

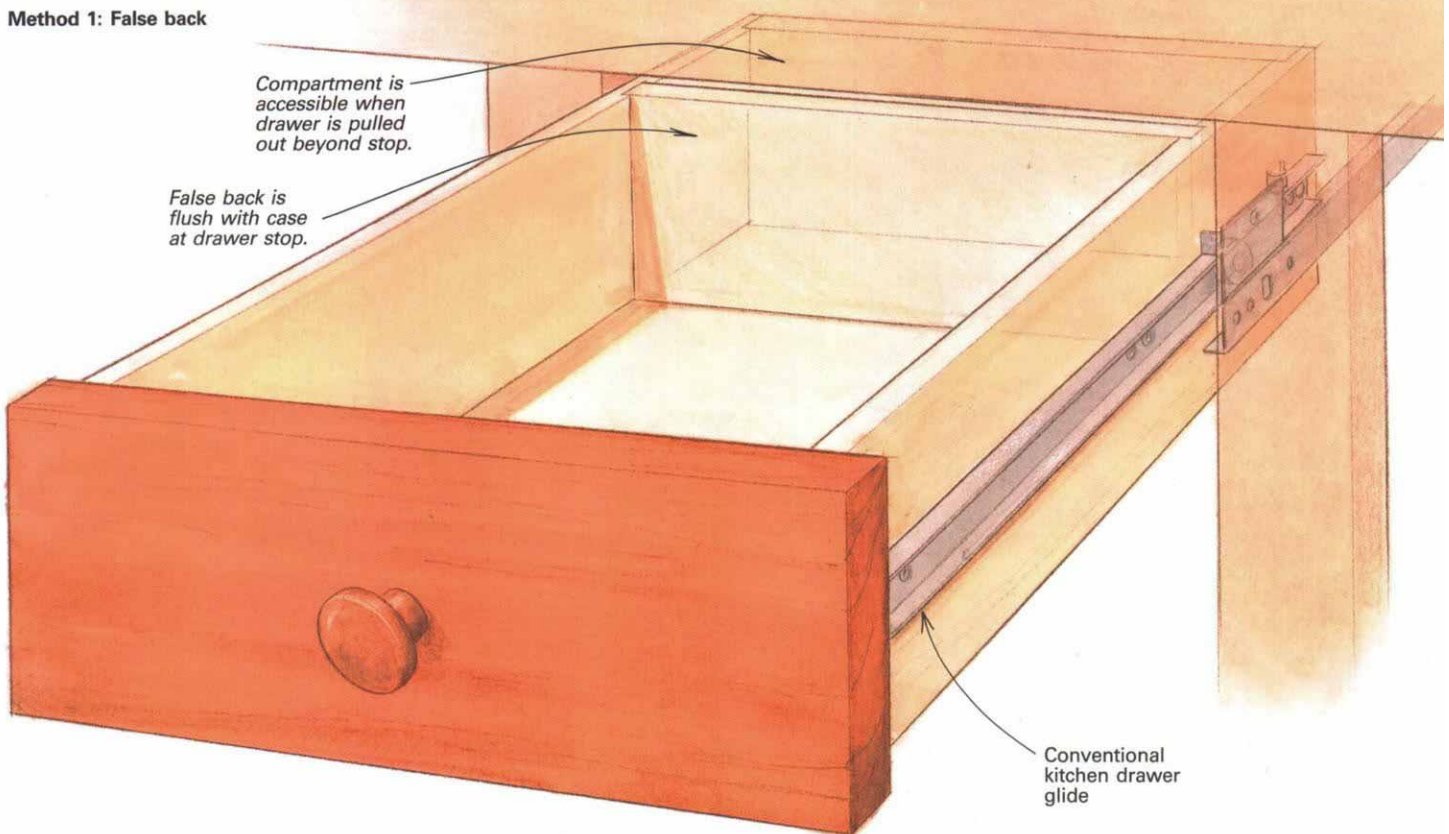
# Secret Compartments

## *A furnituremakers cache box*

by Chris Becksvoort

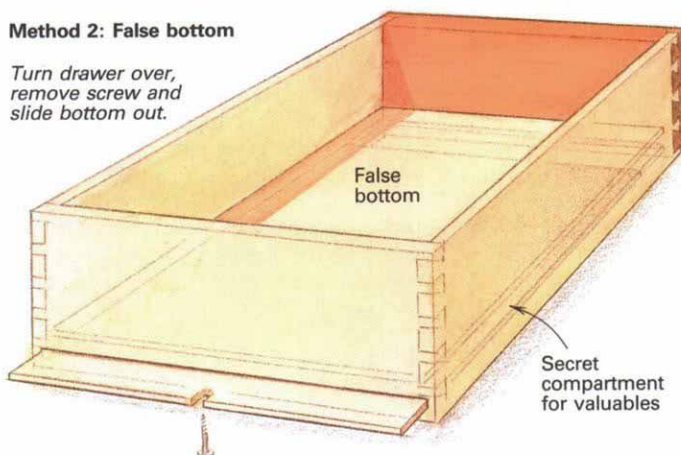
**Fig. 1: Secret compartments in drawers**

**Method 1: False back**



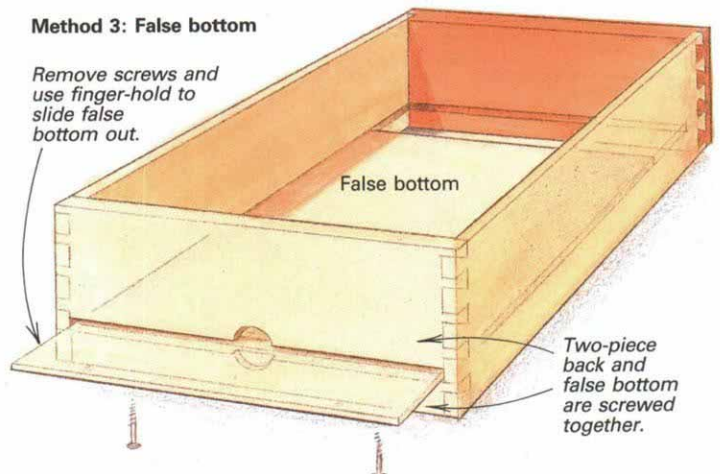
**Method 2: False bottom**

Turn drawer over, remove screw and slide bottom out.



**Method 3: False bottom**

Remove screws and use finger-hold to slide false bottom out.



Secret compartments were so common in the days before safety-deposit boxes that they could be considered a hallmark of custom-built furniture. And, because hidden compartments have been popular among the well-to-do since ancient times, craftsmen have had plenty of time to come up with all sorts of hiding places. They can be a simple drawer fit into otherwise wasted space inside a cabinet or complex and imaginative devices based on hollow members, springs, catches and sliding panels—anything to fool the eye. Secret compartments are often commissioned for a specific purpose, such as hiding coins, jewelry, precious documents or pictures; sometimes they are the furnituremaker's whimsical secret, unbeknownst to the customer until the piece is delivered.

These surprise compartments are my favorites. They allow me the most leeway in placement, size and construction; in addition, the customer feels like the recipient of a gift—an unexpected bonus. It also seems only right that a hidden compartment should be a secret shared only by the furnituremaker and the furniture's owner. Let's face it, a hidden compartment advertised in *The New Yorker* is no secret by anyone's standards, but merely a sales gimmick.

Some types of furniture lend themselves better to hidden compartments than others. The best are case pieces with drawers and desks with pigeonholes. But tables, beds, clocks and even lamps can be adapted to contain these intriguing tricks of the trade. I'll describe some of those I've used in my own work or seen in other pieces of furniture. These examples are only a few of the possibilities: There are many others, from the extremely simple to the clever and complicated. The next time you're designing a piece, take a little extra time to examine how you can utilize any wasted space in the furniture. You'll be amazed at how thrilled your customers will be.

**Drawers**—Years ago while working on a kitchen, it occurred to me that most drawer glides, except the full-extension models, leave the back 4 in. of the drawer essentially inaccessible. So I ran a cross-grain dado  $3\frac{1}{2}$  in. from the back end on each drawer side and inserted a side-to-side divider. When the drawer is pulled out to the stop, as shown in method 1 on the facing page, the false back is flush with the case. When the glide stops are released, the drawer can be pulled out to access the long narrow compartment beyond the false back. This area is good for storing seldom-used utensils or those that have always disappeared when you need them most.

