glue dries.

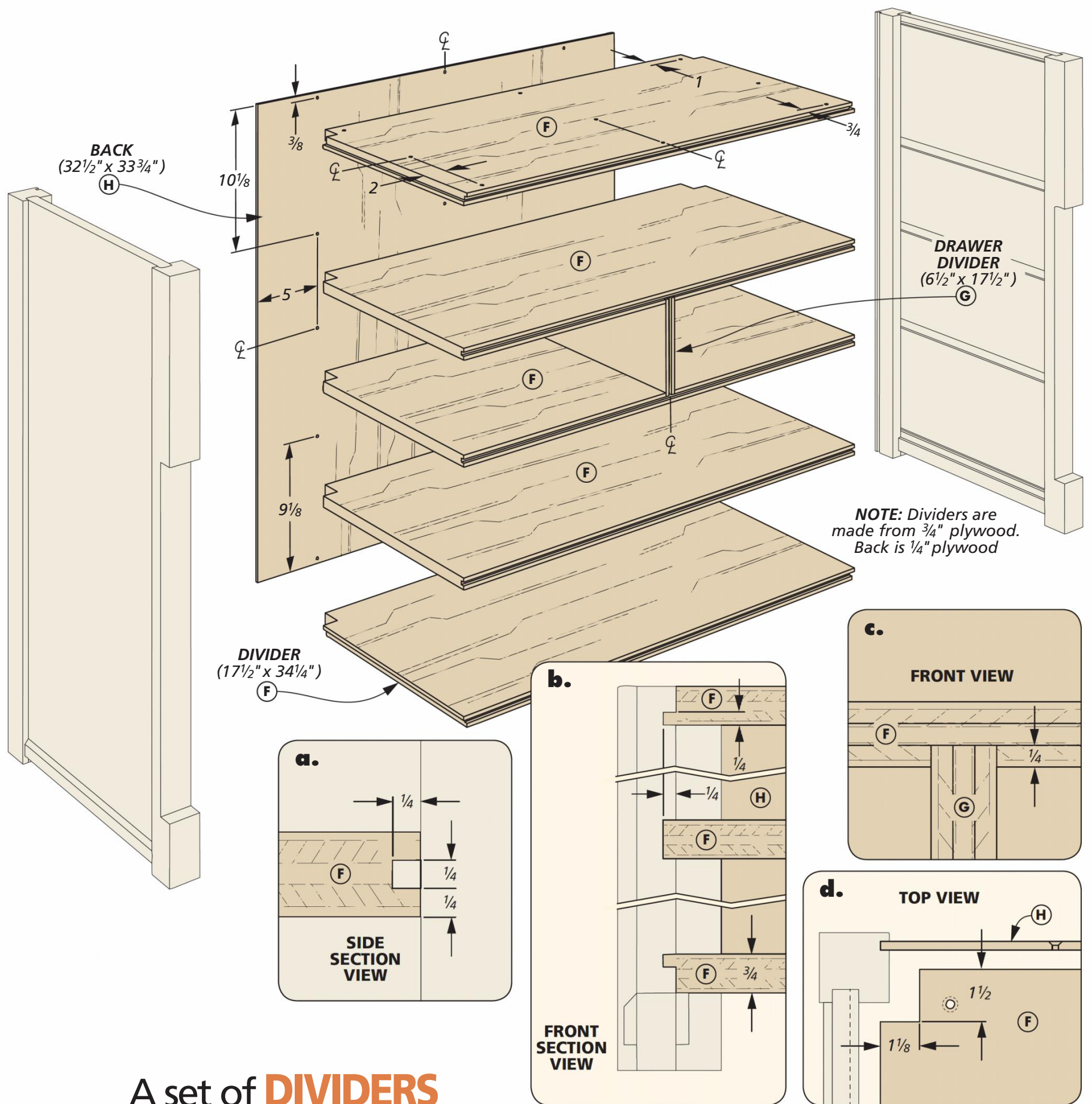
MAKE A BIG NOTCH



Post Notch. At the table saw, kerf the ends of the notch. Then saw out the waste at the band saw. Leave a small amount of waste inside the line.



Planing Cut. Use a long auxiliary fence and spiral end mill bit at the router table to make a planing cut inside the notch. Remove a small amount of material with each pass to leave a smooth surface.



A set of **DIVIDERS**

Creating the dividers is up next. Like the side panels, the dividers are made from plywood. After the dividers are installed, you'll cut some hardwood edging to dress them up.

PLYWOOD DIVIDERS. As you can see in the drawing above, there are a total of five horizontal dividers. They're all the same size. A tongue cut on each end of the bottom and top dividers fits in the narrower dadoses in the side assemblies (detail 'b').

After cutting the dividers to size, you can cut a dado in the second and third divider, as seen in detail 'c.' This is to fit a shorter, vertical drawer divider (simply cut this to size). Like before, I cut these at the table saw with a dado blade. Before leaving the table saw, form the tongue on the ends of the bottom and top divider.

GROOVED FRONTS. The front edge of the plywood dividers will receive some hardwood edging that you'll make in a little bit.

To create a strong bond, the edging is attached using a tongue and groove. Cut the groove in the front edge of the dividers with a slot-cutting bit, as seen in Figure 1. Cut the groove in all of the divider fronts, including the drawer divider.

