

Installing a Desk Gallery

Using dados and V-grooves, the parts simply slide into place

BY LONNIE BIRD



Building a Pennsylvania Secretary: Part II of III

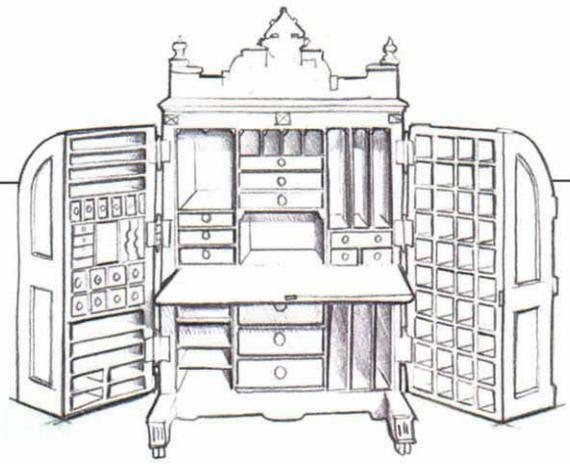
In this article Lonnie Bird installs a gallery in the walnut secretary he built in *FWW* #154. The third and final article will detail building the tombstone doors.

To see video clips of the secretary, go to finewoodworking.com

Whether you're building an 18th-century secretary, an Arts and Crafts desk or a wholly new contemporary version, a gallery is an attractive way to use space efficiently. I've developed a method for installing a gallery that relies on dados and V-grooves. To explain this process, I'll walk you through the installation of a gallery on the 18th-century secretary featured in the last issue (*FWW* #154, pp. 50-55). This method not only simplifies the construc-

tion and installation of any desk gallery, but it also can be used on other types of furniture, including sideboards, chests of drawers and CD racks.

That said, I must admit that I can't resist the allure of furniture from the 18th century. I've always thought the galleries in Pennsylvania secretaries were a perfect balance of function and aesthetics. Judging by the number of surviving examples, it seems evident that the gallery I chose for my secretary was a favorite of the period. The numer-



One simple method fits any furniture style

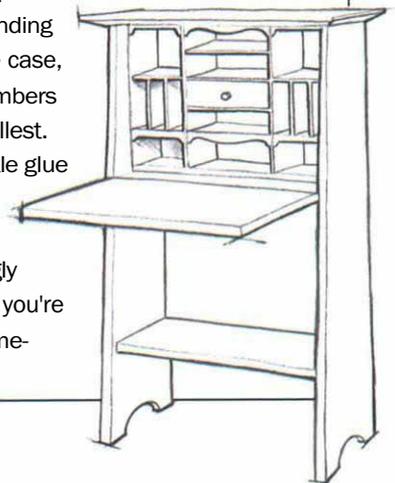
Until the current age of e-mail and electronic banking, people needed a place to store and organize paperwork, such as bills, letters and stamps. The desk gallery, with its neat arrangement of diminutive drawers, doors and compartments, has traditionally provided for that need. In fact, the popular gallery has spanned several furniture periods and includes styles such as Empire, Shaker and Arts and Crafts. The idea was most exemplified in Wooten desks,

which feature dozens of pigeonholes and tiny drawers.



A gallery looks more refined if the framework of partitions and dividers is proportional to the small scale of the drawers and the compartments. Although provincial furniture makers sometimes used thicker stock, a gallery on the finest of desks was

constructed from stock $\frac{3}{16}$ in. to $\frac{1}{4}$ in. thick. The edges of the stock were typically refined with a bullnose profile that required a miter at the intersections. The miter was most easily created with an interlocking V-joint, just as I've done in this article. For greatest strength, a shallow dado was used to complete the joint behind the V. Once the joints had been cut, the partitions and dividers were slid into their corresponding grooves from the back of the case, starting with the largest members and working toward the smallest. With precise joinery, very little glue was needed to keep the assembly intact, and the completed gallery was surprisingly strong. No matter what style you're building in, this method is time-tested and efficient.



ous drawers and pigeonholes provide a system of organized storage space, and the curves, which are repeated in the seat board, the drawer fronts and the dividers, provide a recurring theme—much like an 18th-century musical canon.