One of the best methods for hiding photos, documents or other flat objects is a double-bottom drawer. If the compartment between the bottoms is kept as thin as possible, it is virtually undetectable, but the trick in this, as well as in other methods, is not to get greedy. If you pull out a 6-in. drawer and discover only 3 in. of

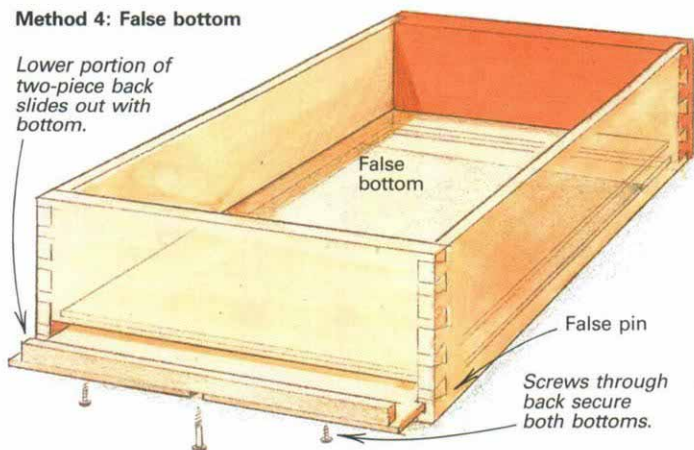
space inside, something appears amiss—you are not fooling anyone. On the other hand, you can probably get away with a 2-in. compartment in a 12-in.- or 14-in.-deep drawer.

The bottoms of my drawers are slid from the back into grooves in the drawer sides. To create a secret compartment, I run parallel grooves on the insides of the drawer sides and front,  $\frac{1}{2}$  in. to 1 in. apart. The back only gets the upper groove, because the actual bottom is slid underneath it and held in place with a screw. When the drawer is assembled, the false bottom is captured in the four upper grooves. The real bottom can be slid in and out to get to the hidden compartment (see method 2 on the facing page). An alternative method is shown in method 3. The two-piece back with a recessed finger-hold allows the false bottom to be slid out. Although the spaces created by these double bottoms are not easily detectable, they are bothersome to get to, because the contents of the drawer must be removed. In the first case, the drawer must be turned upside down to place anything into the compartment; in the second case, the false bottom, which is acting as the drawer bottom, must be removed. To avoid having to empty the drawer, you could use the two-piece back method, but attach the lower section of the back to the actual bottom of the drawer so they both slide out together, forming a tray, as shown in method 4 below. Taking this a step further, you could put sides all around this tray and create a minidrawer.

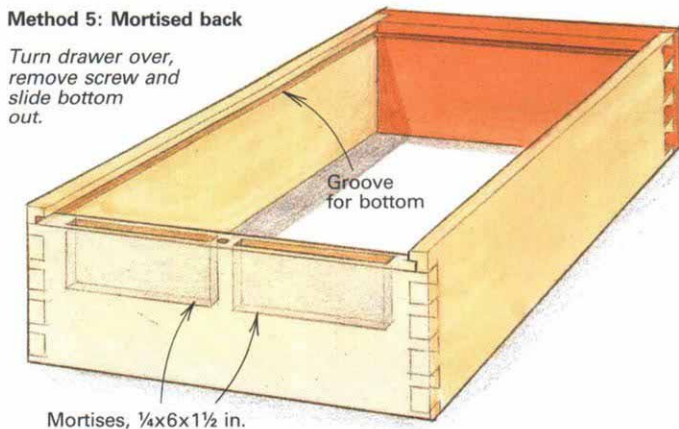
The traditional construction of a chest of drawers presents another opportunity for hidden compartments. Visualize for a moment the interior of an average case piece with drawers and a face frame. On such pieces, there is often unused space behind the face-frame members, both between the case side and the drawers and between the drawers themselves. This space can be utilized by simply building narrow wooden boxes to fit into these locations. These boxes are totally hidden unless someone removes the drawers to look inside the case. Even if the divider strip between the drawers is only 1 in. wide, a flat box with  $\frac{1}{8}$ -in.-thick sides still yields about  $\frac{3}{4}$  in. of usable interior space. Any number of methods can be employed to secure the box: magnets, dowels, ledger strips, inset spinners or sliding pins.