NOTCHES. Back at the bench, you have two more tasks before you can install the dividers in the case. The first is to notch the back corners of each divider, as seen in the main drawing on the

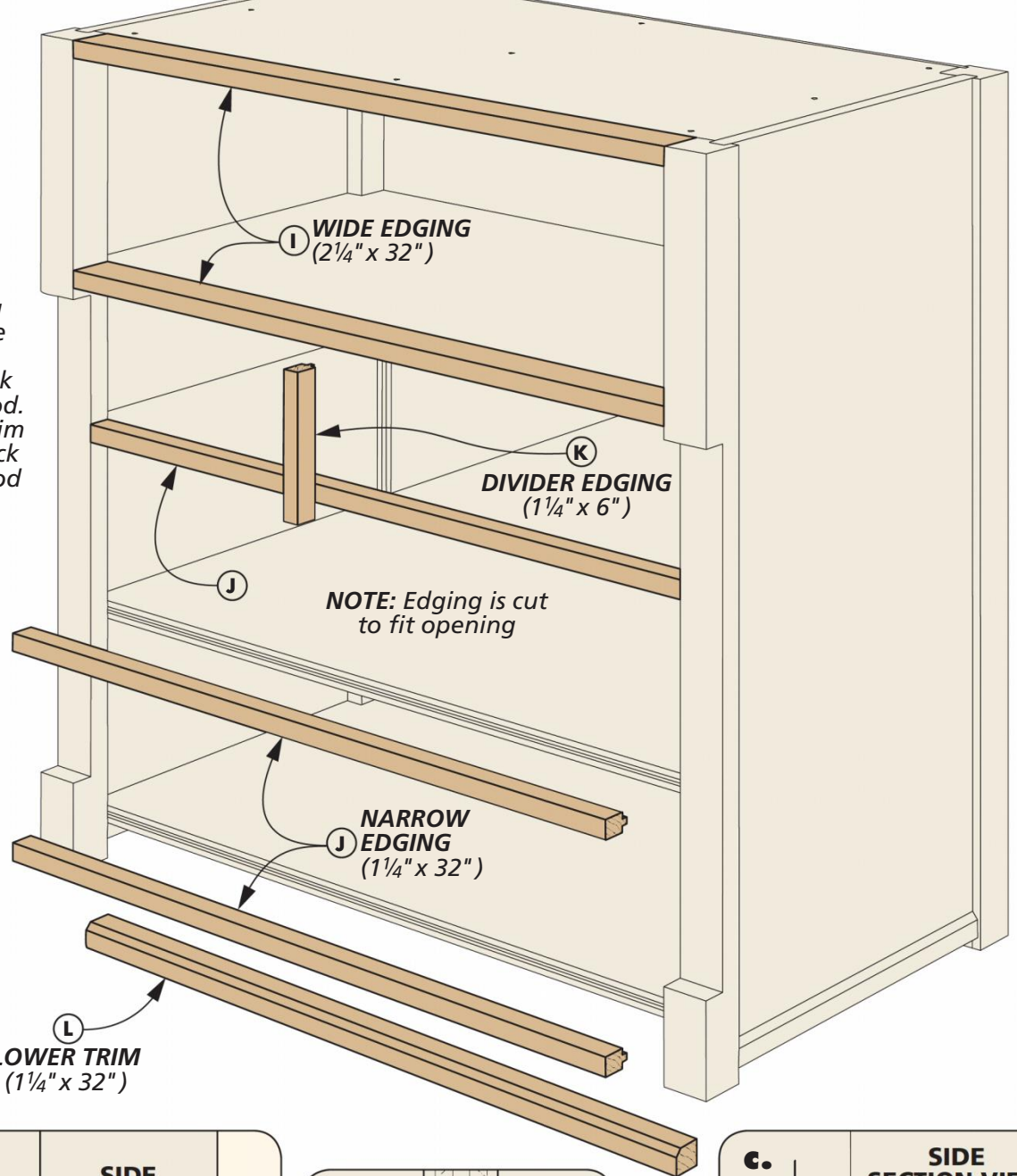
previous page and detail 'd.' The notch will fit around the back corner post. To create the notch, simply cut to the layout line with a jig saw. The final detail is to pre-drill the holes in the top divider to attach the top later (drawing on previous page).

ADD THE DIVIDERS. Now, you're ready to glue the dividers to the side panels. These simply slip into the dados, along with a bead of glue. To keep the assembly square, I cut the back to size and slipped it in the groove in the rear post (don't attach it yet). Then, clamp the case together while the glue dries.

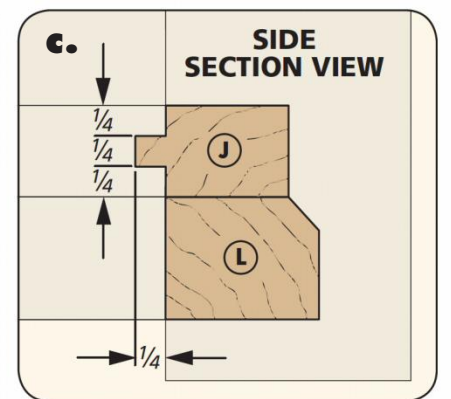
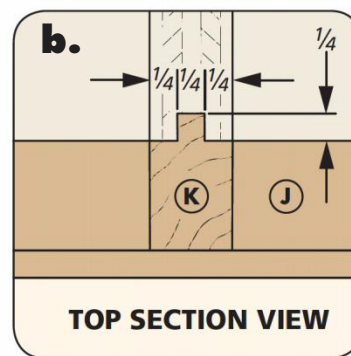
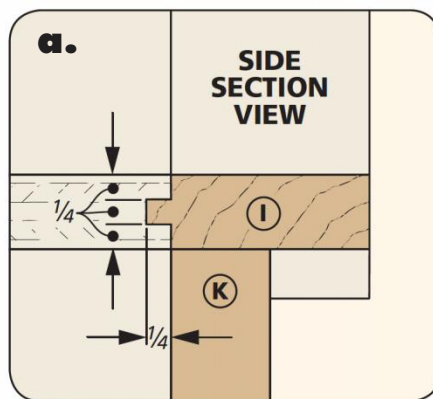
EDGE IT

Now can tackle the edging to cover the plywood edges. This is cut from hardwood, and has a tongue cut on one edge (detail 'a' and Figure 2) to slip in the groove in the divider. Note that the top edging is wider to create the protruding drawer opening. After forming the tongue, cut each piece to fit. I removed the back so I could glue and clamp the edging in place. Lastly, apply the front trim piece below the bottom divider. You can see the edging in detail 'c.'

