

# 7

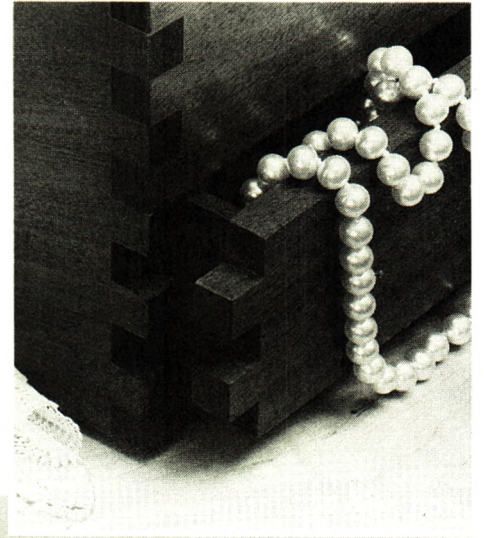
## KEEPING BOX

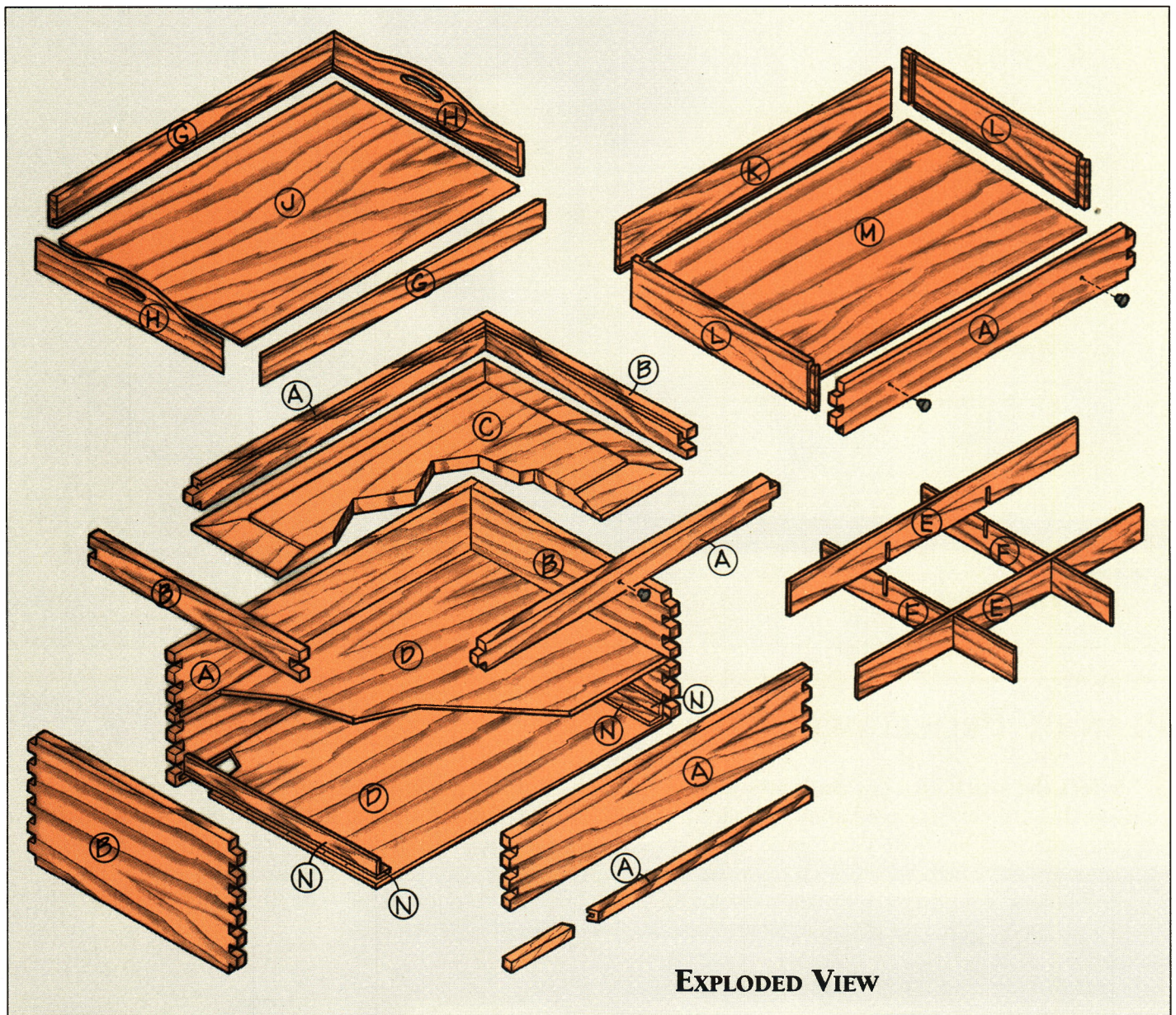
**E**arly Americans referred to certain small chests as *keeping boxes*. It's a fitting description; hundreds of things can be kept in a box this size, including jewelry, hand tools, silverware, and stationery.