Some time ago, I was commissioned to build a chest of drawers that required a very well-hidden compartment for 10 gold coins. The usual false bottoms or boxes hidden in the case itself might be discovered. Security was the primary concern; access was secondary. I finally devised an "invisible" compartment, built the piece and delivered it. I told the owner it was up to him to find the compartment. He paid. I left. A few days later, he called to confess he still had not found the secret compartment. He had removed all the drawers and gone over the entire inside of the case with a mirror, a magnet and a fine-tooth comb to no avail. I told him to

**Method 4: False bottom**



**Method 5: Mortised back**





take out the middle drawer, turn it over, remove the screw holding the bottom, slide out the bottom and look. The drawer back was partially hollow. With a horizontal mortiser, I had made two  $\frac{1}{4} \times 6 \times 1\frac{1}{2}$ -in. slots in the bottom edge of the drawer back, one on each side of the screw hole. The coins could then be wrapped in felt or tissue to keep them from rattling. With the bottom replaced, there is no reason to suspect the hiding place (see method 5 at the bottom of the previous page).

**Desks**—In addition to the drawer methods, desks lend themselves to a host of different hidden compartments. I've always suspected that pigeonholes in roll-top and slant-top desks were originally conceived by cabinetmakers to allow themselves room to play with these ideas. Everyone has seen a slant-top desk with two fluted half-columns that pull out and are actually narrow drawers. These are practically institutions, and not secret by any means (at least not now). Another common method often found in the pigeonholes of slant-top desks is a thin drawer behind the molding or scalloped fascia above the pigeonholes. These parts either pull out like drawers or hang on hooks, clips or magnets. Roll-top desks sometimes have small corner brackets in the pigeonholes that pull out to reveal a tray just big enough to hide two, always elusive, pencils.

Pigeonholes, letter slots or compartments with doors are also ideal locations for false backs. A compartment behind a false back is not readily apparent if it is not too deep, especially if the surrounding areas are filled with books or papers. The created space can be reached either from the front, by reaching in and removing a part of the back panel, or through a removable panel near the back of one of the vertical dividers, as shown in figure 2A below. Either way, the access panel should be as unobtrusive as possible. I've used several methods with either hinged doors or loose panels. One of my favorite devices is the magnetic-touch latch, a boon for makers of secret compartments: Just push on the panel, and it pops right out. For a hinged door, one latch will suffice; for a

loose panel, two, with doorstops, should be used. Panels and doors should fit as tightly as possible without binding.

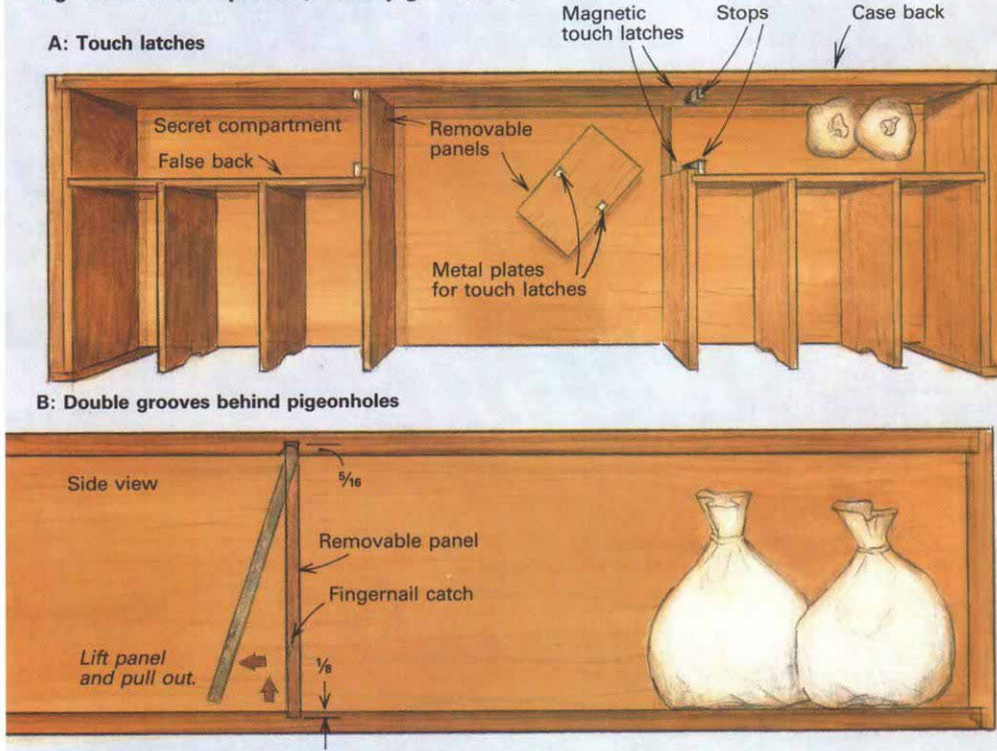
An alternative to the touch latch is illustrated in figure 2B below. In this method, the panel is made as wide as the opening, but  $\frac{1}{4}$  in. taller, with a discreet fingernail catch incised with a gouge on the front of the panel. The panel is lifted into the  $\frac{5}{16}$ -in.-deep upper groove, pushed into place and dropped into the  $\frac{1}{8}$ -in.-deep bottom groove. Because of the shallow bottom groove, the panel is still held in place above.