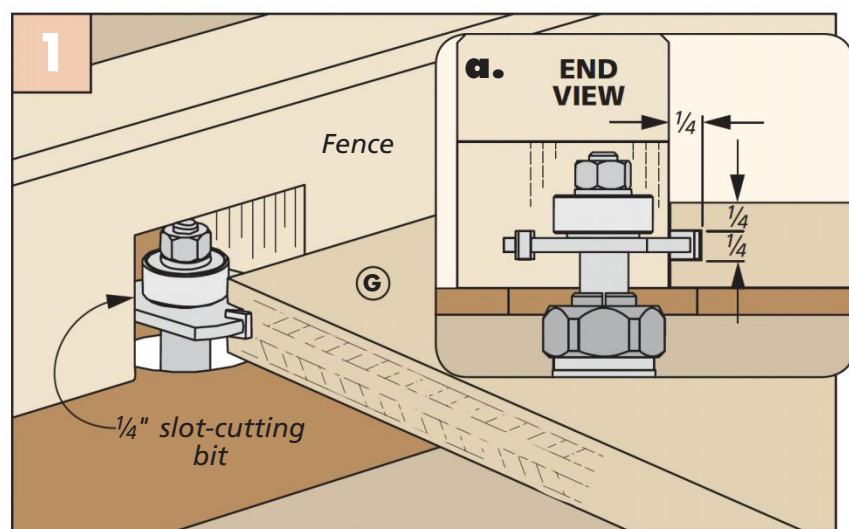
NOTE: Edging is made from 3/4"-thick hardwood. Lower trim is 1"-thick hardwood



