

# Hang It Up

What goes on the wall stays on the wall with these tips for anchoring your work

BY ANISSA KAPSALES

It's common to build a wall cabinet or wall shelf and not give a thought about how to hang it on the wall until it's finished. But planning ahead can give you faster, easier, sturdier, and better-looking ways to hang it up. There are lots of options, ranging from shopmade to store-bought, but in this article I am concerned only with the ones that are invisible (or nearly so) and, just as important, leave the piece flush against the wall.

The easiest and strongest way to hang things is to build the hanging element, such as a cleat or hanging rail, into the piece.

There also are a number of methods that are implemented after construction, such as keyhole slots, hardware, or various manu-

factured hangers. Often, these methods are fussier because they force you to work awkwardly on a finished piece.

Either way, whether built-in or add-on, it's important to consider the hanging method prior to cutting the first piece of wood because it can influence the thickness of parts, the construction, and the overall design. The following tips for hanging projects are the best I've picked up in my travels as a *Fine Woodworking* editor.

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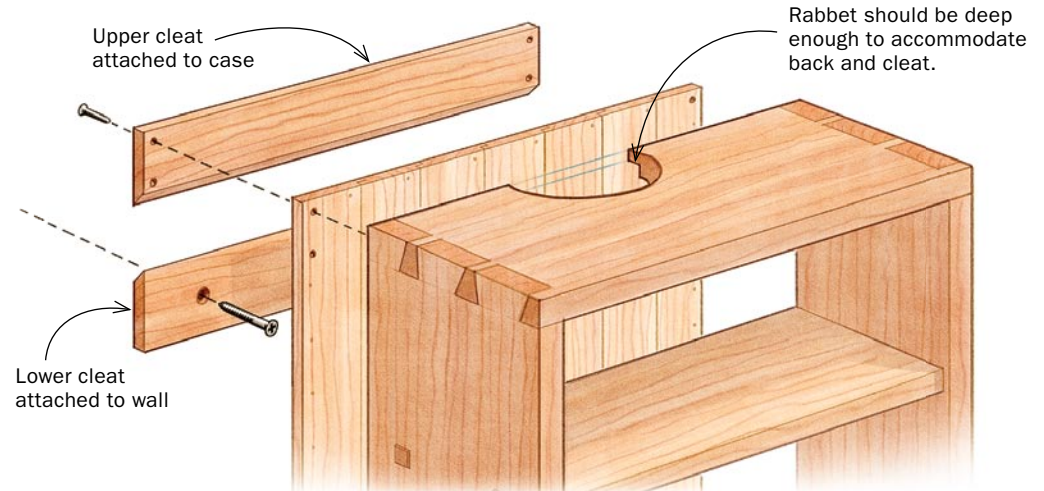
*Anissa Kapsales is an associate editor.*





## FRENCH CLEATS ARE STRONG AND EASY

A French cleat is simply two pieces of interlocking material, one mounted on the wall and one attached to the furniture. For heavier casework like wall cabinets or closed-back shelves, this is one of the best methods there is. A French cleat can be shopmade or bought (there are extruded-aluminum options on the market); either way the concept is the same. A downside of this method is that you will lose a bit of depth to hide the cleat and keep the piece mounted flush against the wall. You may be tempted to skimp on the thickness of the cleat, but I wouldn't go much less than  $\frac{1}{4}$  in. thick for a smaller piece and  $\frac{3}{4}$  in. thick for larger, heavier work.



**Interlocking halves.** Simply rip a piece of wood or plywood in half at a 45° angle (1). Screw one cleat through the back and into the sides of the cabinet (2). Secure the second cleat to the wall, lift the cabinet (3), and ease it onto the cleat.