Whenever possible, access to the hidden area on desks or other large pieces should be from the front, sides or interior of the piece. Only once have I run across a compartment reached through a hinged door in the back. This entails moving the piece away from the wall to gain access, which is not only difficult, but in the case of a full bookcase or large wardrobe, almost impossible.

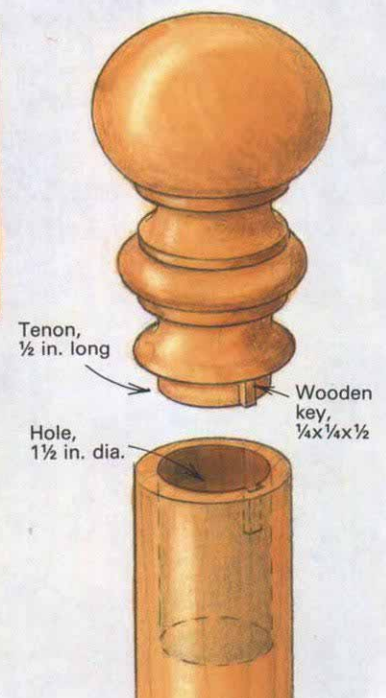
**Hollow posts**—Another traditional hiding place, somewhat reminiscent of Bat Masterson's cane, is the hollowed-out post. The hollows usually consist of drilled-out holes, which limit the amount and type of storage space available. On the other hand, you would be surprised at how many \$20 bills can be rolled up and slid into a  $1\frac{1}{2}$ -in.-dia. hole. If coins are to be hidden, it's best to tailor the hole to accept a plastic vial, which is easier to remove than loose coins.

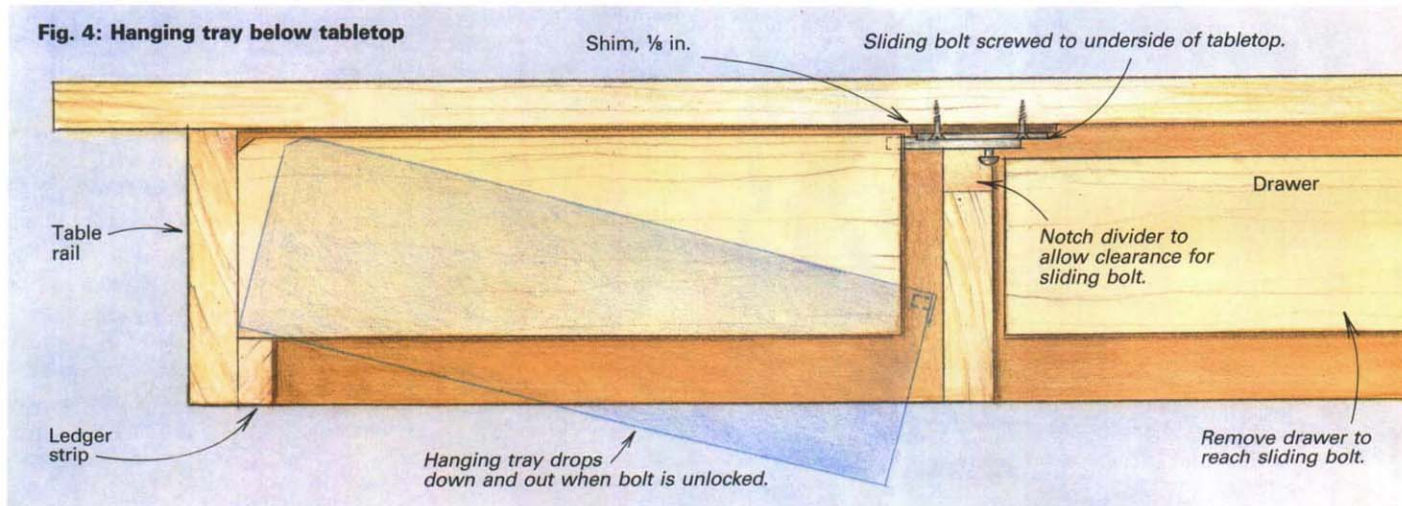
Turned posts are generally much easier to work with than square ones, because the cap for the compartment can join the post in an inconspicuous place. The underside of a ball or ring, or a scribe line is perfect for this. The bedpost in figure 3 below shows how convenient a finial is for capping a hollowed-out post. To make this sort of secret compartment, I turn the post as I normally would, but I allow  $\frac{1}{2}$  in. to 1 in. of extra length for the tenon, which I turn directly below the portion of the post that will become the removable cap. This tenon's diameter must match one of your drill bits so the cap will fit snugly into the hollowed-out compartment you will drill in the post. When I've turned the tenon