Before beginning, you may want to study related examples and design a gallery that reflects your own personal tastes. Many Pennsylvania secretaries feature carved-shell drawer fronts and elaborate turned-and-carved pilasters, yet others are quite sim-

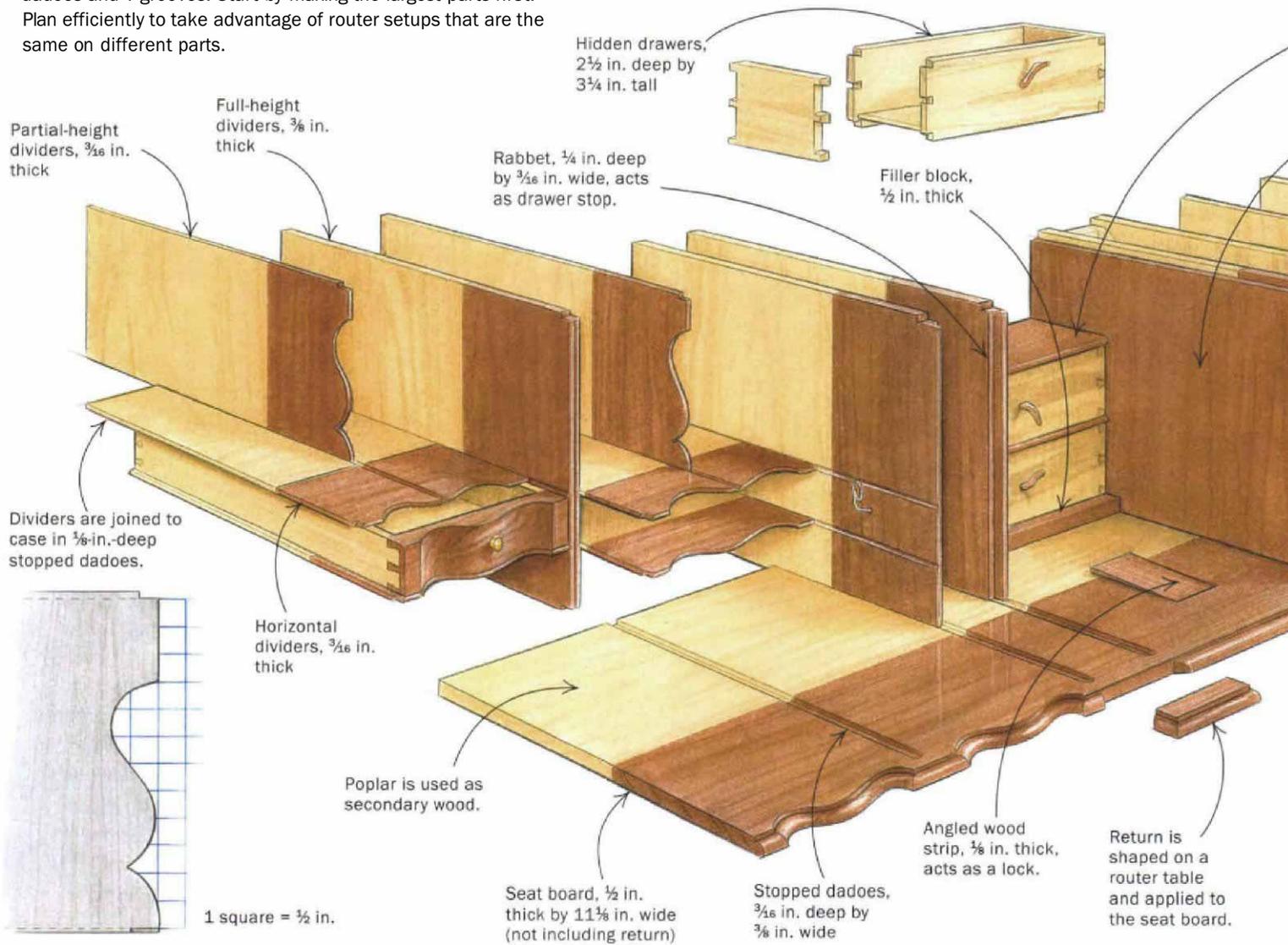
ple, without the curves and other embellishments.