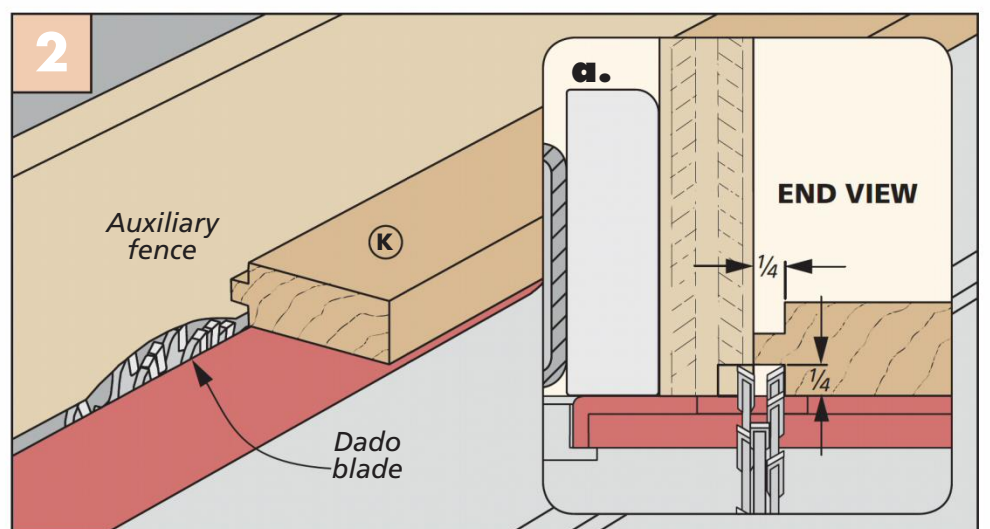
NOTE: Edging is cut to fit opening



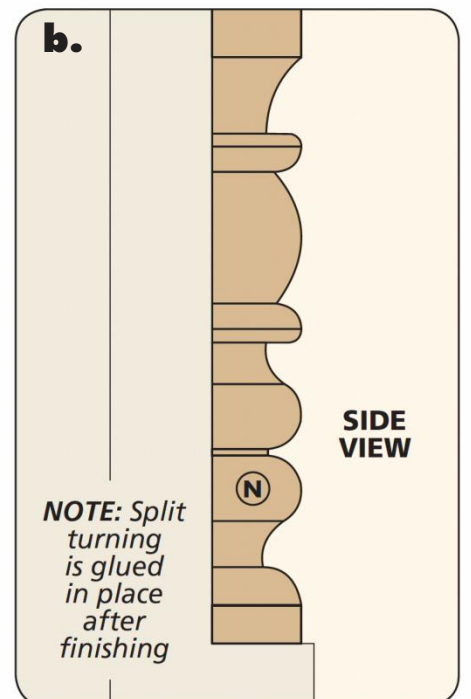
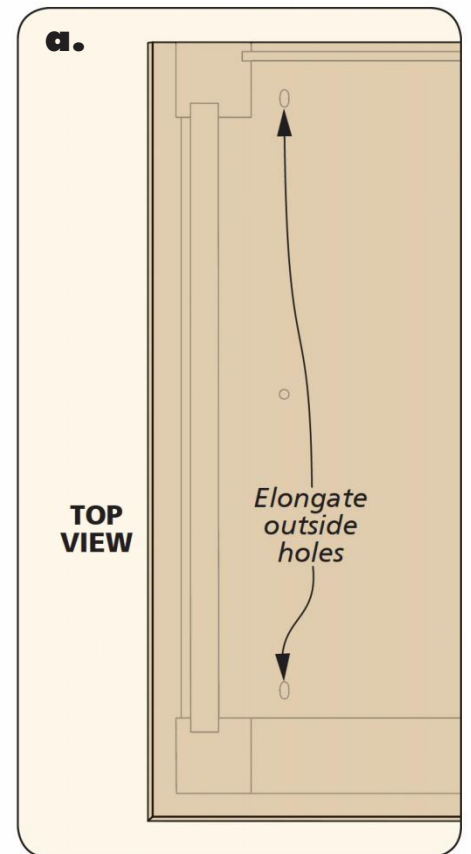
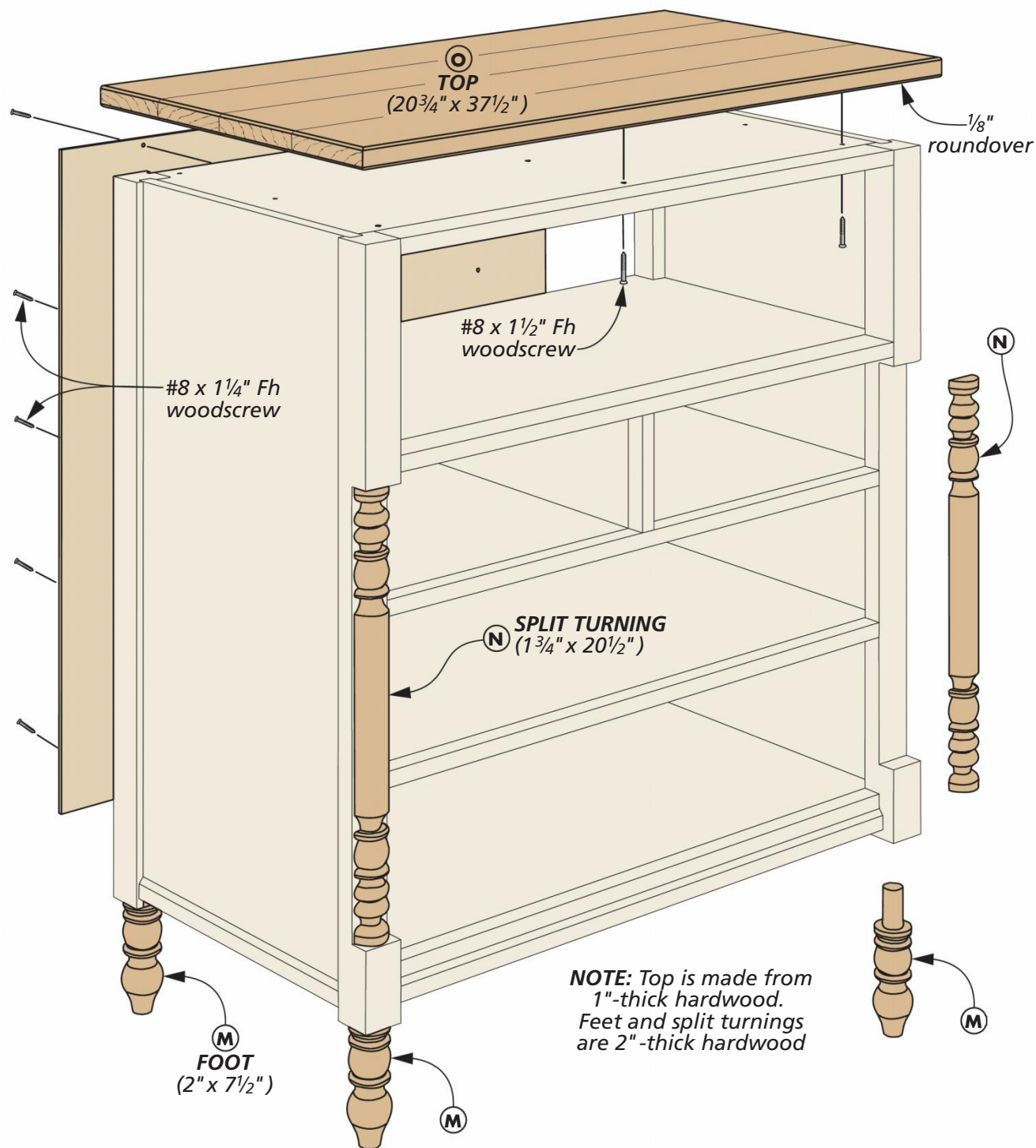
GROOVE & TENON



Slot the Dividers. Using a slot-cutting bit in the router table, cut a groove in the front edge of each divider. Use a miter gauge to guide the drawer divider during cutting.



Edging Tongue. Bury a dado blade in an auxiliary fence to form a tongue on one edge of all the edging. Check the fit with a scrap piece to get a snug fit in the divider groove.



Making the **TURNINGS & TOP**

With the bulk of the case complete, you can shift your focus to some of the more intricate details of the chest. This will start with the turnings — a pair of split turnings for the notches in the front posts and the four feet. Then, you'll tackle the top.

FEET FIRST. Creating the feet is a straightforward exercise in turning. Start with four blanks, cut a little long. (I used the same 10/4 stock as the posts.) If you feel inclined, you can use the table saw to bevel each corner and make an octagonal blank. (I enjoy turning, so I skipped this step and opted to hog off more waste at the lathe.)

At the lathe, set your blank up in a drive center or chuck. Use a roughing gouge to turn the blank to a 2" cylinder. Then, use a parting tool to form a tenon on one end. This will fit into the holes you drilled in the bottom of the posts, so double check the size with calipers as you go.

PROFILED FOOT. With the tenon fitting into the hole, you're ready to turn the feet to shape. The profile I used can be seen on the next page. To keep the feet consistent and to help check my progress, I made a reverse template out of hardboard. Just use a combination of spindle gouges and scrapers

to refine the shape. Don't worry too much about following the pattern exactly. Just make sure to get the four feet close in appearance.

Once the turning is done, use a parting tool to cut the feet to final length. Then, set them aside for finishing later.

SPLIT TURNING. Now that you're warmed up on the lathe, you can take care of the split turnings that fit in the notches on the front posts. These start as two extra-long blanks that are glued together with a piece of kraft paper in between them. After turning, the blank will be split apart along this paper-glue line.

Once the glue is dry, drill a hole on each end of the blank, slightly larger than the points on your live center and drive spur. This will prevent the pressure from the tailstock from splitting the blank along the glue line. As before, turn the blank round, then form the shape (shown to the right) using spindle gouges, scrapers, and sandpaper.

SPLIT IT APART. Once the profile is complete, use the parting tool to cut the blank to length. Then, remove the turning from the lathe and use a chisel to split the blank along the glue joint.

Scrape and sand any remaining glue and paper before staining and finishing the turnings. The split turnings and feet are stained darker than the rest of the chest (refer to Sources on page 66 for finishing info). Once the finish is dry, you can glue them in place. I drove a couple of long pin nails into each turning to hold it in place while the glue dried.