A problem with keeping boxes is that it may be difficult to root through the entire contents only to find the item you need is at the very bottom. This box helps organize

the contents by tucking two more boxes inside — a drawer that slides out of the bottom, and a tray that lifts out of the top.

The box is joined at the corners with finger joints. The drawer face is ripped from the box front *after* making the finger joints, and it retains its fingers on both ends. When you close the drawer, the fingers interlock so the drawer is barely visible.





EXPLODED VIEW

## MATERIALS LIST (FINISHED DIMENSIONS)

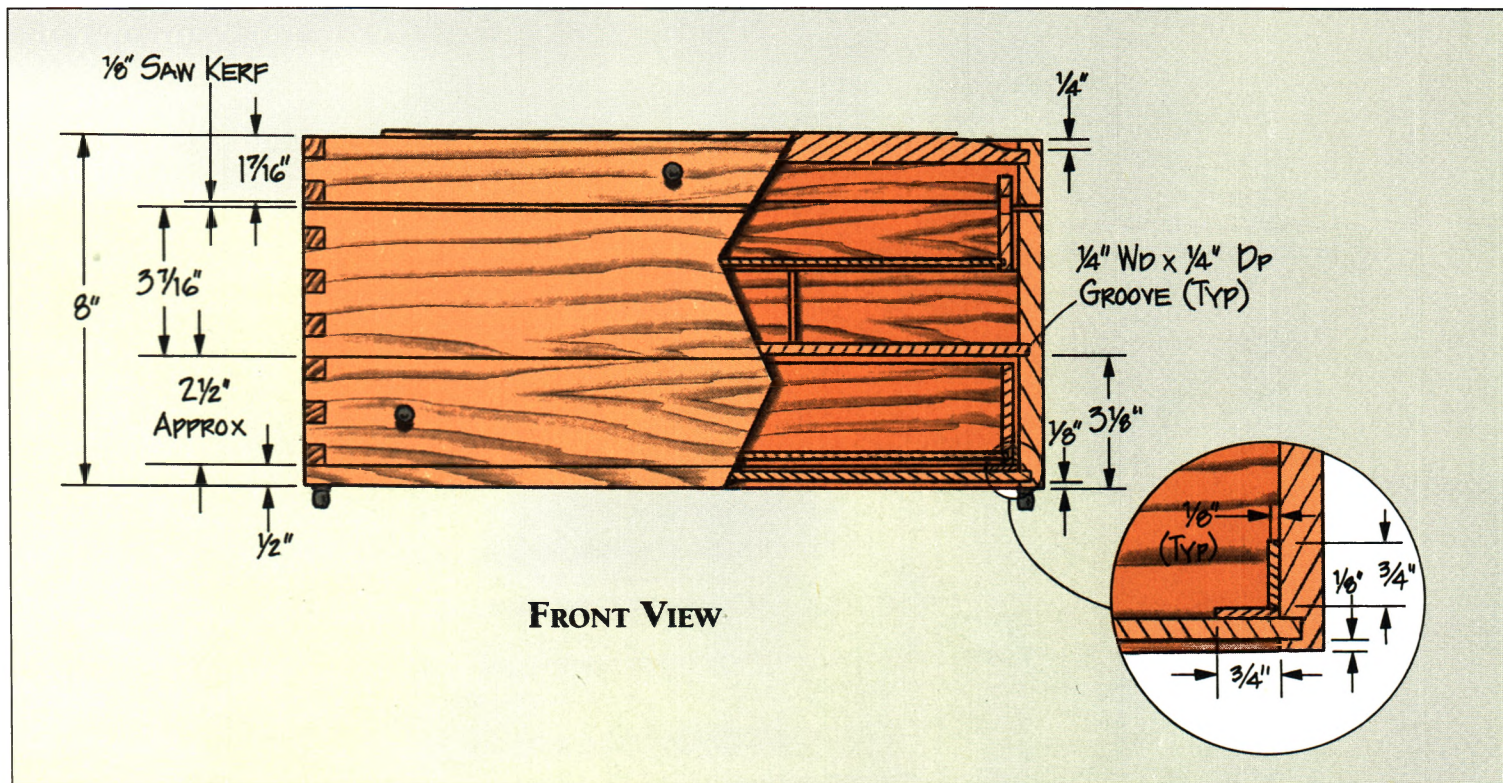
### Parts

A. Front/back (2)	$\frac{1}{2}$ " x 8" x 17"	H. Tray sides (2)	$\frac{1}{4}$ " x 2" x $10\frac{7}{8}$ "
B. Sides (2)	$\frac{1}{2}$ " x 8" x 12"	J. Tray bottom*	$\frac{1}{8}$ " x $10\frac{5}{8}$ " x $15\frac{5}{8}$ "
C. Top	$\frac{5}{8}$ " x $11\frac{3}{8}$ " x $16\frac{1}{2}$ "	K. Drawer back	$\frac{1}{4}$ " x $2\frac{3}{8}$ " x $15\frac{1}{2}$ "
D. Middle/bottom* (2)	$\frac{1}{4}$ " x $11\frac{1}{2}$ " x $16\frac{1}{2}$ "	L. Drawer sides (2)	$\frac{1}{4}$ " x $2\frac{3}{8}$ " x $11\frac{3}{8}$ "
E. Long dividers (2)	$\frac{1}{8}$ " x $1\frac{3}{4}$ " x 16"	M. Drawer bottom*	$\frac{1}{8}$ " x $10\frac{5}{8}$ " x $15\frac{1}{2}$ "