Settle on a design

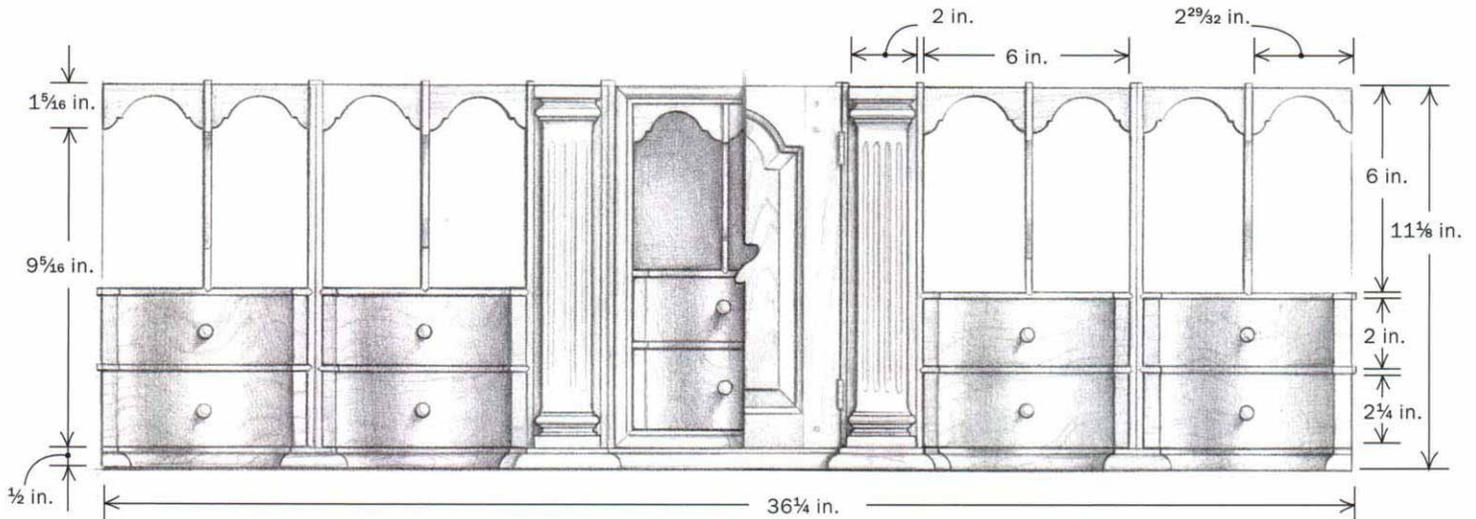
The gallery portion of the secretary adds tremendous detail and visual appeal to the secretary, with the focal point being the small door in the center. The 18th-century craftsmen used the gallery as a place for creativity—and you can, too. Drawer fronts can be plain, curved or carved. The door can be simply a hinged plank of figured stock, a carved panel or a frame and

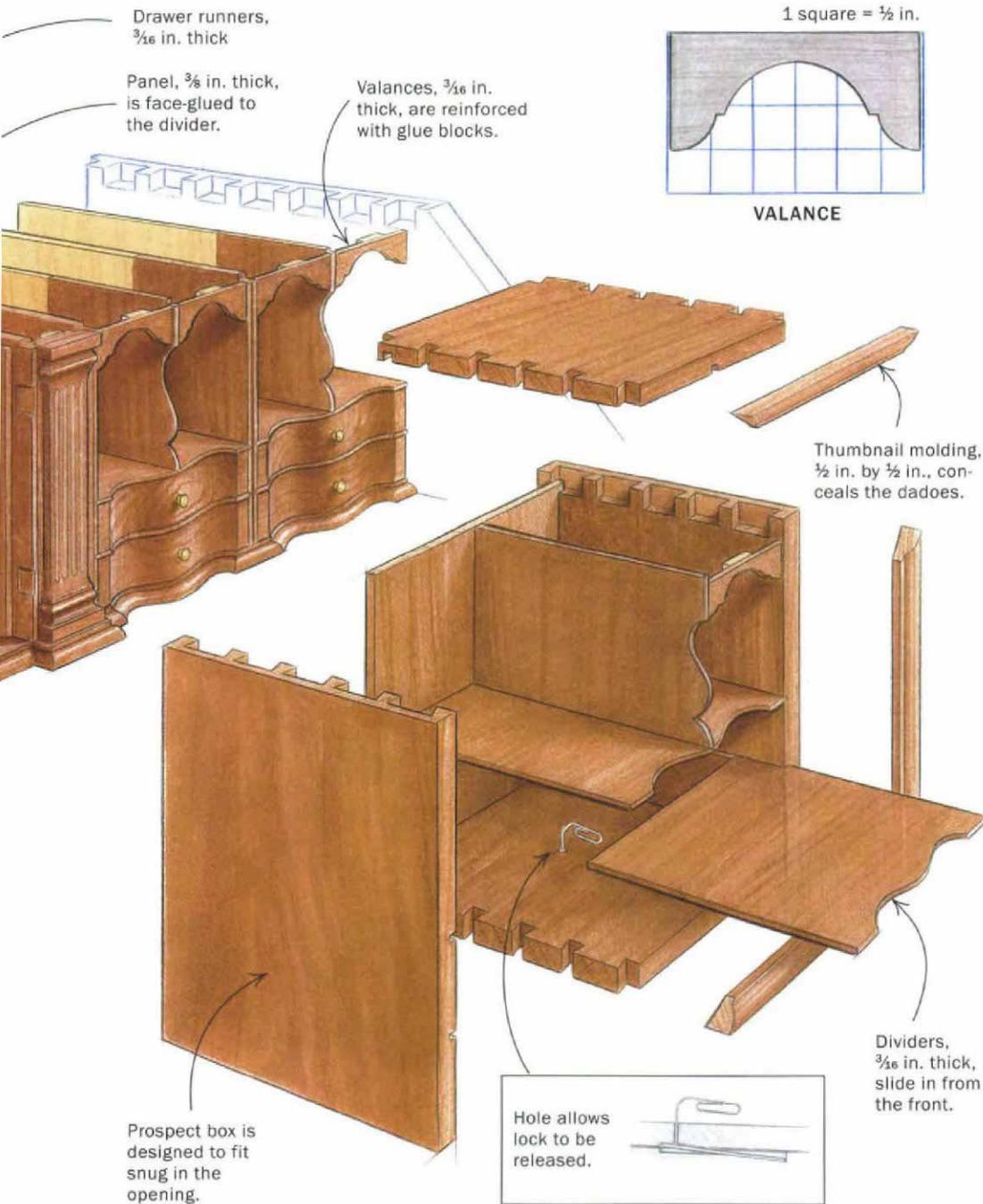
SIMPLE CONSTRUCTION, INTRICATE APPEARANCE