## Manufactured cleats

The various extruded-aluminum versions of the French cleat work on the same principle as their shopmade counterparts. However, they are not built into the cabinet but are attached with screws after construction. That doesn't mean you can build the cabinet and forget about the manufactured cleat until afterward. Because you are screwing one part of the cleat to the cabinet, you still have to allow for the cleat's thickness if you want your work to sit flush against the wall. Manufactured cleats do tend to be thinner than the shopmade variety, so you will lose less depth in your cabinet. The cleats are going to be carrying all the weight, so they must be attached to a part of the cabinet or shelf that has good structural integrity, such as an internal rail or a solidly constructed back.

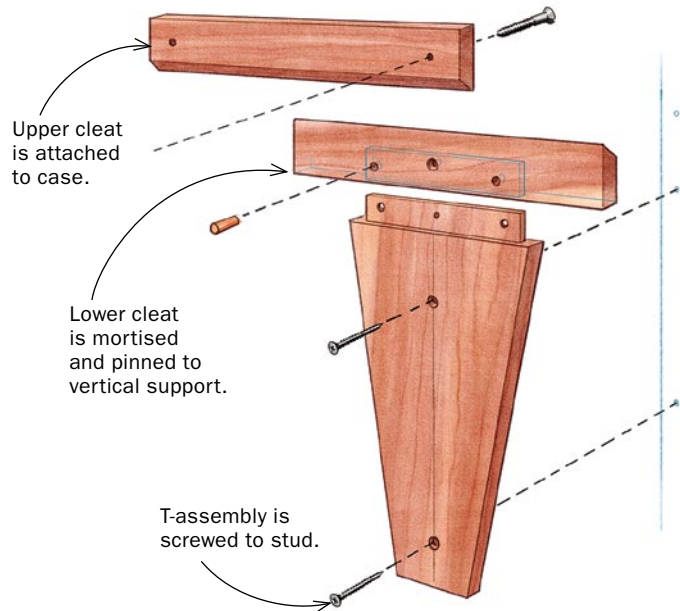
**Same concept.**  
Store-bought versions work the same way as shopmade cleats.





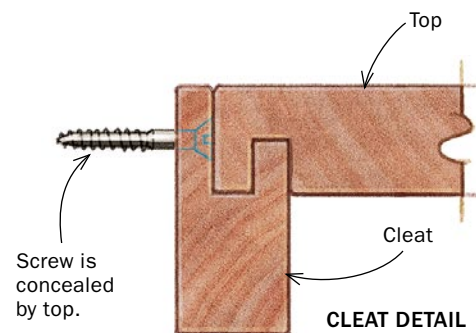
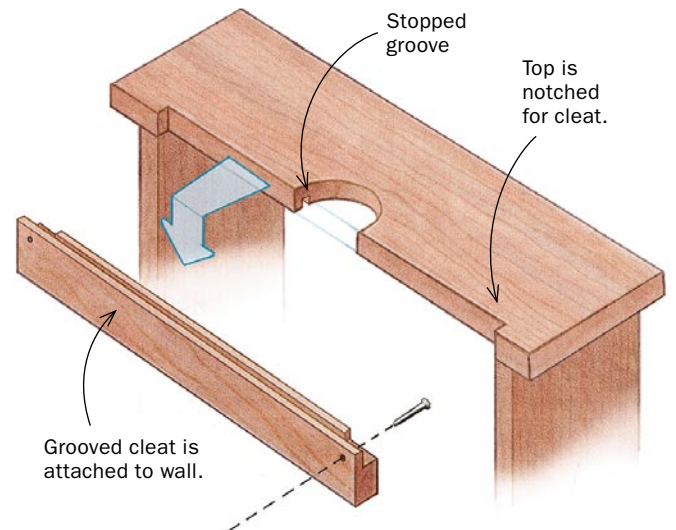
## TWIST ON THE FRENCH CLEAT

If a cabinet is going to bear a lot of weight, and the planets have aligned so that you can hit just one stud with the wall-mounted side of the cleat, then this T-cleat is perfect. I came across this version at contributing editor Chris Becksvoort's shop. After he cuts his angled cleats and attaches one of them to the cabinet, he uses a pinned mortise and tenon to join a vertical piece to the horizontal, wall-mounted cleat. This system allows him multiple points of attachment along a single stud.