F. Short dividers (2)	$\frac{1}{8}$ " x $1\frac{3}{4}$ " x 11"	N. Drawer spacers (4)	$\frac{1}{8}$ " x $\frac{3}{4}$ " x 11"
G. Tray front/back (2)	$\frac{1}{4}$ " x $1\frac{1}{2}$ " x $15\frac{7}{8}$ "		

### Hardware

Hidden barrel hinges (2)
Mortised lid supports (2)
$\frac{3}{8}$ " Pulls (3)
Jewelry box feet (4)

\*Make these parts from plywood.



## PLAN OF PROCEDURE

### 1 Select the stock and cut the parts to size.

To make this project, you need about 7 board feet of 4/4 (four-quarters) hardwood and some large scraps of cabinet-grade 1/4-inch and 1/8-inch plywood. The plywood veneer should match or complement the hardwood. If not, purchase matching veneer to cover the plywood. The keeping box shown is made from mahogany lumber and birch plywood; the plywood is faced with mahogany veneer.

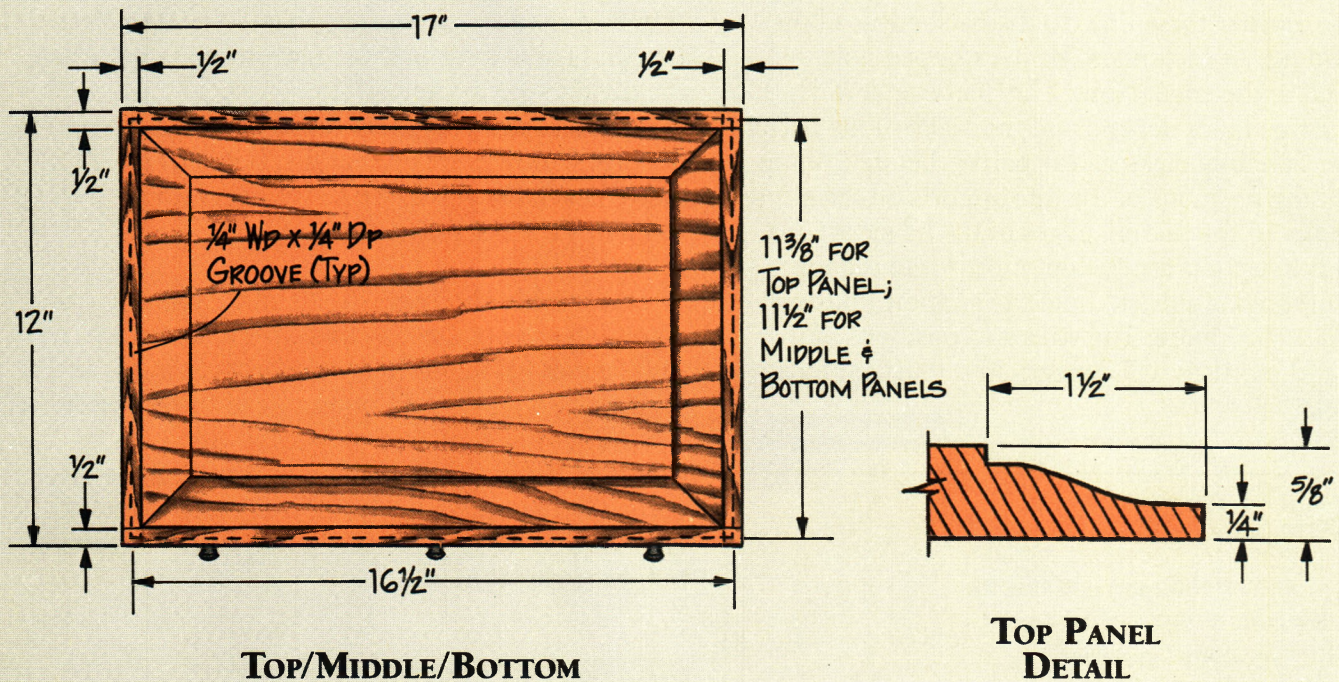
Set aside some of the 4/4 lumber to resaw for the thin parts, then plane the rest to 5/8 inch thick and cut the top. Plane the stock again and cut the 1/2-inch-thick parts to size. Resaw the 4/4 lumber you set aside, splitting the wood in half. Plane each half to 1/4 inch thick and cut the tray and drawer parts. Set aside some 1/4-inch-thick stock to use for test pieces and plane the remainder to 1/8 inch thick. From this, cut the dividers and drawer spacers.