The gallery on this secretary goes together smoothly using dados and V-grooves. Start by making the largest parts first. Plan efficiently to take advantage of router setups that are the same on different parts.

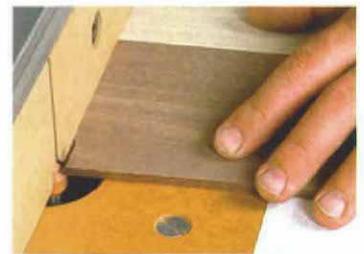
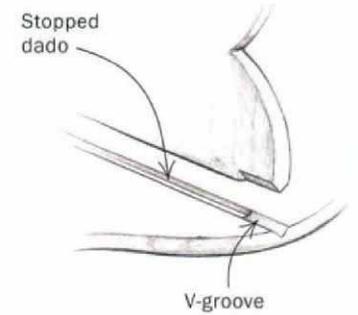


PARTIAL-HEIGHT DIVIDER

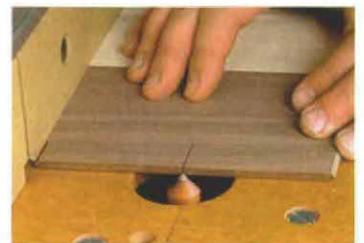
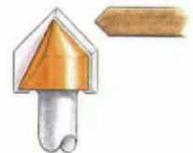




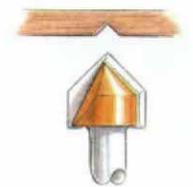
DIVIDERS COMBINE DADO AND V-GROOVE JOINERY



Cut joinery on the ends. Use a V-groove bit to rout stopped grooves on the ends of all the 3/16-in.-thick stock.



Groove the parts. Use the same setup on the router, but move the fence to locate the joint.



panel. Flanking the door are two tall, narrow document drawers. These drawer fronts often are embellished with flat columns, called pilasters, which clearly portray the close ties between 18th-century furniture and architecture.

The gallery also is an ideal place for hidden compartments (see *FWW* #103, pp. 82-85).

Many desks of the period feature drawers with false backs or bottoms and hidden boxes for hiding valuables.

The foundation of the gallery is the seat board, which is the platform on which the drawers slide, preventing them from scratching the writing surface. The front edge of the seat board is shaped with a thumbnail or

other simple molding profile. The seat board is contoured to match the dividers, the door and the drawers, adding to the visual harmony of the piece.