## CLEAT FOR OPEN-BACK SHELF

This modified French cleat works very well in open-back shelves because the screw holes are concealed. You still must compensate for the thickness of the wall cleat to mount the shelf flush to the wall, so the side and bottom pieces are deeper than the top piece. Because the top of this shelf (below) overlaps the sides, it gets notched between the side pieces. However, if the carcass were built with dovetails, the sides would extend through the top and notching wouldn't be necessary. The top could just get ripped to a shallower depth (the width of the sides minus the thickness of the cleat) across its width.



## ADD A KEYHOLE HANGER



Keyhole hangers are sturdy, invisible options that work well for shelves with open backs or wall cabinets where you might not want to sacrifice the space to build in a cleat. Even though you don't install them until after the fact, you have to consider them in the initial construction. In Chris Becksvoort's cherry wall shelf (above), the upright pieces are  $\frac{3}{4}$  in. thick to accommodate the metal hardware and the mortises that are cut underneath the hardware. After the hardware is installed, screws are driven into the wall and the hangers are slotted onto the screws.



**Cut a mortise for the hardware.** After scribing around the hanger, freehand rout to a level that equals its thickness, and then use a chisel to clean to the line. Then rout a deeper slot to accept the screw head. Make sure to leave enough wood on the first level to secure the hanger with screws. Mortising the hardware allows the work to hang flat against the wall.



## CUT KEYHOLE SLOTS IN NARROW EDGES

Keyhole slots function the same way as keyhole hardware and also leave your work flush with the wall. They can be used in thinner material than hangers, but they still require at least  $\frac{5}{8}$  in. of meat in the sides of a cabinet or shelf. The work is slotted so that a screw head in the wall fits in at the bottom of the slot and gets confined at the top. You'll need a special bit and a plunge router, using an edge guide to guide the router, or using a template and collar. The trick is to plunge down, run the groove, back up, and come back up in the same place you started. For this reason, I like to use a template and collar (right) or clamp a start/stop block at the beginning of the cut.



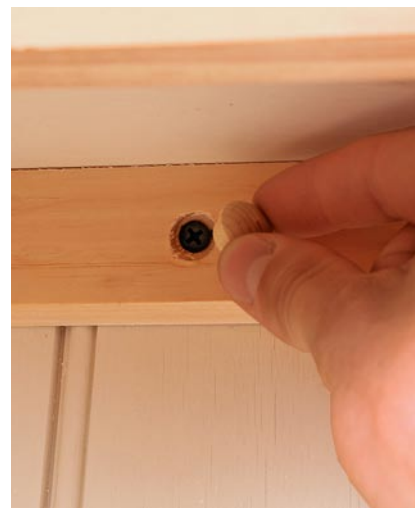
**A specialized bit for keyhole slots.** Keyhole slots don't require additional hardware, but they do require a bit with a round cutter at the tip as well as a cutter on the shank.



**Slots are added after construction.** A router template (shopmade or store-bought) can be clamped to the workpiece (above). A plunge router equipped with a guide bushing and keyhole bit rides in the template to cut the slot (left).

## HANGING RAILS ARE SIMPLE AND STRONG

An internal hanging rail should be mortised into the cabinet during construction. The rail sits inside and unobtrusively at the top and is screwed through to mount the cabinet directly to the wall. You can plug the screw holes with removable plugs to maintain easy access in the future. But if the cabinet is mounted high enough and things are placed inside, you probably won't see the screws anyway.