**2 Cut the box joinery.** Cut 1/2-inch-wide, 1/2-inch-long finger joints in the adjoining ends of the box front, back, and sides. Rout 1/4-inch-wide, 1/4-inch-deep grooves in the inside surfaces of these parts to hold the top, middle, and bottom, as shown in the *Front View*.

Whenever one of these grooves continues on into a finger, you must make the groove *blind* — stop routing 1/4 inch before you reach the end of the finger. Square the blind ends with a chisel. (If you cut the grooves through to the ends, they will be visible when you assemble the box.)

**3 Separate the drawer front.** Rip the box front into three parts. Make the top part 5 inches wide and the bottom part 1/2 inch wide. The middle part, which will be approximately 2 1/2 inches wide (minus the saw kerfs), will become the drawer front. To keep the kerfs as small as possible, use a band saw with a 1/8-inch blade or a scroll saw with a thin blade to do this ripping. (SEE FIGURE 7-1.) If you use a table saw, the kerfs will be too wide and there will be unsightly gaps between the box front and the drawer front.

**4 Raise the panel.** Using a table-mounted router or a shaper, cut an ogee shape all around the perimeter of the top to raise the center, as shown in the *Top Panel Detail*. If you wish, you can use another shape such as a radius or a simple bevel. Or, make a *flat* panel from 1/4-inch-thick stock.



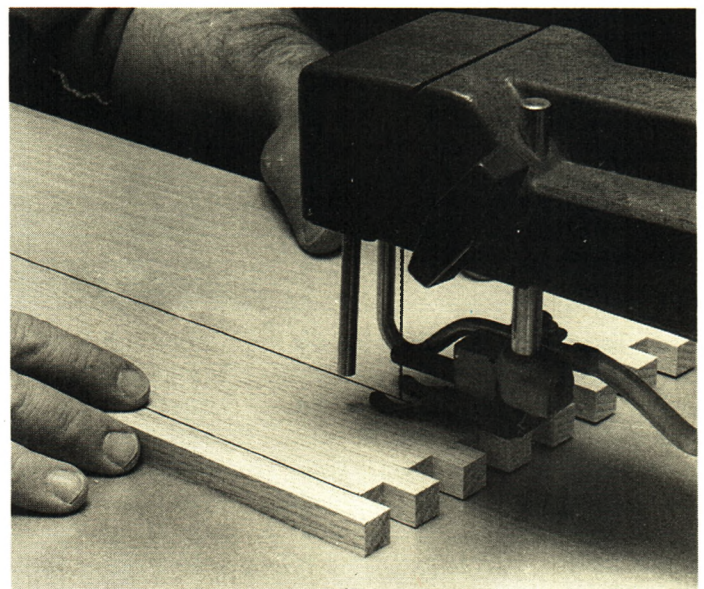
**5 Assemble the box and cut the lid.** Finish sand the box front pieces, sides, back, top, middle, and bottom. Assemble the front pieces, sides, and back with glue. As you do so, slide the top, middle, and bottom into place. *Don't* glue these parts in their grooves; let them float.

Let the glue dry overnight, and sand the finger joints flush. Rip the lid from the box on a table saw, using the fence to guide the cut. Adjust the depth of cut so you don't quite slice all the way through the 1/2-inch-thick box parts; leave about 1/32 inch remaining. Cut through the last little bit of stock with a utility knife, then trim away the tabs with sandpaper or a file.

**7-1 Although it's not commonly used for this purpose, you can use a scroll saw to rip a board.** You cannot use a fence — the thin blade will drift in the cut if you do. Instead, make the cut slowly and carefully by hand, following the mark as precisely as possible. To make the kerf as small and as smooth as possible, use a blade about .018 inch wide with 10 to 12 teeth per inch.