Shape the seat board and install the dividers

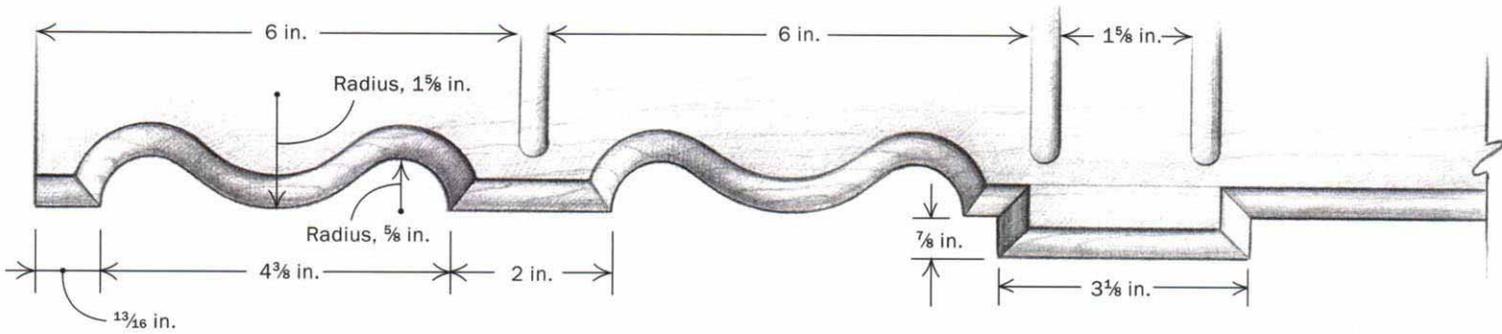
Begin construction of the gallery by milling the seat board. Cut the length for a snug

fit within the case, then use a router table and a template to shape the front edge. Once shaped, glue the seat board onto the writing surface, positioning the front edge slightly behind the front edge of the top; this ensures that the remaining parts of the gallery are located under the top.

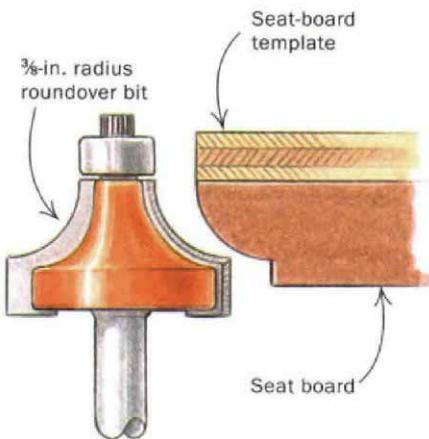
The next step is to rout a se-

TEMPLATES HELP HANDLE THE CURVES

MAKING THE SEAT BOARD



Shape the seat board. After roughing out the front of the seat board on the bandsaw, use a $\frac{3}{8}$ -in. radius bearing driven roundover bit to shape the front edge. Once one set of curves has been cut, move the template and cut the next set. Using a single template ensures that the two sides of the seat board are symmetrical.



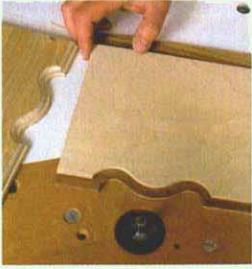
Trim for the returns. Use a tablesaw with the blade angled at 45° to trim back the front of the seat board to accommodate the return.



Attach the return. After separating the plywood template stock, simply glue the return into place.

ries of shallow dadoes into the seat board, into the sides and under the top of the lower case to accept the interior dividers. Avoid the slow, tedious process of measurement and layout by using templates to guide the router. The templates ensure that all corresponding dadoes align perfectly. Dadoes near the case sides are best routed with a laminate trimmer, which has a small base that allows you to get close. Stop each dado approximately $\frac{3}{8}$ in. from the front edge of the seat board.

After routing the dadoes, mill the thin stock for the vertical



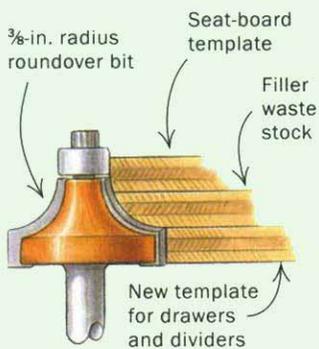
MAKING A TEMPLATE FROM A TEMPLATE

I enjoy the challenge of duplicating the lines and details of period furniture using today's methods. This secretary's gallery provides a good example. The serpentine curves of the seat board are mirrored in the drawers and the dividers