**Fig. 2: Removable panels (behind pigeonholes)**



**Fig. 3: Hollow post**





to the proper diameter, I remove the post from the lathe and saw this top portion off just below the tenon. Using the bit that coincides with the tenon's diameter, I drill a hole in the sawed-off end of the post. The depth of this hole minus the tenon determines the size of the hollow storage area. The cap can also be drilled out for additional space.

Figure 3 also shows the small wooden "key" on the tenon, which not only aligns the grain, but keeps the finial from turning should some unsuspecting soul inadvertently place their hand on it. To locate this key, I place a thin wire in the hole, align the grain to its original position and force the tenon into the hole. The wire compresses the wood and thereby marks the location for a  $\frac{1}{8}$ -in.-deep by  $\frac{1}{4}$ -in.-wide groove that I carve into each piece. The  $\frac{1}{8} \times \frac{1}{4} \times \frac{1}{2}$ -in. key is then glued into the groove on the tenon. The drilled-out post can now be rechucked in the lathe and turned to suit, using either a wooden plug or a bullnose dead center to mount the drilled end.

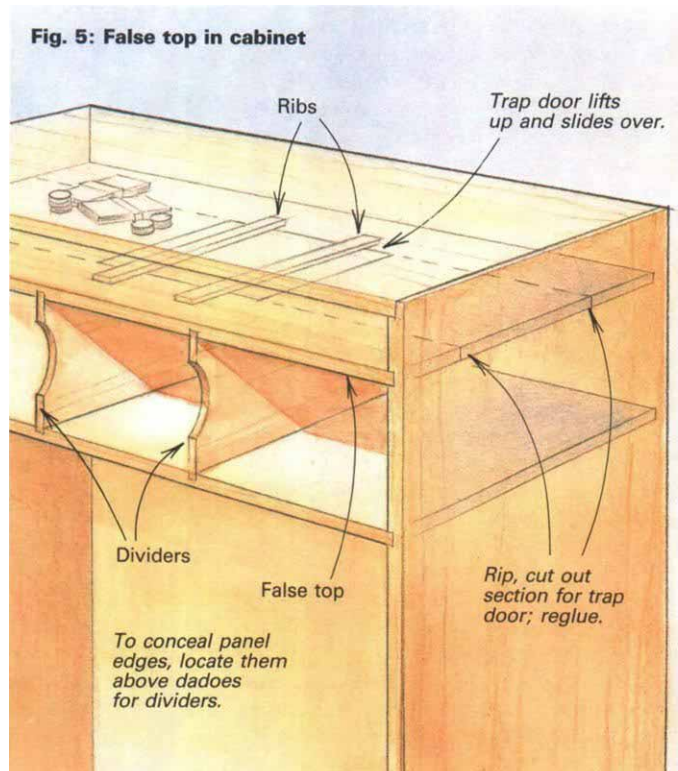
**Tables**—There is a vast amount of space behind the rails or apron underneath the top of a table. Except for children parking their gum (or maybe because of this), very few people actually fondle the underside of a table, so this otherwise wasted space is ideal for concealing hanging trays. A hanging tray can be used even on small coffee or end tables and below the seats of chairs that have side rails. It can be hinged on one end or merely rest on a ledger strip, with the other end resting on a removable strip held in place with dowels or pins. In figure 4, above, I've shown an example of a table with a center drawer that has a hidden tray resting on a ledger strip on the left and held up with a sliding bolt on the right. With the drawer removed, and with one hand supporting the hanging tray, you reach in and unlock the sliding bolt. This unlocked end of the tray can now be lowered until it comes off the ledger strip on the other end.