**6 Install the hinges and lid supports.** Both the hinges and the lid supports are hidden in holes and mortises so you won't be able to see any portion of them when the lid is closed.

Drill mortises for the hinges first. Carefully position the lid on the box and mark the positions of the hinges



on the back. Draw the lines across the cut so both the lid and the box are marked identically. Using a small square, transfer these lines to the back edges of the box and lid. At each mark, drill a stopped hole, centered in the edge. **Note:** The diameter and depth of the hinge holes depends on the make of the barrel hinges. Carefully measure the barrels before drilling.

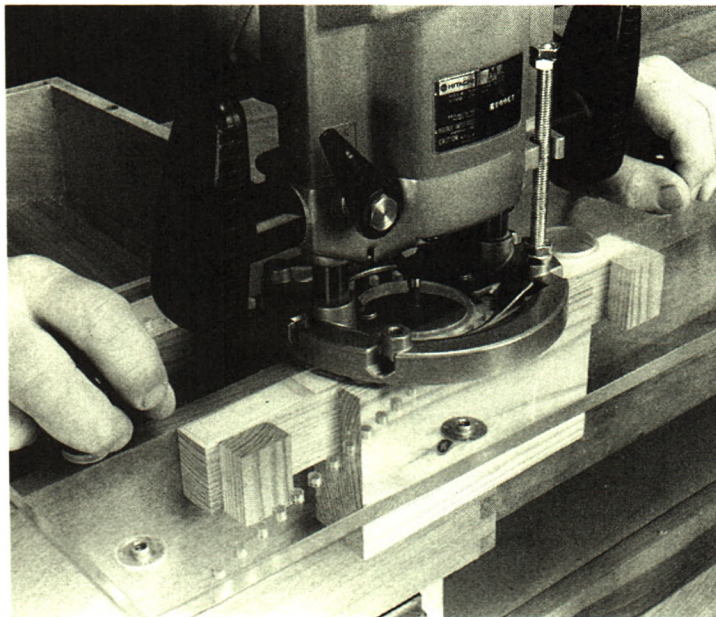
Mark the positions of the lid supports on the sides. Drill holes in the bottom edges of the lid sides to attach the support arms. Rout mortises in the top edges of the box sides to hold the support housings. (SEE FIGURE 7-2.) **Note:** The sizes and positions of the holes and mortises will depend on the make of the lid supports.



### WHERE TO FIND IT

The barrel hinges and mortised lid supports are available from:

The Woodworkers' Store  
21801 Industrial Boulevard  
Rogers, MN 55374-9514

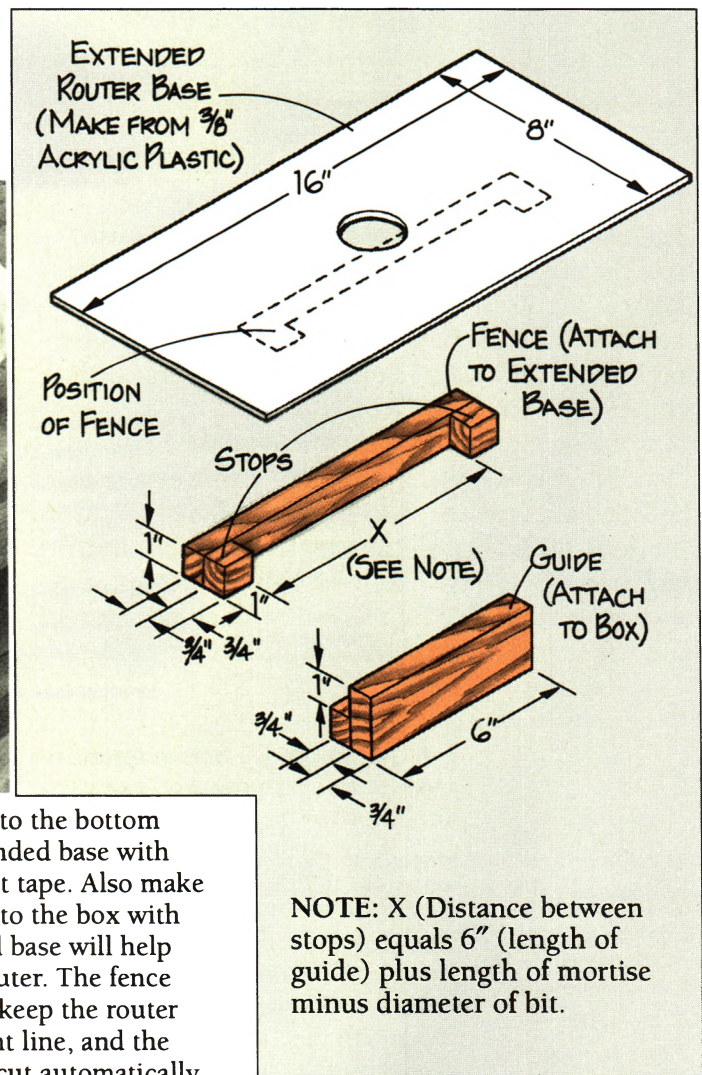


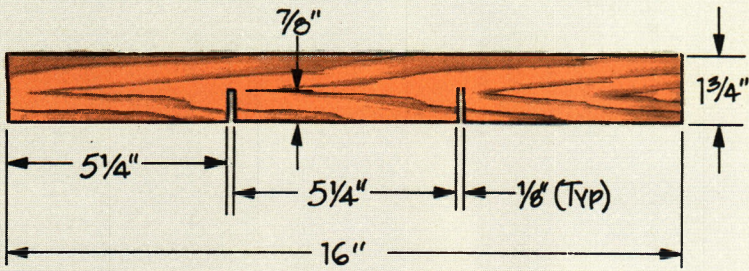
**7-2 To rout the mortises for the lid supports, you must balance your router on the top edges of the box and make a perfectly straight cut, stopping when the mortise is just the right length. To help do this, first attach your router to an extended router base — a large piece of acrylic plastic or plywood. Make a fence with**

stops and attach it to the bottom surface of the extended base with double-faced carpet tape. Also make and attach a guide to the box with tape. The extended base will help you balance the router. The fence and the guide will keep the router moving in a straight line, and the stops will halt the cut automatically.

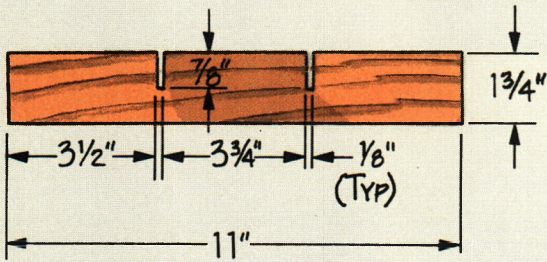
**7 Assemble the dividers.** Using a table saw and a flat-ground rip blade, cut kerfs in the dividers, as shown in the *Long Divider Layout* and the *Short Divider Layout*. (These kerfs become narrow lap joints when the dividers are assembled into a grid.) Finish sand the dividers and glue them together. Insert the grid in the box so it rests on the middle, but *don't* glue it in place. Leave the grid loose so you can remove it to facilitate cleaning inside the box.

**8 Assemble the tray.** Make miter joints in the adjoining ends of the tray front, back, and sides, and rout  $\frac{1}{8}$ -inch-wide,  $\frac{1}{8}$ -inch-deep grooves in the inside surfaces to hold the tray bottom. Cut the shape of the tray sides on a scroll saw or with a coping saw, as shown in the *Tray Side Pattern*. Finish sand the tray parts, then assemble the front, back, and sides with glue. As you do so, slide the bottom into its grooves, but don't glue it in place.