SOLID WOOD TOP

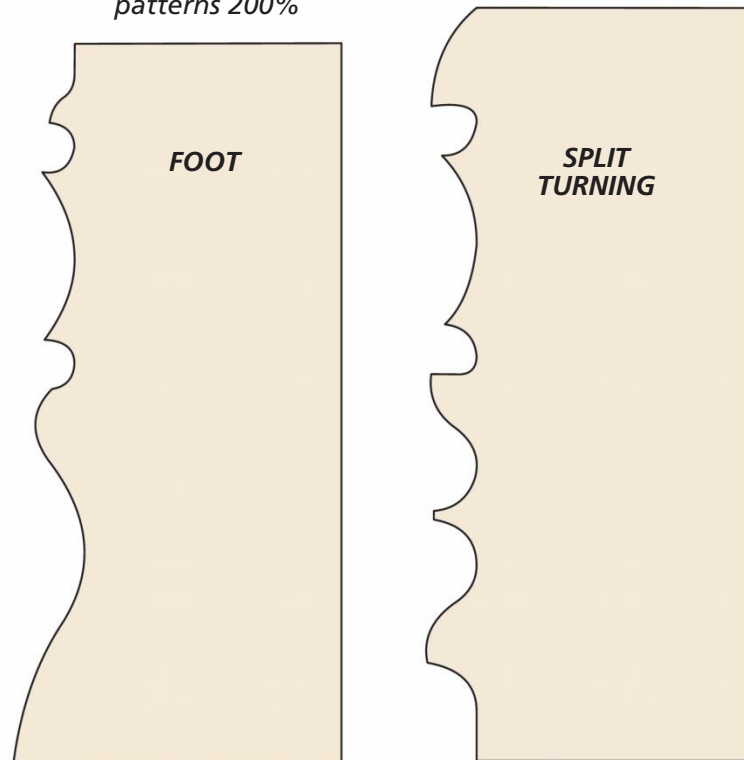
The top of the chest is made of full 1"-thick hardwood. This keeps it in theme with the heavy proportions that are found on the rest of the case.

GLUE UP. Because the top is fairly wide, I created the top from multiple boards rather than one large, wide plank. Start with your stock planed to thickness. Glue up the panel in two sections, using clamping cauls to keep the sections flat. Once each section is dry, glue them together for the final width and scrape or sand the glue lines flush.

SLOTTED HOLES. With the top glued up, you can cut it to size. A small roundover eases the top and bottom edges. Then, you can prefinish the top like the turnings.

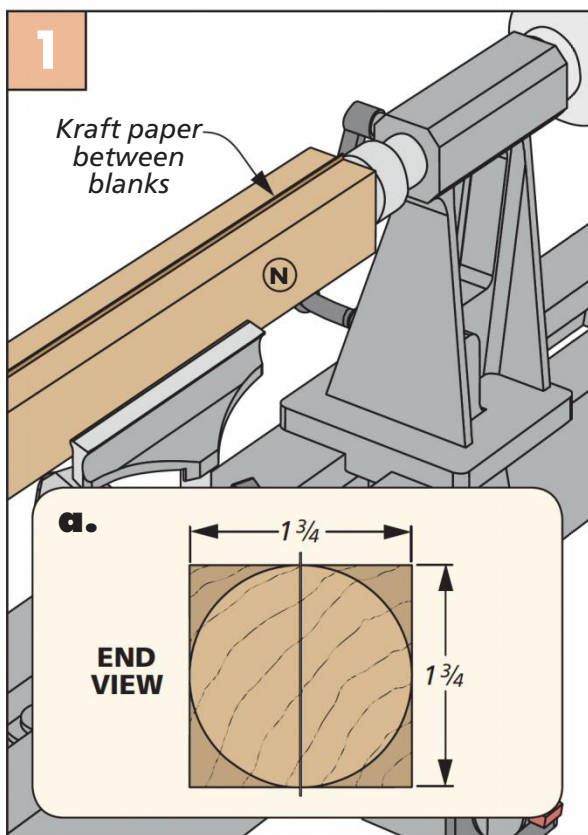
Before attaching the top, slip the back into place and install it with screws driven into the dividers. The top gets attached to the top divider with screws.

NOTE: Enlarge patterns 200%

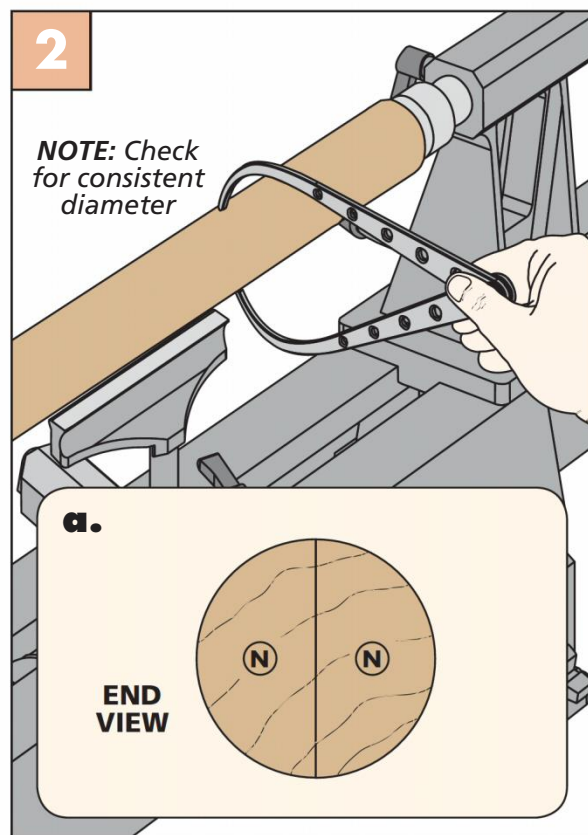


First however, I took a minute to elongate the outside holes I made in the top divider using a file. This allows the top to expand and contract with any variations in humidity.