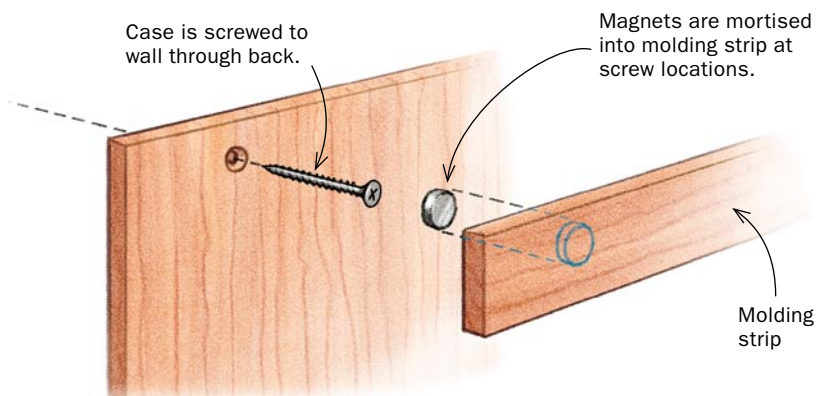


**Cover up screw holes.** This tea-stained and milk-painted wall cabinet was hung by screwing through an internal hanging rail into the wall. Counterbore the screw holes and insert removable plugs to cover the screw heads.



## SCREW THROUGH THE BACK

Even easier than an internal hanging rail is this method of screwing through the back of the cabinet and concealing the screw holes with a magnetized molding strip. This method is very straightforward and the magnetized strip looks like a construction detail. Despite its simplicity, this method should be carefully planned and executed. First, the back has to be strong enough to hold the weight of the cabinet and anything that will be in it. It's best to use a back that is at least  $\frac{1}{4}$  in. thick, and glue and nail or screw it in place for extra support. The cabinet back shouldn't be recessed from the back edges of the carcass or it could separate when you screw it into the wall. Keep the screws near the top of the cabinet so the wood strip can be discreetly bumped against the top, and mortise small rare-earth magnets into the back side of the strip, lining them up with the screw heads.





## WHEN THE TOP IS HIDDEN

Not entirely invisible, these metal hangers (called “rigid hangers”) are screwed or mortised into the upper parts of a cabinet or shelf and have a keyhole or a hole that extends beyond the top and fits over screws mounted on the wall. These hangers work best on pieces that have a decorative molding and are hung well above eye level. As with most hanging devices, make sure you have enough structural integrity to mount them securely to the workpiece. You can mortise the hanger into the piece. Even if you don’t, it is thin enough (less than  $\frac{1}{16}$  in.) that the cabinet or shelf will sit nearly flush against the wall.



**Above eye level.** The ideal situation for rigid hangers is a cabinet like this one. The crown molding is above head height and also extends beyond the top of the case, concealing the hangers.

## SOURCES OF SUPPLY

**KEYHOLE TEMPLATE  
AND ROUTER BIT**  
[www.rockler.com](http://www.rockler.com)

**KEYHOLE HANGERS**  
[www.toolsforworkingwood.com](http://www.toolsforworkingwood.com)

**MANUFACTURED CLEATS**  
[www.rockler.com](http://www.rockler.com)

**RIGID HANGERS**  
[www.leevalley.com](http://www.leevalley.com)

**HOLLOW-WALL ANCHORS**  
Available at hardware stores  
and home centers

**RARE-EARTH MAGNETS**  
[www.kjmagnetics.com](http://www.kjmagnetics.com)



## Hollow-wall anchors

All of these methods require screwing into the wall. The best scenario is that you’ll hit two studs and be done with it, but that is rare. You’ll be lucky to hit one. Since you don’t want to tear apart the wall to insert 2x4 blocks between studs, you’ll have to use hollow-wall anchors. Options range from expansion anchors and mollys to augers and toggles.

Although toggle bolts are generally strongest, I prefer to sacrifice some strength and use augers. They are still strong, but easier to install precisely. The wings on toggles require an oversize hole in the wall, and there can be play as you tighten and position them. Augers are simply screwed into the wallboard, then screws are secured into the anchor. I’ve used auger-type anchors rated from 15 lb. to 100 lb. for shear strength. But that varies by brand and depends on the thickness of the wallboard, so be sure to check the manufacturer’s specifications.

—A.K.

**Strength varies widely.** Different types of anchors vary in strength and ease of installation. Manufacturers can provide stats on the tensile strength (or pullout) and shear strength (or downward pull) of each.