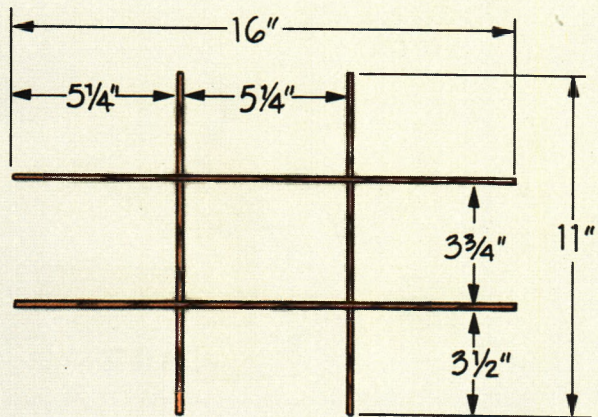




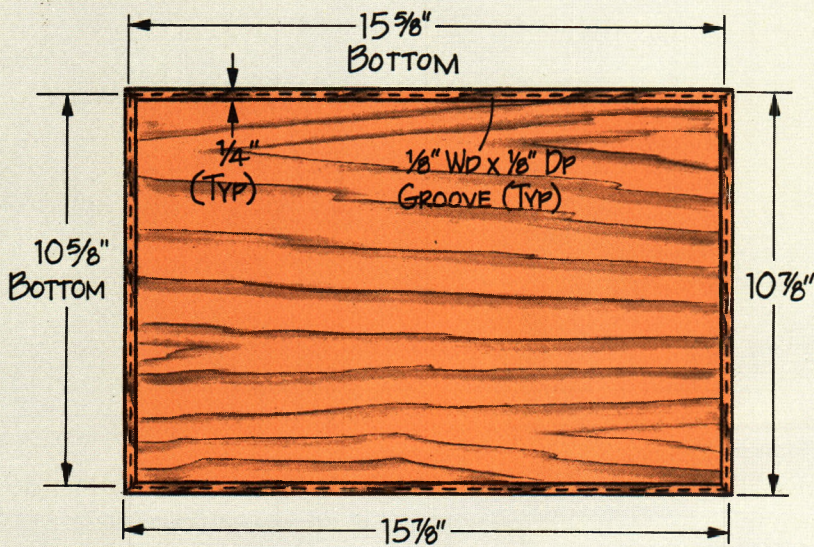
LONG DIVIDER LAYOUT



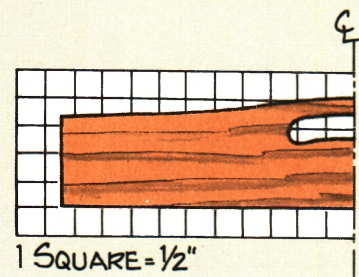
SHORT DIVIDER LAYOUT



TOP VIEW  
DIVIDER GRID



TOP VIEW

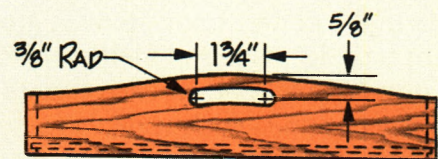


TRAY SIDE  
PATTERN

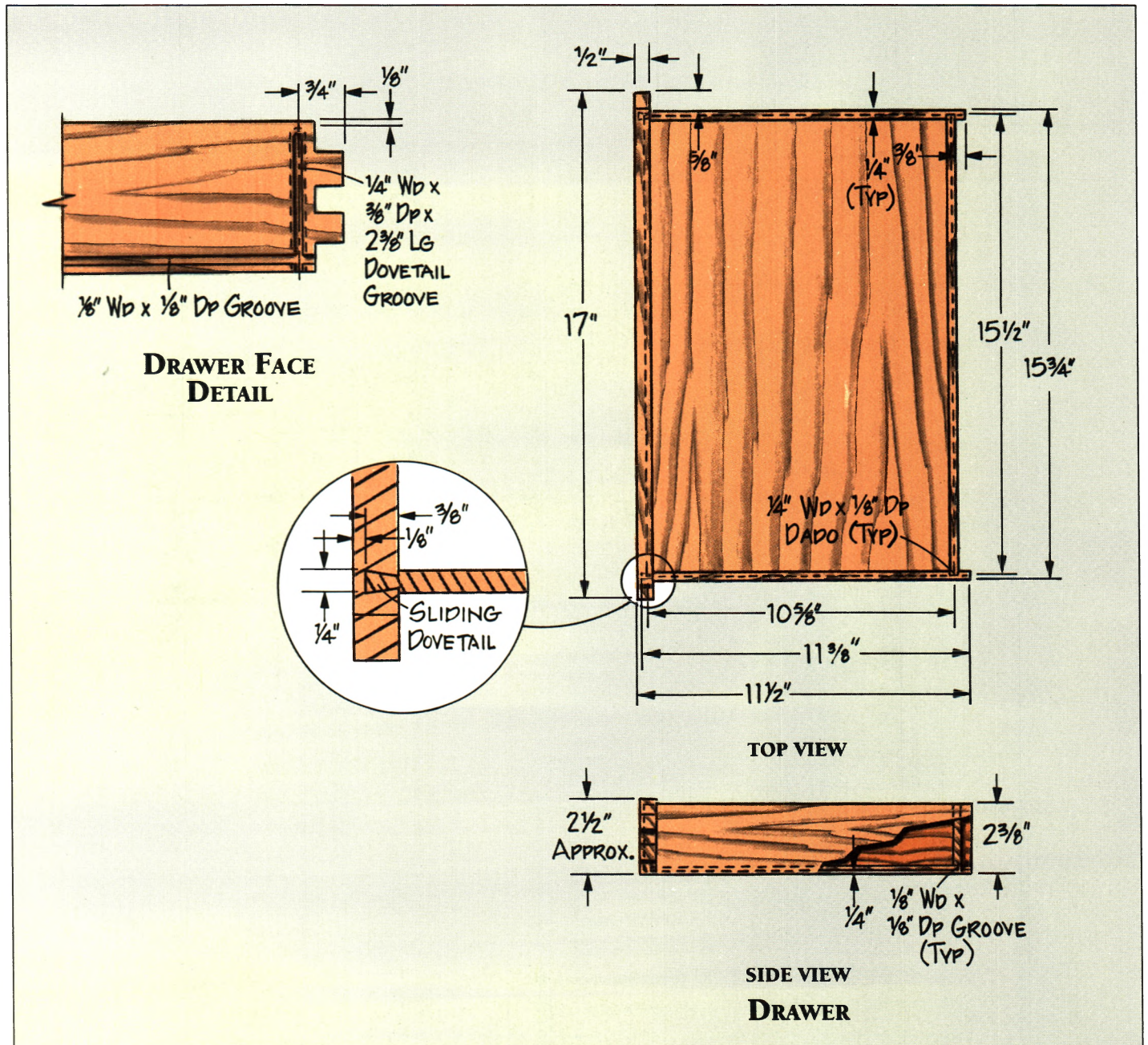


FRONT VIEW

TRAY



SIDE VIEW



**9 Cut the drawer joinery.** Rout sliding dovetails to join the front corners of the drawers, as shown in the *Drawer/Top View*. When making the dovetail grooves in the drawer front, stop the grooves  $\frac{1}{8}$  inch from the top edge, as shown in the *Drawer Face Detail*. Rout  $\frac{1}{4}$ -inch-wide,  $\frac{1}{8}$ -inch-deep dados to join the back corners, and  $\frac{1}{8}$ -inch-wide,  $\frac{1}{8}$ -inch-deep grooves in the inside surfaces of the drawer parts to hold the drawer bottom.

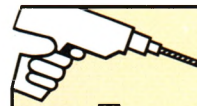
**10 Assemble and fit the drawer.** Finish sand the drawer parts and glue the drawer front, sides, and back together. As you assemble the drawer, slide the bottom into its grooves but do not glue it in place. Also, glue the drawer spacers inside the drawer opening in the box, as shown in the *Front View*.

After the glue dries, install pulls on the drawer front. Test the fit of the drawer in its opening. If it binds, carefully sand or plane the drawer surfaces until it slides smoothly in and out of the box. Remember, the fingers on the ends of the drawer front must interlock with the fingers on the sides.