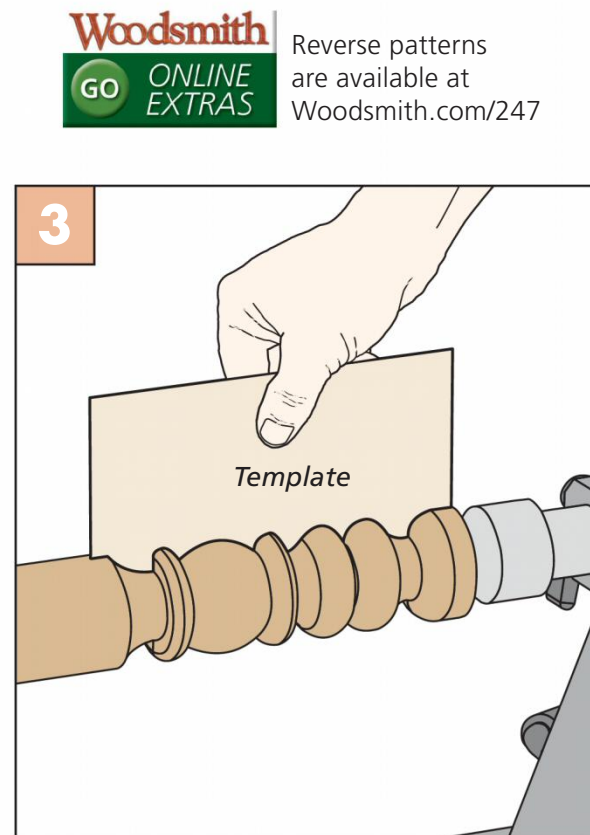
MAKING A SPLIT TURNING



Split Blank. Glue up two blanks with paper in between and hold it in the lathe between centers.



Turn It Round. Use a roughing gouge to turn the square blank into a cylinder, using calipers to verify a consistent size.



Turn the Shape. Turn the blank to shape. Check the profile using a hardboard template as a reference.

Woodsmith
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EXTRAS

Reverse patterns are available at Woodsmith.com/247

A nice set of DRAWERS

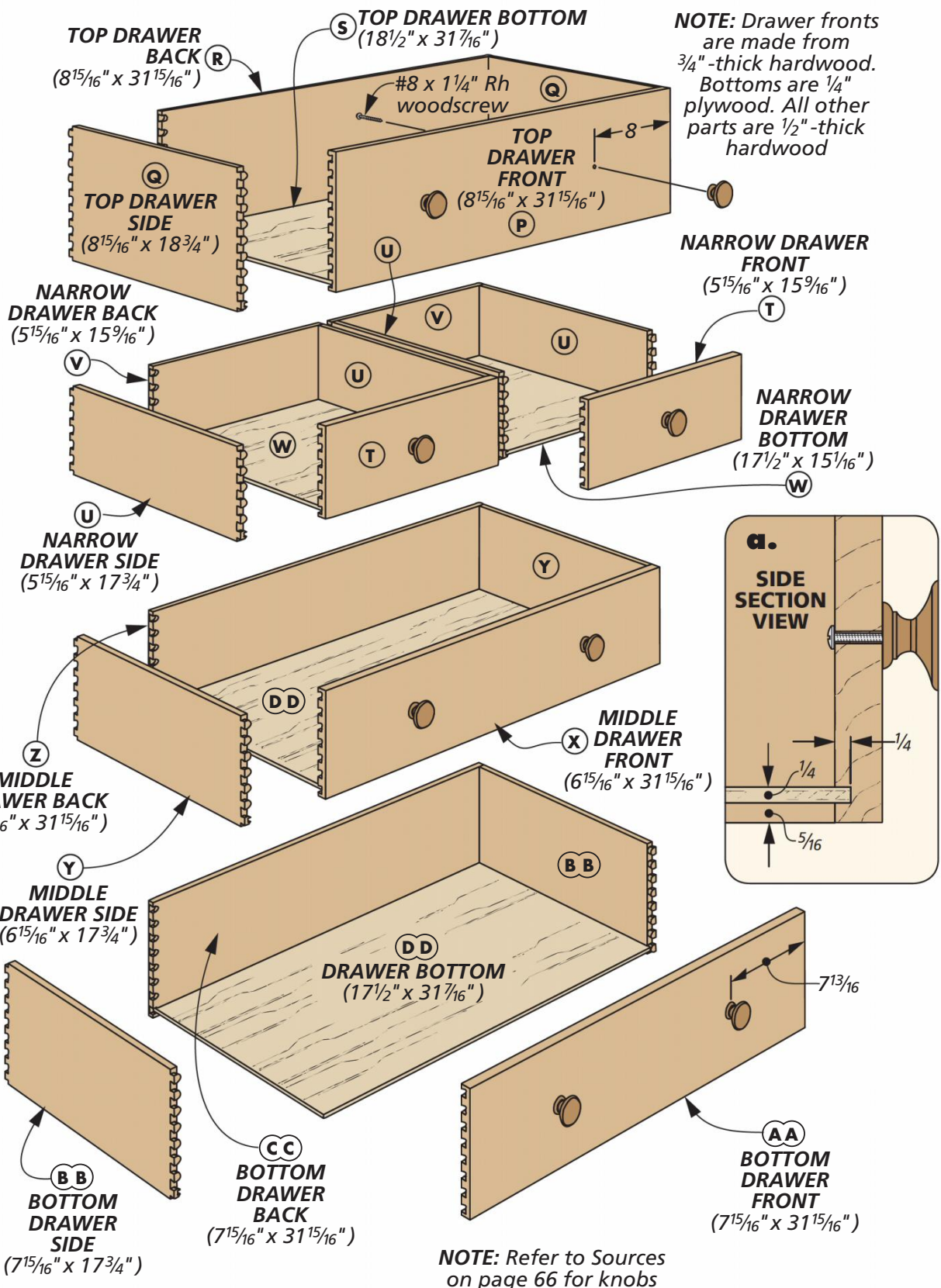
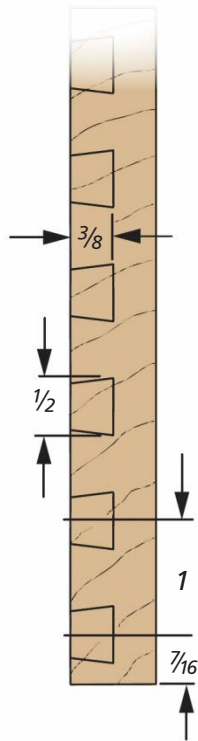
A chest of drawers without drawers is nothing more than a squatty bookcase. And that's the final step of this journey — to fill the case out with drawers. All told, there are five drawers that are graduated in size. The top drawer is the tallest, while the smaller split drawers are the shortest. The drawer sides and back are made from maple, while the drawer fronts are solid cherry.