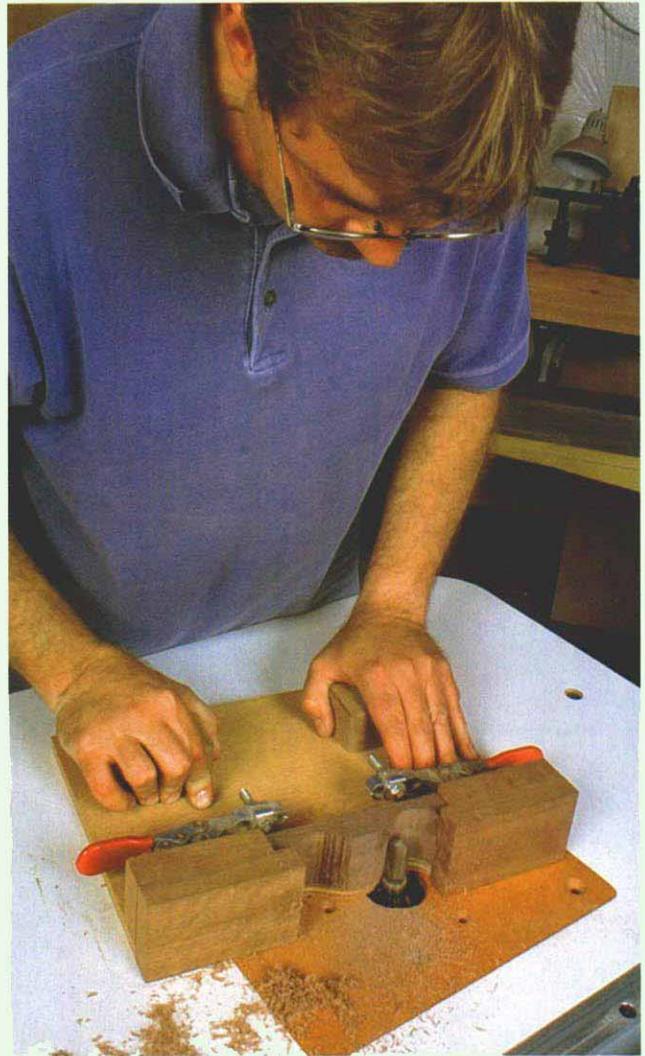
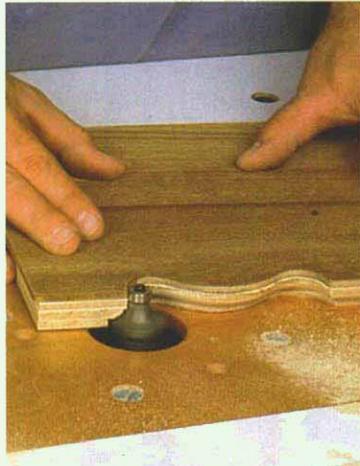
above it. The difference is that the curves in the drawers match the seat-board curve at the top edge, behind the thumbnail profile.

To create a drawer/divider template that's a perfect match to the seat-board curve, begin by stacking two layers of $\frac{3}{4}$ -in.-thick plywood along with the seat-board template. Secure the layers with small nails or double-sided tape.

Now shape the plywood stack with the same bit used for the seat board. After shaping, separate the layers; the bottom layer will now work as a template for shaping the dividers and the drawer fronts.



Avoid the math. The seat-board template is used to create a template for the drawers and dividers.



Jig shapes the drawer fronts. With the drawer fronts held in a jig, a flush-trimming bit cuts the serpentine shape. After the initial cut, the bit is raised to complete the cut.

and horizontal dividers. I resaw the stock on my bandsaw and plane the stock slightly oversized in thickness. To achieve a snug fit, I carefully handplane each divider to final thickness.

Notice that each divider is shaped along the front edge with a bead. The thicker full-height vertical dividers have a double bead to yield the appearance of two thin dividers that have been sandwiched together. Horizontal and vertical dividers are joined with stopped dados and V-grooves. A 90° V-groove bit cuts both the groove and the corresponding

point. Remember that the V-groove is added only to the front $\frac{1}{2}$ in. of each dado (see the drawing and photos on p. 69).

The depth of the V-groove is critical for a snug, accurate fit. The V-grooves are cut so that their width equals the thickness of the dividers. The depth of these 90° V-grooves is equal to half the thickness of the divider. Once you've dry-fit the interior framework, glue each divider in place. If the fit is precise, a little glue is all that is needed.