If the table has a drawer, so much the better. Because most drawers don't extend the full width of the tabletop, you can place two drawers on the same track, one behind the other.

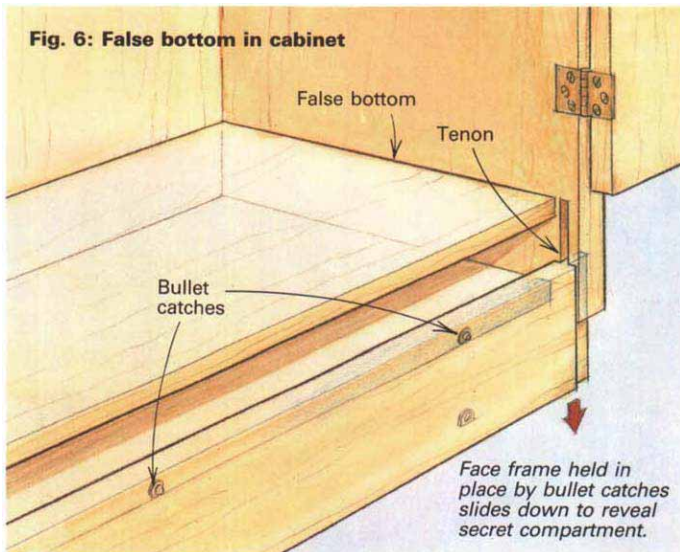
**Tops and bottoms of cabinets**—Other areas often overlooked and generally underutilized are the spaces between tops and the spaces inside boxed-in bases of cabinets. On many highboys, for example, the bonnet top is hollow, usually with no access. I recently built an armoire with a 3-in. molding around the top. In addition to the cabinet top, there is a false top  $\frac{1}{2}$  in. below the molding that acts as a doorstop. Two dividers were to be inserted

into dadoes in the false top and the first shelf. I couldn't bear to seal such a marvelous space without getting some use out of it. So, I made a trapdoor in the false top that I could push up from inside the cabinet to get at this space (see figure 5 below).

To build the trapdoor, I marked the locations of the two dadoes to be cut (front to back) in the false top, then ripped the top (side to side) into three sections, about one-fourth of the way from the front and one-fourth of the way from the back. I then crosscut the center section of the wide middle piece along the dado lines. The false top was now in five pieces. Next, I reglued the two long pieces and the two outside pieces of the center section together, creating a rectangular opening in the center where the remaining piece would fit snugly. I took one pass off the edge of this piece with a block plane, then screwed on two ribs perpendicular to the grain, extending  $\frac{1}{2}$  in. on each side. After sanding, the top was dadoed and installed, and the dividers







slid into place. The loose center section could now be pushed up with the fingertips, yet it could not fall through, because it rested on the dividers and the two ribs (these also kept the trap-door from warping). The panel was virtually invisible, because the end-grain cuts were above the dividers. And, because the panel was only a shaving thickness narrower than the opening, the long-grain gaps were nearly impossible to see. This method could be used in false bottoms if the cross-grain cuts were angled to keep the panel from falling through and if the ribs, screwed to the underside of the loose portion to resist warping, were shorter than the width of the panel.

Figure 6, left, shows an example of a false bottom in a wall-hung cabinet. In this instance, I merely made the bottom portion of the face frame removable. It slides up and down with a tongue-and-groove arrangement at the ends and is held in place by bullet catches in the bottom. □