BIRDS OF A FEATHER. Even though the drawers are all different heights, there are some common dimensions. The bottom two drawers and the top drawer are all the same width. While that makes milling your stock straight-forward, you do need to keep all the drawer parts in order. After milling the stock to size (be vigilant and cut the drawer fronts to match the openings), carefully label each part and each corner. This will come in handy for the next step — dovetailing.

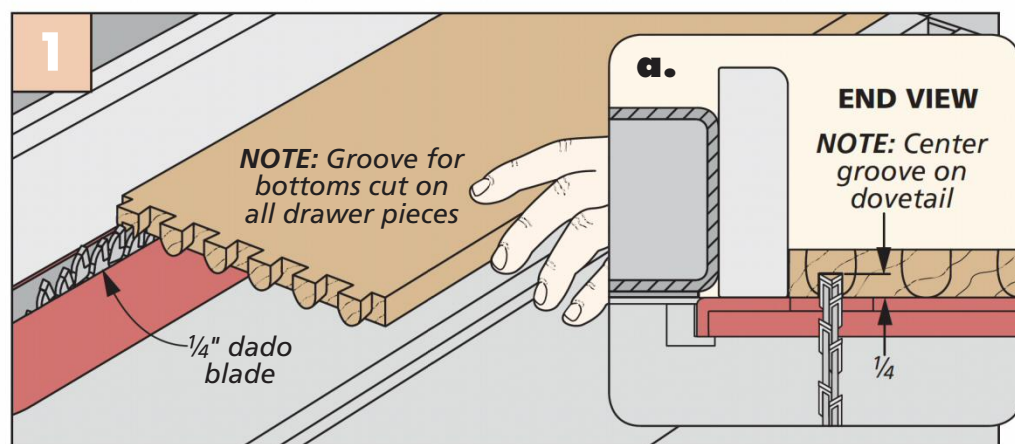
DOVETAIL JOINERY. For drawer joinery, it's hard to argue with dovetails. They look great and are strong. Which is why I chose to use them on this project — these drawers are large and will be bearing a lot of weight when they're loaded up.

Half-blind dovetails (such as the layout shown in the margin at left and main drawing above) are fairly straight-forward to cut using a dovetail jig. Take a look at the instruction manual that came with your jig for the details on setting it up for half-blind dovetails.

BOTTOM GROOVES. After the dovetails are cut, head over to the table saw. Here, you'll cut a groove near the bottom edge of each drawer part for the bottom (Figure 1). After pre-finishing the drawer fronts, assemble the drawers.



GROOVE FOR BOTTOMS



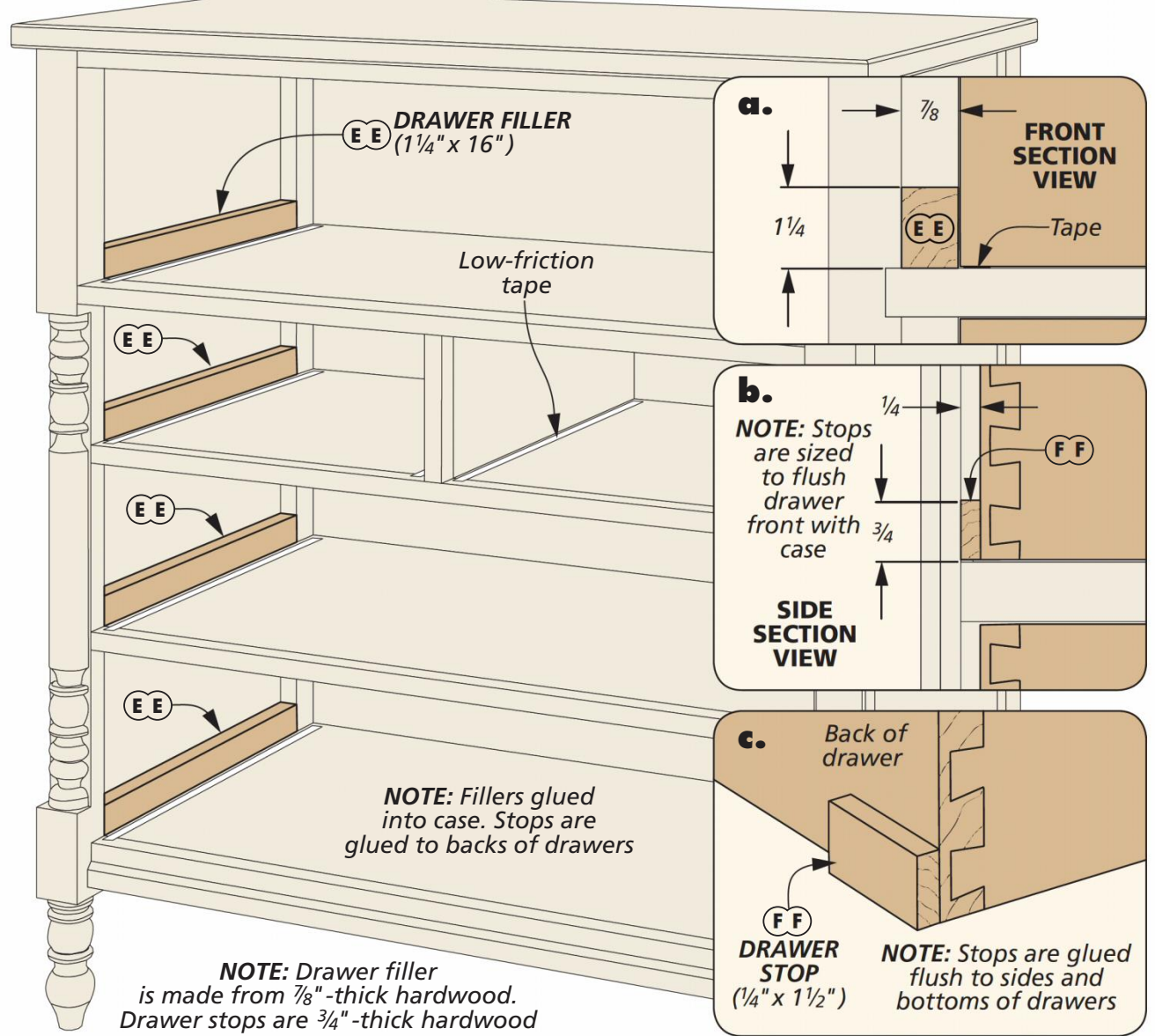
Bottom Groove. After cutting the dovetail joinery, install a dado blade in the table saw and cut a groove on the inside of each drawer part. Center the groove on the bottom dovetail of the drawer.