Make the thin decorative valances inside the pigeonholes next. Stack the pieces in layers

of four and tape them together. Then bandsaw the decorative outline and—while the pieces are still taped together—smooth the contours. Besides saving time, stacking the parts ensures uniformity. Afterward, apply a thin bead of glue to the top edge of each valance and hold it in position for a minute or two. After the glue sets, reinforce the valances with tiny glue blocks behind each corner.

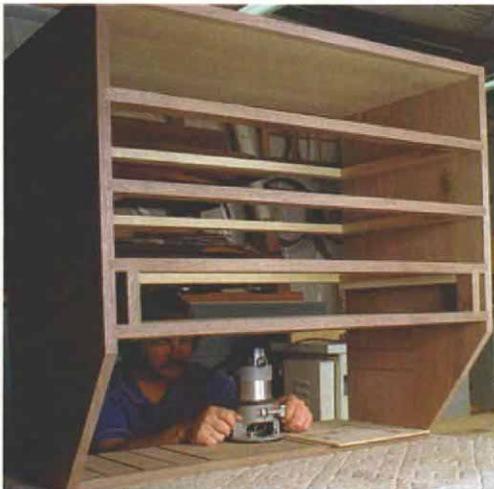
Build and fit the drawers and the prospect door

With the gallery framework complete, turn your attention to

making the drawers and the door. The drawers and the door all fit flush, so a poor fit is easily noticed. Fortunately, because the parts are small, there will be little seasonal movement, allowing for a precise fit in all but the driest of winters. To achieve close tolerances, make each drawer the same size as the opening. Then, after the drawers have been assembled, carefully handplane each one to fit in its opening. A business card works well as a feeler gauge to measure the gap.

The actual drawer construction is straightforward: half-

GALLERY INSTALLATION



Dado the seat board and the case. Once the seat board has been set into place, use a straight bit to rout the dados. Templates ensure that all corresponding dados align.



Begin with the vertical dividers. Once all of the joinery has been cut, the parts simply slide into place from the back of the case.



Horizontal dividers are next. To prevent binding during assembly, glue is added only along the front edges of the joints.



Valances are a nice touch. Bird glues them to the tops of the pigeonholes. He adds glue blocks later for additional support.

blind dovetails in the front and through-dovetails in the back. Before the final assembly, embellish the drawer fronts by carving or sawing curves.

The tall, narrow document drawers are simply nailed together. Unlike a conventional drawer, the front of a document drawer typically fits snug within the opening to conceal the fact that it is a drawer. Years ago, the desk's owner hid valuable papers in the document drawers.

In fact, a lock was sometimes added for even greater security. This simple device consists of a thin, springy stick of wood that catches in a corresponding notch to prevent the drawer from opening. Although anyone could depress the stick to unlock the drawer, craftsmen often devised ingenious methods for concealing the spring. For added embellishment, a pilaster was often added to the drawer front. The pilaster can

be flat and fluted or a split turning with a carved flame. A study of antique desks will reveal enormous variations.

The center (or prospect) door is another feature that invites design variation. One popular version is the arched, or tombstone, panel. You can shape the arches on the top rail and panel with a set of bits from CMT (model 800.524.11). These bits have the correct proportions for the small scale of this door. Af-