**11 Finish the box.** Remove the divider grid and drawer from the box. Do any necessary touch-up sanding, then apply a finish to all wooden surfaces, inside and out. Let the finish dry, rub it out, and apply a coat of paste wax. Wax the drawer spacers, too — this will help the drawer slide smoothly.

If you wish, cover the bottom of the drawer, the tray, and the well inside the box with felt or velvet. This will help protect fine items you wish to store in the box, as well as give the interior of the box a more finished look.

Replace the lid, grid, and drawer, and install the hinges, supports, and pulls. Also attach brass feet to the bottom of the box. Finally, set the tray inside the box on top of the divider grid.



### TRY THIS TRICK

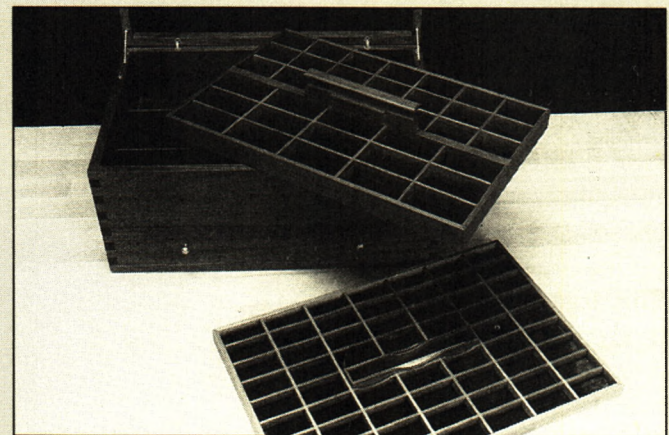
To fit the fabric lining in the drawer, cover the bottom surface of the material with carpet tape and cut the pieces to size with scissors or a utility knife. (The tape stiffens the fabric, making it easier to cut and fit.) To install the lining, simply peel the paper backing off the tape and press the fabric in place.

## VARIATIONS

You can adapt this keeping box to store almost any kind of small item by rearranging the dividers inside the box or adding dividers in the drawer and the tray. Make these dividers from  $\frac{1}{8}$ -inch-thick stock in the same manner that you made the grid for inside the box well.



**1** Make a small tray to fit inside the drawer, then rest it on dividers. To reach the items under this tray, slide it out of the way or lift it out of the drawer.



**2** Make two shallow trays to fit in the top of the box instead of one deep tray. Design the trays so they stack on one another. The bottom tray shown has a handle in the center that extends up through an opening in the top tray. This enables you to lift both trays at once and quickly reach the items stored in the bottom of the well.