FINAL DETAILS

There are only a few things left before you can call this chest of drawers complete. The first is to install knobs on the front of the drawers. You could turn these if you'd like (they're 2"-diameter), or you can purchase some like I did (see Sources on page 66).

Hardwood drawer fillers get glued against the side panel in each drawer opening (main drawing and detail 'a'). I also installed drawer stops on the back of the drawers (so I could sand them to fine-tune the drawer fit). A couple of strips of low-friction tape on the areas where the drawers slide will help them operate smoothly.

With that, you can slide the drawers into the case and move your finished Empire chest into your home. **W**



Materials, Supplies & Cutting Diagram

A Posts (4)	2 x 2 - 35 ¹ / ₄
B Sides (2)	3/4 ply. - 16 ³ / ₄ x 33 ³ / ₄
C Small Fillers(2)	1/4 x 1/4 - 1 ¹ / ₂
D Large Fillers (4)	1/4 x 3/4 - 1 ¹ / ₂
E Lower Side Trim (2)	1 x 1 ¹ / ₄ - 16
F Dividers (5)	3/4 ply. - 17 ¹ / ₂ x 34 ¹ / ₄
G Drawer Divider (1)	3/4 ply. - 6 ¹ / ₂ x 17 ¹ / ₂
H Back (1)	1/4 ply. - 32 ¹ / ₂ x 33 ³ / ₄
I Wide Edging (2)	3/4 x 2 ¹ / ₄ - 32
J Narrow Edging (3)	3/4 x 1 ¹ / ₄ - 32
K Divider Edging (1)	3/4 x 1 ¹ / ₄ - 6
L Lower Trim (1)	1 x 1 ¹ / ₄ - 32
M Feet (4)	2 x 2 - 7 ¹ / ₂
N Split Turnings (2)	7/8 x 1 ³ / ₄ - 20 ¹ / ₂
O Top (1)	1 x 20 ³ / ₄ - 37 ¹ / ₂
P Top Drwr. Front (1)	3/4 x 8 ¹⁵ / ₁₆ - 31 ¹⁵ / ₁₆
Q Top Drwr. Sides (2)	1/2 x 8 ¹⁵ / ₁₆ - 18 ³ / ₄
R Top Drwr. Back (1)	1/2 x 8 ¹⁵ / ₁₆ - 31 ¹⁵ / ₁₆
S Top Drwr. Btm (1)	1/4 ply. - 18 ¹ / ₂ x 31 ⁷ / ₁₆
T Narrow Drwr. Frts. (2)	3/4 x 5 ¹⁵ / ₁₆ - 15 ⁹ / ₁₆
U Nar. Drwr. Sides (4)	1/2 x 5 ¹⁵ / ₁₆ - 17 ³ / ₄
V Nar. Drwr. Backs (2)	1/2 x 5 ¹⁵ / ₁₆ - 15 ⁹ / ₁₆
W Nar. Drwr. Bttms. (2)	1/4 ply. - 17 ¹ / ₂ x 15 ¹ / ₁₆
X Middle Drwr. Front (1)	3/4 x 6 ¹⁵ / ₁₆ - 31 ¹⁵ / ₁₆
Y Middle Drwr. Sides (2)	1/2 x 6 ¹⁵ / ₁₆ - 17 ³ / ₄
Z Middle Drwr. Back (1)	1/2 x 6 ¹⁵ / ₁₆ - 31 ¹⁵ / ₁₆
AA Bttm. Drwr. Fronts (2)	3/4 x 7 ¹⁵ / ₁₆ - 31 ¹⁵ / ₁₆
BB Bttm. Drwr. Sides (2)	1/2 x 7 ¹⁵ / ₁₆ - 17 ³ / ₄

CC Bttm. Dwr. Back (1)	1/2 x 7 ¹⁵ / ₁₆ - 31 ¹⁵ / ₁₆
DD Drawer Bttms. (2)	1/4 ply. - 17 ¹ / ₂ x 31 ⁷ / ₁₆
EE Drawer Fillers (8)	7/8 x 1 ¹ / ₄ - 16
FF Drawer Stops (10)	1/4 x 3/4 - 1 ¹ / ₂

- (24) #8 x 1¹/₄" Fh Woodscrews
- (8) 2" Wooden Knobs w/screws
- Low-Friction Tape

ALSO NEEDED:
One 48" x 96" sheet of 1/4" maple plywood,
Two 48" x 96" sheets of 3/4" cherry plywood