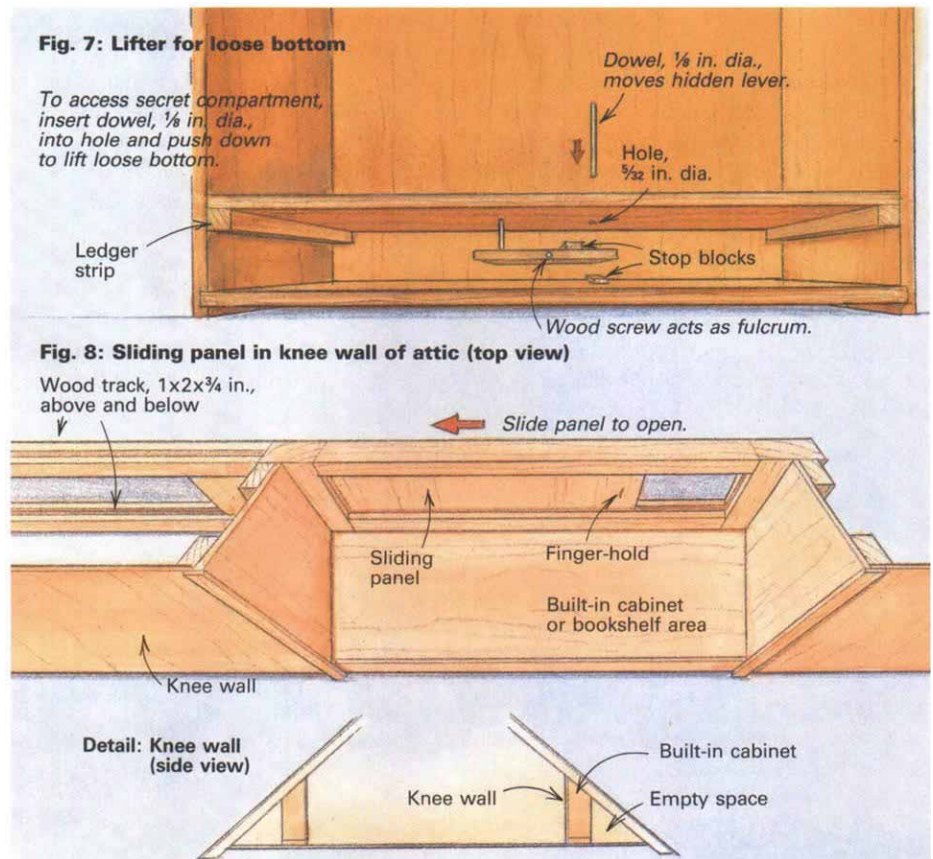
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## Secret compartments in built-ins

Built-in cabinets allow much greater opportunities for hidden compartments than any freestanding piece. Even something as small as a medicine cabinet in a 4-in.-deep partition can give access to as much or more space than the cabinet itself by using the space between the studs, above and below the cabinet. A full-size cabinet in a knee wall can yield a secret compartment large enough for a person to hide in.

Most built-in bookcases, and even kitchen cabinets, have toe spaces that create a large empty space about 4-in.-deep beneath the bottom of the cabinet. Many times, I've put in loose bottoms, either hinged in the back or merely set on ledger strips all the way around. Whether the cabinet sides are plywood or solid, the bottom must be the same material so wood movement between the sides and bottom is identical, or the loose bottom may be pinched, preventing its removal. The bottom must be as tight as possible to avoid suspicious gaps, yet loose enough to lift out. The trick is lifting this loose bottom with no obvious knobs or finger-holds. Several ways come to mind: a small piece of string, a sheet-metal lifter or even a knob that's screwed into place only when needed. I like to use the seesaw lifter illustrated in figure 7 at right. The only visible clue to this lifting device is a  $\frac{3}{32}$ -in.-dia. hole near the front of the bottom for inserting a  $\frac{1}{8}$ -in.-dia. dowel to depress the lever and lift the bottom.

When remodeling older houses or adding a room in an attic, there are often large wasted spaces alongside closets and fire-



places or behind attic knee walls where the roof meets the floor. This space can be partially used by installing built-in bookcases or chests of drawers, but these built-ins can also be perfect for concealing access to unused space behind and alongside them. Plywood backs can be hinged and held shut with magnets or with a turn latch attached to a slotted wood screw. I like to use a frame-and-panel back with a flat plywood panel that slides out of the way. The

panel is held in grooves in the frame pieces as usual on three sides, while the fourth side is made so the panel can slide by onto a simple wooden track inside the wall. A simple finger-hold is all that is required to slide the panel, but if you want to really impress, the panel can run on glides and be moved with pulleys and cable.

Be sure to think ahead though, because all this work needs to be done before the unit is ever installed. —C.B.