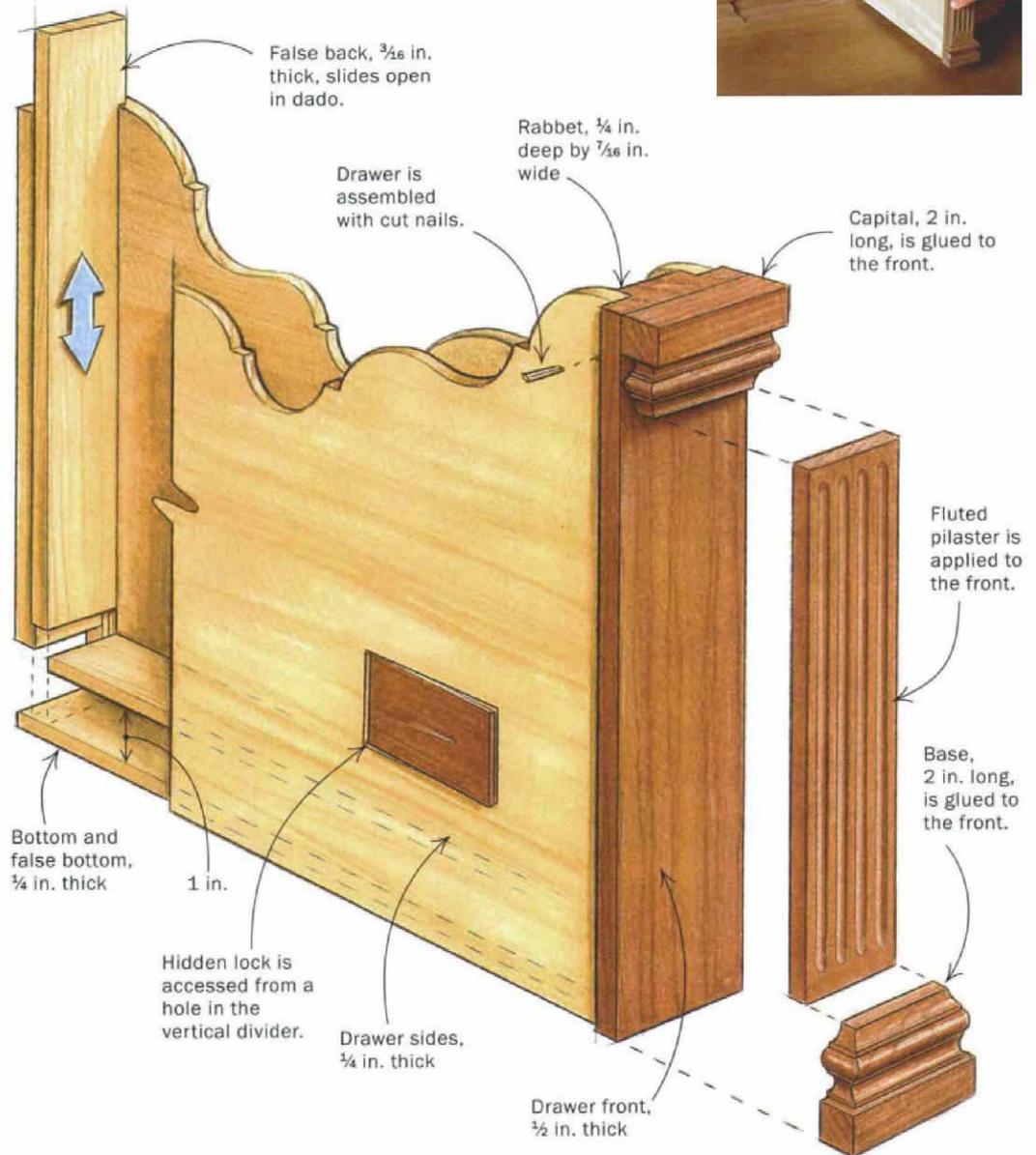
ter shaping, you'll have to complete the bevel on the panel by hand because router bits won't shape inside corners. For more on laying out and completing this bit of handwork, see Part III of this series in the next issue.

All of the old secretaries I've examined feature a prospect box. This small, detailed cabinet fits within the opening behind the prospect door. Because the box fits with a friction fit, the casual observer isn't aware that

the box slides out of the desk to reveal hidden compartments. The design of the front of the box typically reflects the rest of the secretary's interior: A pair of pigeonholes over two drawers is common; another option is a series of four graduated drawers. The sides of the box are joined with dovetails. After assembly, the sides are carefully tapered with a handplane. When properly done the tapered fit of the prospect box within the gallery is quite an achievement. The tapered sides allow the box to slide easily into its opening. However, as the box is slid home, the last 1/2 in. fits snug within the walls of the

PILASTER CONCEALS A DRAWER

Document drawers of the period were often disguised by applying a decorative pilaster to the drawer fronts. This version also features a false bottom and back, creating a hidden compartment accessible from the rear.



Hidden away. The gallery features a tombstone prospect door that opens to reveal a prospect box. The box can be removed to reveal three hidden drawers.

gallery, much like a drive center fits within a lathe. The result is a great example of cleverness and ingenuity on the part of 18th-century furniture makers.

If you're building the secretary seen on these pages, all that remains is to build and install the tombstone doors on the top of the case. If you're installing a gallery on another style desk or a different piece of furniture altogether, these same methods work just as well. Once designed and milled carefully to size, the parts on a gallery simply slide into place. □

Lonnie Bird conducts seminars from his shop in Dandridge, Tenn. For information on classes, write to him at lonniebird@earthlink.net.

